



December 6, 2024

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
PLU Phantom Banks 20-25-31  
Incident Number nAPP2418355674  
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities at the PLU Phantom Banks 20-25-31 (Site). Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing assessment, excavation, and delineation activities that have occurred and requesting no further action for Incident Number nAPP2418355674.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit D, Section 20, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.1224553°, -103.8060702°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On June 10, 2024, corrosion of a flowline resulted in the release of approximately 4 barrels (bbls) of crude oil and 12 bbls of produced water. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 1 bbls of crude oil and 4 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) and an Initial C-141 Application (C-141) on July 1, 2024. The release was assigned Incident Number nAPP2418355674.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest groundwater well is United States Geological Survey (USGS) well 320643103465002, located approximately 1.5 miles southeast of the Site. The recorded depth to groundwater is 318 feet bgs with a total depth of 400 feet, measured on February 17, 1959. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a playa lake approximately 3,698 feet east 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 not underlain by unstable geology (medium potential karst designation area).

Based on the results of the Site Characterization, and NMOCD's preference for depth to groundwater data to be less than ½ mile and 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

## SITE ASSESSMENT ACTIVITIES

On June 14, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations. Eleven delineation soil samples (SS01 through SS11) were collected within and around the release extent from a depth of 0.5 feet bgs to assess the lateral extent of the release. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the site visit and a photographic log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following constituents of concern (COC): 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 Standards Method SM4500.

Laboratory analytical results for delineation soil samples SS01 through SS04, collected within the release extent indicated that BTEX, TPH, and/or chloride concentrations exceeded the Closure Criteria. Laboratory analytical results for delineation soil samples SS05 through SS11, collected around the release extent, indicated that all COC concentrations were compliant with the Closure Criteria, and confirmed the lateral extent of the release. Based on the laboratory analytical results, additional remediation activities were warranted.

## DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

From July 11, 2024 to September 17, 2024, Ensolum personnel were at the Site to oversee delineation and excavation activities. Delineation potholes PH01 through PH07 were advanced via trackhoe to terminal depths ranging from 4 feet bgs to 5 feet bgs within the release extent, to assess the vertical extent of the release. Delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 5 feet bgs. Soil from the delineation potholes was field screened for VOCs and chloride. Field

screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results for the delineation soil samples. Excavation activities were performed using a trackhoe and transport vehicle. The excavation occurred on the well pad near the production equipment. To direct excavation activities, Ensolum personnel screened soil for VOCs and chloride. Following removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor of the excavation. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS30 were collected from the floor of the excavation at depths of 1 foot to 6 feet bgs. Confirmation sidewall soil samples SW01 and SW14 were collected from the sidewalls of the excavation at depths ranging from ground surface to 4 feet bgs. Due to gradual sloping of the excavation floor, some floor samples were collected at deeper depths, 5 feet to 6 feet bgs, within the excavation than the external sidewalls. These samples were depths labeled with the deepest aliquot depth collected within the 200 square foot sampling area. The confirmation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and confirmation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 5,572 square feet. A total of approximately 930 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Halfway Landfill Service in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was backfilled with material purchased locally and the Site was recontoured to match pre-existing site conditions.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples PH01 and PH02, collected at 2 feet bgs, indicated that chloride concentrations exceeded Closure Criteria. Laboratory analytical results for all other delineation soil samples indicated that all COC concentrations were compliant with the Closure Criteria. In addition, laboratory analytical results from delineation pothole PH01 at 4 feet and PH02 at 5 feet bgs indicate COC concentrations are compliant with the Closure Criteria confirming the vertical extent of the release.

Laboratory analytical results for the confirmation floor soil samples FS01 through FS30 and sidewall soil samples SW01 through SW14 indicated that all COC concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the June 10, 2024, release of crude oil and produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO has backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the Site. XTO

XTO Energy, Inc  
Closure Request  
PLU Phantom Banks 20-25-31



believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2418355674.

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

Sincerely,  
**Ensolum, LLC**

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

Tracy Hillard  
Project Manager

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

Tacoma Morrissey  
Associate Principal

cc: Colton Brown, XTO  
Kaylan Dirkx, XTO  
Bureau of Land Management

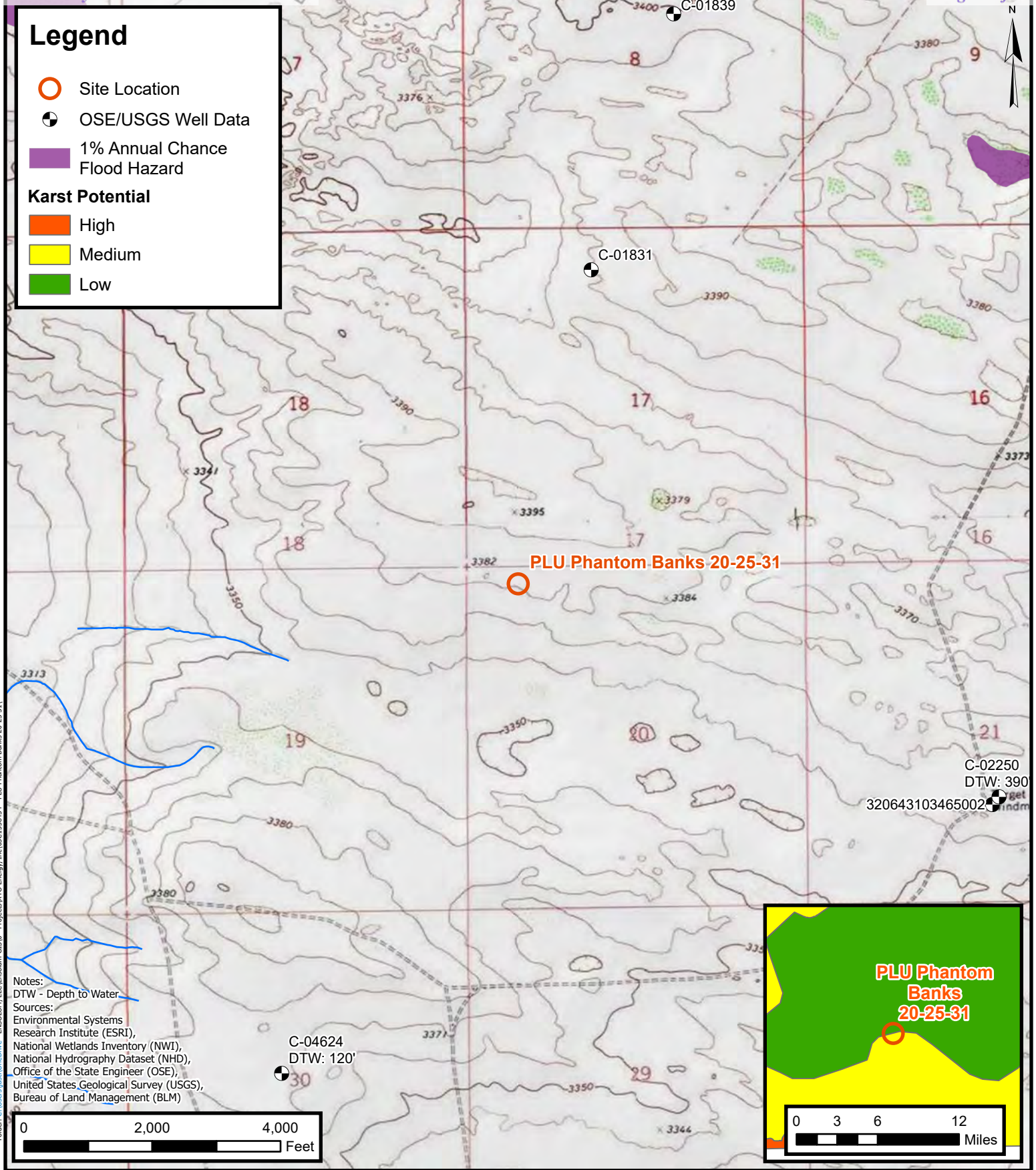
Appendices:

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



FIGURES



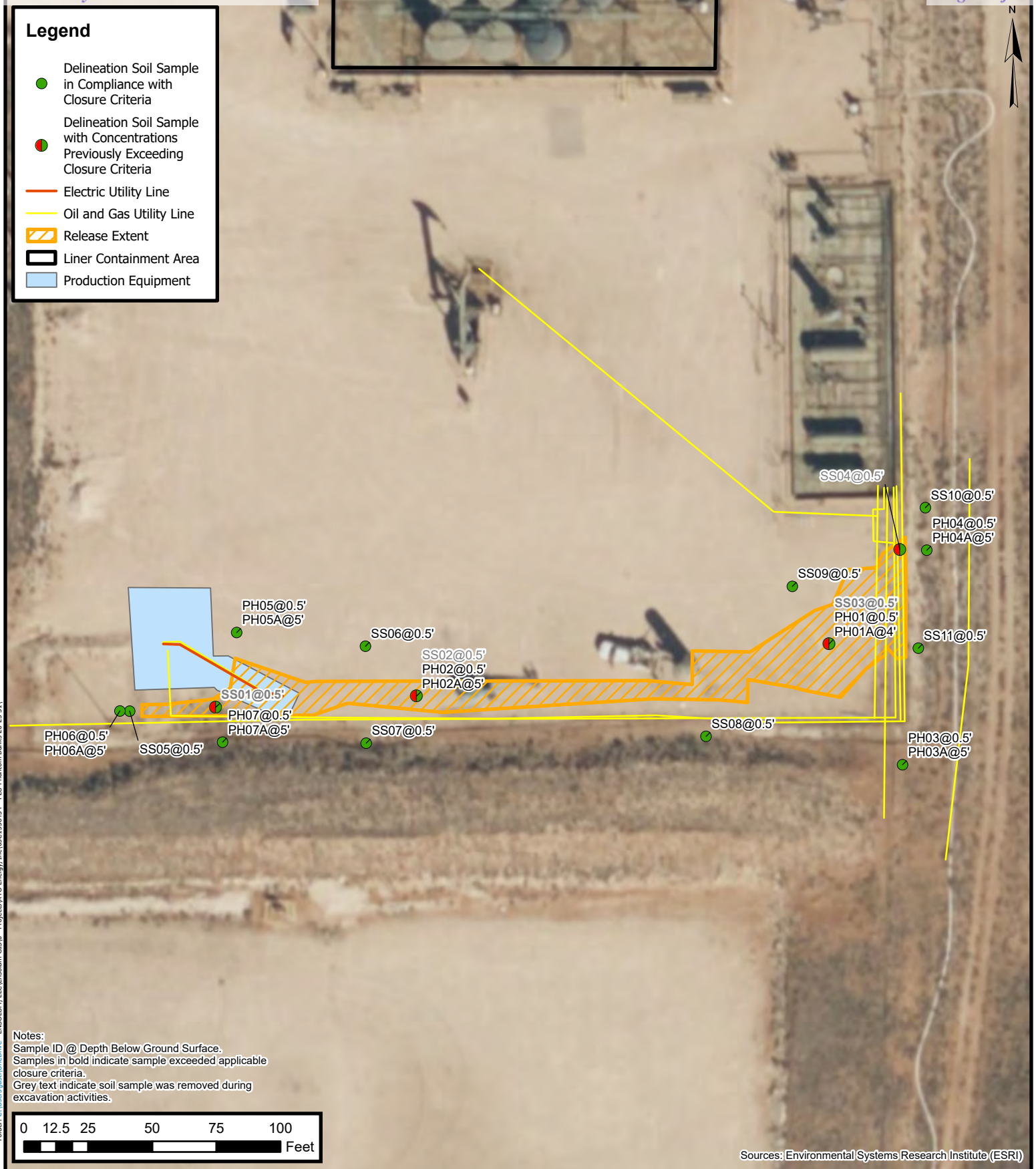


## Site Receptor Map

XTO Energy, Inc  
PLU Phantom Banks 20-25-31  
Incident Number: nAPP2418355674  
Unit D, Sec 20, T25S, R31E  
Eddy County, New Mexico

FIGURE  
1

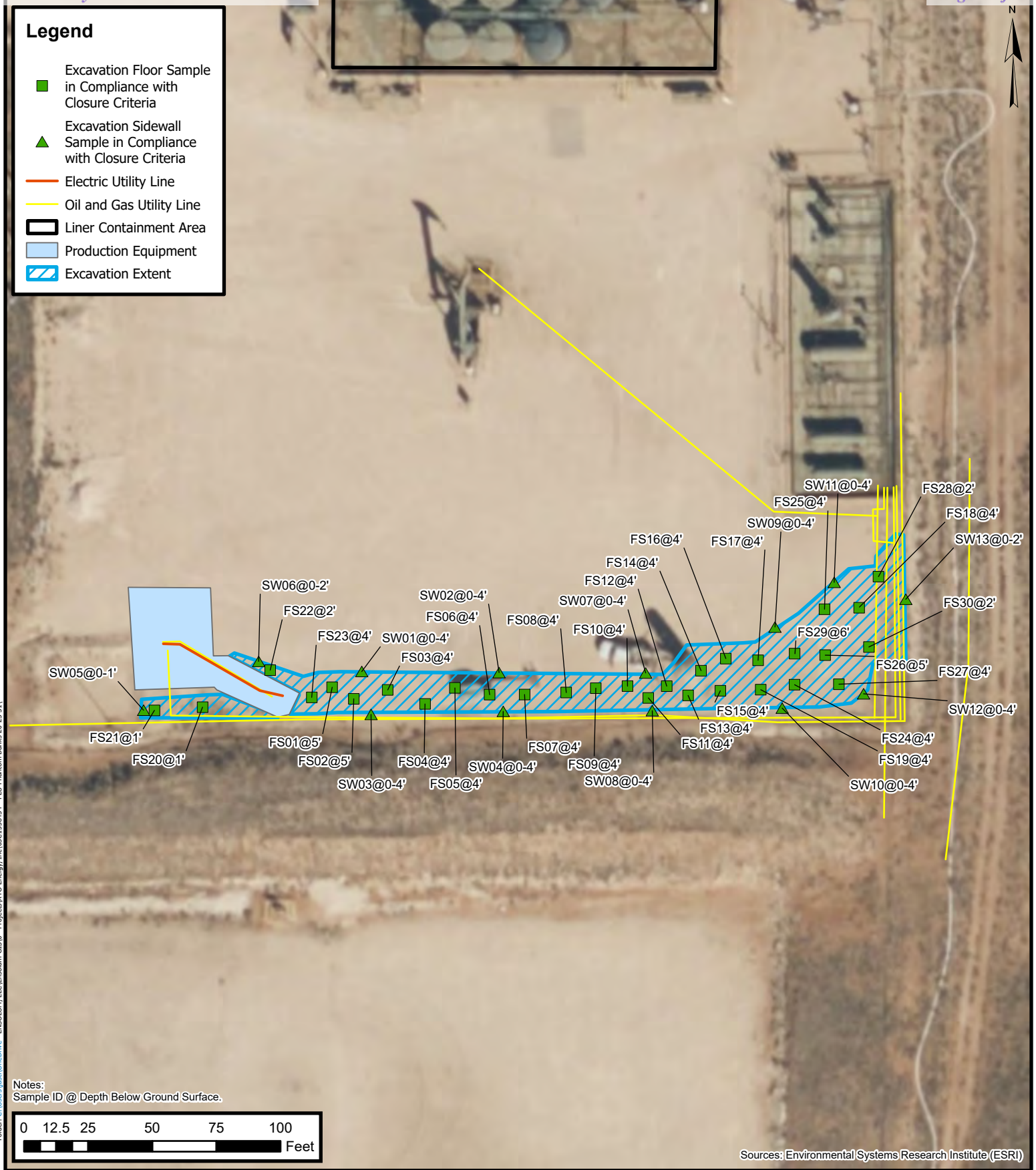




## Delineation Soil Sample Locations

XTO Energy, Inc  
 PLU Phantom Banks 20-25-31  
 Incident Number: nAPP2418355674  
 Unit D, Sec 20, T25S, R31E  
 Eddy County, New Mexico

**FIGURE**  
**2**



## Excavation Soil Sample Locations

XTO Energy, Inc  
PLU Phantom Banks 20-25-31  
Incident Number: nAPP2418355674  
Unit D, Sec 20, T25S, R31E  
Eddy County, New Mexico

FIGURE

3





TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 PLU Phantom Banks 20-25-31  
 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	06/14/2024	0.5	<0.050	8.5	453	11,700	1,910	12,153	14,063	9,330
SS02	06/14/2024	0.5	<0.050	0.305	10.0	855	163	865	1,028	12,000
PH02	07/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,000
PH02A	07/11/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SS03	06/14/2024	0.5	<0.100	29.5	390	10,400	1,960	10,790	12,750	12,000
PH01	07/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,480
PH01A	07/11/2024	4	<0.050	<0.300	<10.0	18.9	<10.0	18.9	18.9	272
SS04	06/14/2024	0.5	4.70	177	3,560	28,200	5,560	31,760	37,320	7,860
SS05	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SS06	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SS07	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS08	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS09	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS10	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS11	06/14/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
PH03	07/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
PH03A	07/25/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
PH04	07/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
PH04A	07/25/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH05	07/25/2024	0.5	<0.050	<0.300	<10.0	12.8	<10.0	12.8	12.8	112
PH05A	07/25/2024	5	<0.050	<0.300	<10.0	17.2	<10.0	17.2	17.2	96.0
PH06	07/25/2024	0.5	<0.050	<0.300	<10.0	23.4	<10.0	23.4	23.4	112
PH06A	07/25/2024	5	<0.050	<0.300	<10.0	15.7	<10.0	15.7	15.7	112
PH07	07/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
PH07A	07/25/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
Confirmation Soil Samples										
FS01	07/25/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS02	07/25/2024	5	<0.050	<0.300	<10.0	14.1	<10.0	14.1	14.1	144
FS03	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS04	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS05	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 PLU Phantom Banks 20-25-31  
 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
FS06	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS07	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS08	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS09	07/25/2024	4	<0.050	<0.300	<10.0	10.6	<10.0	10.6	10.6	128
FS10	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS11	07/25/2024	4	<0.050	<0.300	<10.0	12.1	<10.0	12.1	12.1	112
FS12	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS13	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS14	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS15	07/25/2024	4	<0.050	<0.300	<10.0	41.1	12.8	41.1	53.9	96.0
FS16	07/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS17	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS18	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS19	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS20	09/05/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS21	09/05/2024	1	<0.050	<0.300	<10.0	50.1	13.7	50.1	63.8	272
FS22	09/05/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS23	09/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS24	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	528
FS25	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS26	09/17/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS27	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS28	09/17/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS29	09/11/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS30	09/17/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432
SW01	07/25/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW02	07/25/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW03	07/25/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SW04	07/25/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SW05	09/05/2024	0 - 1	<0.050	<0.300	<10.0	61.7	15.5	61.7	77.2	288
SW06	09/05/2024	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW07	09/11/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256





**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**PLU Phantom Banks 20-25-31**  
**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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
SW08	09/11/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW09	09/11/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SW10	09/11/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW11	09/17/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SW12	09/17/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SW13	09/17/2024	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SW14	09/17/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304

## 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:  
Groundwater

Geographic Area:  
New Mexico

GO

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.
- [Full News](#) 

Groundwater levels for New Mexico

Click to hide state-specific text

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

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 320643103465002

Minimum number of levels = 1  
[Save file of selected sites](#) to local disk for future upload

USGS 320643103465002 25S.31E.21.413314A

Eddy County, New Mexico  
Latitude 32°06'46.0", Longitude 103°46'56.3" NAD83  
Land-surface elevation 3,374.00 feet above NGVD29  
The depth of the well is 400 feet below land surface.  
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.  
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

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 measur
1959-02-17			D 62610		3055.98	NGVD29	P		Z	
1959-02-17			D 62611		3057.66	NAVD88	P		Z	
1959-02-17			D 72019	318.02			P		Z	
2013-01-17	19:40 UTC	m	62610			NGVD29	D		S	USGS
2013-01-17	19:40 UTC	m	62611			NAVD88	D		S	USGS
2013-01-17	19:40 UTC	m	72019				D		S	USGS

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet



Section	Code	Description
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	D	Dry
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions or Comments](#)  
[Automated retrievals](#)  
[Help](#)  
[Data Tips](#)  
[Explanation of terms](#)  
[Subscribe for system changes](#)  
[News](#)

[Accessibility](#)   [FOIA](#)   [Privacy](#)   [Policies and Notices](#)  
[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)  
**Title: Groundwater for New Mexico: Water Levels**  
**URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>**



Page Contact Information: [New Mexico Water Data Maintainer](#)  
Page Last Modified: 2024-06-11 17:09:23 EDT  
0.25 0.22 nadww01



## APPENDIX B

### Photographic Log

---

**Photographic Log**

XTO Energy, Inc

PLU Phantom Banks 20-25-31

nAPP2148355674



Photograph: 1 Date: 6/14/2024  
Description: Soil staining in release footprint  
View: West



Photograph: 2 Date: 7/11/2024  
Description: Delineation activities  
View: Southwest



Photograph: 3 Date: 7/24/2024  
Description: Excavation activities  
View: Southeast



Photograph: 4 Date: 9/10/2024  
Description: Excavation activities  
View: South



**Photographic Log**

XTO Energy, Inc

PLU Phantom Banks 20-25-31

nAPP2148355674



Photograph: 1 Date: 9/10/2024  
Description: Final excavation extent  
View: Northeast



Photograph: 2 Date: 9/10/2024  
Description: Final excavation extent  
View: Northwest



Photograph: 3 Date: 9/10/2024  
Description: Final excavation activities  
View: Northeast




Photograph: 4 Date: 10/18/2024  
Description: Backfilled excavation  
View: East




## APPENDIX C


### Lithologic Soil Sampling Logs


---


 <b>ENSOLUM</b>		Sample Name: PH01		Date: 7-11-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.122346, -103.806139			Logged By: Connor Whitman		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 4' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	17,320	256	Y	SS03	0.5	0	CCHE	CALICHE, tan sandy, with silt, moist. H/C Stain and odor.
M	6,714	16.1	N		1	1	SP	SAND, red-brown, very fine, with little silt, moist. No stain, faint HC odor.
M	11,575	5.4	N	PH01	2	2		
D	7,268	1.5	N		3	3	CCHE	CALICHE, tan, indurated, strong cohesion, some very fine brown sand. No stain, faint HC odor.
D	358	0.0	N	PH01A	4	4		
						Total depth @ 4 feet bgs.		


 <b>ENSOLUM</b>		Sample Name: PH02		Date: 7-11-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.122295, -103.806658			Logged By: Connor Whitman		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 5' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	15,926	46.0	Y	SS02	0.5	0	CCHE	CALICHE, tan sandy, with silt, moist. H/C Stain and odor.
M	7,862	0.0	N		1	1	SP	SAND, red-brown, very fine, with little silt, moist. No stain, faint HC odor.
M	9,178	0.0	N	PH02	2	2		
D	2,744	0.0	N		3	3	CCHE	CALICHE, tan, indurated, strong cohesion, some very fine brown sand. No stain, faint HC odor.
D	1,825	0.0	N		4	4		
D	168	0.0	N	PH02A	5	5		
Total Depth @ 5 feet bgs.								




 <b>ENSOLUM</b>								Sample Name: PH03		Date: 7-25-24	
								Site Name: PLU Phantom Banks 20-25-31			
								Incident Number: NAPP2418355674			
								Job Number: 03C1558434			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: Connor Whitman		Method: Backhoe	
Coordinates: 32.122216, -103.806048								Hole Diameter: 2'		Total Depth: 5' bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	<168	0.0	N	PH03	0.5	0	SP	SAND, red-brown, very fine with silt. No Stain or HC odor.			
M	<168	0.0	N		1	1					
M	<168	0.0	N		2	2					
D	<168	0.0	N	PH03A	3	3	CCHE	CALICHE, tan, indurated, strong cohesion. No Stain or HC odor.			
D	<168	0.0	N		4	4					
D	<168	0.0	N		5	5					
Total Depth @ 5 feet bgs.											

 <b>ENSOLUM</b>		Sample Name: PH04		Date: 7-25-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.122446, -103.806014			Logged By: Connor Whitman		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 5' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168	0.0	N	PH04	0.5	0	SP	SAND, red-brown, very fine with silt. No Stain or HC odor.
M	<168	0.0	N		1	1		
M	<168	0.0	N		2	2		
D	<168	0.0	N	PH04A	3	3	CCHE	CALICHE, tan, indurated, strong cohesion. No Stain or HC odor.
D	<168	0.0	N		4	4		
D	<168	0.0	N		5	5		
Total Depth @ 5 feet bgs.								

 <b>ENSOLUM</b>		Sample Name: PH05		Date: 7-26-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.122367, -103.806886			Logged By: Connor Whitman		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 5' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	<168	0.0	N	PH05	0.5	0	CCHE	CALICHE, tan, sandy. No Stain or HC odor.
M	<168	0.0	N		1	1	SP	SAND, red-brown, very fine with silt. No Stain or HC odor.
D	<168	0.0	N		2	2	CCHE	CALICHE, tan, indurated, strong cohesion. No Stain or HC odor.
D	<168	0.0	N		3	3		
D	<168	0.0	N	4	4			
D	<168	0.0	N	PH05A	5	5		
Total Depth @ 5 feet bgs.								

 <b>ENSOLUM</b>		Sample Name: PH06		Date: 7-26-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.122284, -103.807032			Logged By: Connor Whitman		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 5' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<168	0.0	N	PH06	0.5		CCHE	CALICHE, tan, sandy. No Stain or HC odor.
M	<168	0.0	N		1	1	SP	SAND, red-brown, very fine with silt. No Stain or HC odor.
D	<168	0.0	N		2	2	CCHE	CALICHE, tan, indurated, strong cohesion. No Stain or HC odor.
D	<168	0.0	N		3	3		
D	<168	0.0	N		4	4		
D	<168	0.0	N	PH06A	5	5		
						Total Depth @ 5 feet bgs.		

		Sample Name: PH07		Date: 7-26-24				
		Site Name: PLU Phantom Banks 20-25-31						
		Incident Number: NAPP2418355674						
		Job Number: 03C1558434						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: Connor Whitman		Method: Backhoe		
Coordinates: 32.122248, -103.806903				Hole Diameter: 2'		Total Depth: 5' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168	0.0	N	PH07	0.5	0	SP	SAND, red-brown, very fine with silt. No Stain or HC odor.
M	<168	0.0	N		1	1		
M	<168	0.0	N		2	2	CCHE	CALICHE, tan, indurated, strong cohesion. No Stain or HC odor.
D	<168	0.0	N		3	3		
D	<168	0.0	N	4	4			
D	<168	0.0	N	PH07A	5	5		
Total Depth @ 5 feet bgs.								





## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

---



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

June 24, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 06/18/24 14:18.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS01 0.5 (H243573-01)**

BTEx 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2024	ND	1.99	99.5	2.00	4.24	
<b>Toluene*</b>	<b>0.482</b>	0.050	06/22/2024	ND	2.08	104	2.00	4.23	
<b>Ethylbenzene*</b>	<b>0.697</b>	0.050	06/22/2024	ND	2.13	106	2.00	3.88	
<b>Total Xylenes*</b>	<b>7.32</b>	0.150	06/22/2024	ND	6.36	106	6.00	3.83	
<b>Total BTEx</b>	<b>8.50</b>	0.300	06/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 183 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>9330</b>	16.0	06/20/2024	ND	448	112	400	7.41	QM-07

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>453</b>	50.0	06/21/2024	ND	175	87.7	200	3.70	
<b>DRO &gt;C10-C28*</b>	<b>11700</b>	50.0	06/21/2024	ND	175	87.4	200	1.15	
<b>EXT DRO &gt;C28-C36</b>	<b>1910</b>	50.0	06/21/2024	ND					

Surrogate: 1-Chlorooctane 241 % 48.2-134

Surrogate: 1-Chlorooctadecane 244 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS02 0.5 (H243573-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	0.051	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	0.253	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	0.305	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 133 % 71.5-134

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>12000</b>	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	10.0	10.0	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	855	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	163	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 77.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.3 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS03 0.5 (H243573-03)**

BTEx 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	06/22/2024	ND	1.99	99.5	2.00	4.24	
<b>Toluene*</b>	<b>3.51</b>	0.100	06/22/2024	ND	2.08	104	2.00	4.23	
<b>Ethylbenzene*</b>	<b>2.40</b>	0.100	06/22/2024	ND	2.13	106	2.00	3.88	
<b>Total Xylenes*</b>	<b>23.6</b>	0.300	06/22/2024	ND	6.36	106	6.00	3.83	
<b>Total BTEX</b>	<b>29.5</b>	0.600	06/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 145 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>12000</b>	16.0	06/20/2024	ND	448	112	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>390</b>	50.0	06/21/2024	ND	175	87.7	200	3.70	
<b>DRO &gt;C10-C28*</b>	<b>10400</b>	50.0	06/21/2024	ND	175	87.4	200	1.15	
<b>EXT DRO &gt;C28-C36</b>	<b>1960</b>	50.0	06/21/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 253 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS04 0.5 (H243573-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.70	1.00	06/21/2024	ND	1.99	99.5	2.00	4.24	
Toluene*	48.0	1.00	06/21/2024	ND	2.08	104	2.00	4.23	
Ethylbenzene*	14.0	1.00	06/21/2024	ND	2.13	106	2.00	3.88	
Total Xylenes*	111	3.00	06/21/2024	ND	6.36	106	6.00	3.83	
Total BTEX	177	6.00	06/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7860	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M	mg/kg		Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	3560	50.0	06/21/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	28200	50.0	06/21/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	5560	50.0	06/21/2024	ND					

Surrogate: 1-Chlorooctane 497 % 48.2-134

Surrogate: 1-Chlorooctadecane 646 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS05 0.5 (H243573-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.9 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS06 0.5 (H243573-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.6 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS07 0.5 (H243573-07)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 71.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.9 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS08 0.5 (H243573-08)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/21/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/21/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/21/2024	ND					

Surrogate: 1-Chlorooctane 73.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.1 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS09 0.5 (H243573-09)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	179	89.5	200	5.14	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	173	86.6	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 76.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.4 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS10 0.5 (H243573-10)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	179	89.5	200	5.14	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	173	86.6	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 77.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.7 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	06/18/2024	Sampling Date:	06/14/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SS11 0.5 (H243573-11)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEx	<0.300	0.300	06/21/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	06/20/2024	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	179	89.5	200	5.14	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	173	86.6	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 78.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.8 % 49.1-148

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

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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", 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

1 of 2

Company Name: Ensolum, LLC		<b>BILL TO</b>		ANALYSIS REQUEST																		
Project Manager: David McInnis dmcinnis@ensolum.com		P.O. #:																				
Address: 3122 National Parks Hwy		Company: XTO Energy Inc.																				
City: Carlsbad		Attn: Amy Ruth																				
Phone #: 337 257-8307		Address: 3104 E. Green St.																				
Fax #:		City: Carlsbad																				
Project #: 03C1558434		State: NM Zip: 88220																				
Project Name: PLU Phantom Banks 20-25-31 Flowline Leak		Phone #:																				
Project Location:		Fax #:																				
Sampler Name: Connor Whitman																						
FOR LAB USE ONLY																						
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.	SAMPLING													
			GROUNDWATER		WASTEWATER		SOIL		SLUDGE		OTHER :		DATE	TIME	BTEX	TPH	CHLORIDE					
1243573	5501	0.5	5	1									6-14-24	955								
2	5502																					
3	5503																					
4	5504																					
5	5505																					
6	5506																					
7	5507																					
8	5508																					
9	5509																					
10	5510																					
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.																						
Relinquished By: <i>Chh</i>		Date: 6-18-24	Received By: <i>AP</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:																	
Relinquished By:		Date:	Received By:		All Results are emailed. Please provide Email address: bbell@ensolum.com, T Morrissey@ensolum.com, dmcinnis@ensolum.com																	
Time:		REMARKS: Cost Center: 1081581001 Incident ID: PENDING																				
Delivered By: (Circle One)		Observed Temp.: °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time: <i>AP 6-18-24</i> Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) <input type="checkbox"/> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sample Condition <input type="checkbox"/> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp.: °C																	
Sampler - UPS - Bus - Other:		Corrected Temp.: °C	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID: <i>AP 6-18-24 #173</i> Correction Factor: <i>-0.5°C</i> <i>140</i> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Corrected Temp.: °C																	

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





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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]





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

July 22, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 07/16/24 13:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/16/2024	Sampling Date:	07/11/2024
Reported:	07/22/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 01 2' (H244231-01)**

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	07/17/2024	ND	1.97	98.5	2.00	4.05	
Toluene*	<0.050	0.050	07/17/2024	ND	2.14	107	2.00	3.45	
Ethylbenzene*	<0.050	0.050	07/17/2024	ND	2.20	110	2.00	3.02	
Total Xylenes*	<0.150	0.150	07/17/2024	ND	6.83	114	6.00	2.91	
Total BTEX	<0.300	0.300	07/17/2024	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3480	16.0	07/16/2024	ND	432	108	400	3.64	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2024	ND	206	103	200	5.27	
DRO >C10-C28*	<10.0	10.0	07/17/2024	ND	179	89.4	200	7.62	
EXT DRO >C28-C36	<10.0	10.0	07/17/2024	ND					

Surrogate: 1-Chlorooctane 97.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/16/2024	Sampling Date:	07/11/2024
Reported:	07/22/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 01 A 4' (H244231-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2024	ND	1.97	98.5	2.00	4.05		
Toluene*	<0.050	0.050	07/17/2024	ND	2.14	107	2.00	3.45		
Ethylbenzene*	<0.050	0.050	07/17/2024	ND	2.20	110	2.00	3.02		
Total Xylenes*	<0.150	0.150	07/17/2024	ND	6.83	114	6.00	2.91		
Total BTEX	<0.300	0.300	07/17/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	07/16/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2024	ND	206	103	200	5.27	
DRO >C10-C28*	18.9	10.0	07/17/2024	ND	179	89.4	200	7.62	
EXT DRO >C28-C36	<10.0	10.0	07/17/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/16/2024	Sampling Date:	07/11/2024
Reported:	07/22/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 02 2' (H244231-03)**

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	07/17/2024	ND	1.97	98.5	2.00	4.05		
Toluene*	<0.050	0.050	07/17/2024	ND	2.14	107	2.00	3.45		
Ethylbenzene*	<0.050	0.050	07/17/2024	ND	2.20	110	2.00	3.02		
Total Xylenes*	<0.150	0.150	07/17/2024	ND	6.83	114	6.00	2.91		
Total BTEX	<0.300	0.300	07/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6000	16.0	07/17/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2024	ND	206	103	200	5.27	
DRO >C10-C28*	<10.0	10.0	07/17/2024	ND	179	89.4	200	7.62	
EXT DRO >C28-C36	<10.0	10.0	07/17/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/16/2024	Sampling Date:	07/11/2024
Reported:	07/22/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 02 A 5' (H244231-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2024	ND	1.97	98.5	2.00	4.05		
Toluene*	<0.050	0.050	07/17/2024	ND	2.14	107	2.00	3.45		
Ethylbenzene*	<0.050	0.050	07/17/2024	ND	2.20	110	2.00	3.02		
Total Xylenes*	<0.150	0.150	07/17/2024	ND	6.83	114	6.00	2.91		
Total BTEX	<0.300	0.300	07/17/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/17/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2024	ND	206	103	200	5.27	
DRO >C10-C28*	<10.0	10.0	07/17/2024	ND	179	89.4	200	7.62	
EXT DRO >C28-C36	<10.0	10.0	07/17/2024	ND					

Surrogate: 1-Chlorooctane 93.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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

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

Cardinal Laboratories

\*=Accredited Analyte

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".

Celey D. Keene, Lab Director/Quality Manager





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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC Project Manager: David McInnis Address: 3122 National Parks Hwy City: Carlsbad      State: NM      Zip: 88220 Phone #: 337 257-8307      Fax #: Project #: 03C1558434      Project Owner: XTO Project Name: PLU Phantom Banks 20-25-31 Flowline Leak Project Location: Sampler Name: Connor Whitman FOR LAB USE ONLY							<b>BILL TO</b> P.O. #: Company: XTO Energy Inc. Attn: Amy Ruth Address: 3104 E. Green St. City: Carlsbad State: NM      Zip: 88220 Phone #: Fax #:			<b>ANALYSIS REQUEST</b>								
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	BTEX	TPH	CHLORIDE						
H84431	PH01	2	G	1	GROUNDWATER			7-11-24	1150	/	/	/						
	PH01A	4			WASTEWATER				1205	/	/	/						
	PH02	2			SOIL				1235	/	/	/						
	PH02A	5			OIL				1250	/	/	/						
					SLUDGE													
					OTHER :													
					ACID/BASE:													
					ICE / COOL													
					OTHER :													
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.																		
Relinquished By: <i>[Signature]</i>			Date: 7-10-24	Time: 1325	Received By: <i>[Signature]</i>													
Reinquinshed By:			Date:	Time:	Received By:													
Delivered By: (Circle One) Sampler - UPS - Bus - Other:			Observed Temp. °C <i>24.6</i>	Corrected Temp. °C	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes Cool Intact <input type="checkbox"/> No			CHECKED BY: (Initials) <i>[Signature]</i>			Turnaround Time: <i>AP 7-14-24</i> Standard Rush <input checked="" type="checkbox"/>							
											Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Corrected Temp. °C							
											Cost Center: *081581001 Incident ID: NAPP2418355674							
											REMARKS: Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address: bbell@ensolum.com, T Morrissey@ensolum.com, dmcinnis@ensolum.com							



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

August 02, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 07/30/24 14:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 01 5' (H244527-01)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 02 5' (H244527-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	14.1	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 03 4' (H244527-03)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 04 4' (H244527-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 134 % 48.2-134

Surrogate: 1-Chlorooctadecane 145 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 05 4' (H244527-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEx	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 06 4' (H244527-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 07 4' (H244527-07)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03		
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9		
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND						

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 08 4' (H244527-08)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 01 0-4' (H244527-09)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 02 0-4' (H244527-10)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 03 0-4' (H244527-11)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 04 0-4' (H244527-12)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 03 0.5' (H244527-13)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	216	108	200	3.03	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	189	94.3	200	11.9	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 129 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 03A 5' (H244527-14)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 71.5-134

Chloride, SM4500CI-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	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 04 0.5' (H244527-15)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/25/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 04A 5' (H244527-16)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02	
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06	
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67	
Total BTEX	<0.300	0.300	07/31/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/31/2024	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 97.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 09 4' (H244527-17)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	10.6	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 148 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 10 4' (H244527-18)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 11 4' (H244527-19)**

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	07/31/2024	ND	1.93	96.6	2.00	1.02		
Toluene*	<0.050	0.050	07/31/2024	ND	1.89	94.6	2.00	1.64		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	1.91	95.6	2.00	2.06		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	5.66	94.3	6.00	1.67		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2024	ND	209	104	200	2.32	
DRO >C10-C28*	12.1	10.0	08/01/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	08/01/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 12 4' (H244527-20)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/31/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 13 4' (H244527-21)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 14 4' (H244527-22)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 15 4' (H244527-23)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	41.1	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	12.8	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 16 4' (H244527-24)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95	
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60	
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41	
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45	
Total BTEX	<0.300	0.300	07/31/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 148 % 49.1-148

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".

---

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

1 of 3

Company Name: Ensolum, LLC		P.O. #:		BILL TO										ANALYSIS REQUEST														
Project Manager: David McInnis		Company: XTO Energy Inc.																										
Address: 3122 National Parks Hwy		Attn: Amy Ruth																										
City: Carlsbad		Address: 3104 E. Green St.																										
Phone #: 337 257-8307		City: Carlsbad																										
Fax #: 337 257-8307		State: NM Zip: 88220																										
Project #: 03C1558434		Project Owner: XTO																										
Project Name: PLU Phantom Banks 20-25-31 Flowline Leak		State: NM Zip: 88220																										
Project Location:		Phone #:																										
Sample Name: Connor Whitman		Fax #:																										
FOR LAB USE ONLY																												
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.	SAMPLING																		
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	CHLORIDE										
1	FS01	5	C1											7-25-24	11:20													
2	FS02	5													11:25													
3	FS03	4													11:30													
4	FS04	4													11:35													
5	FS05	4													11:40													
6	FS06	4													11:45													
7	FS07	4													11:50													
8	FS08	4													11:55													
9	SV01	0-4													12:00													
10	SV02	0-4													12:05													
PLEASE NOTE: Liability and Damages. Cardinal's liability and clients exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.																												
Relinquished By: <i>ltt</i>		Date: 12-12-24	Received By: <i>ADP</i>																									
Relinquished By: <i>ltt</i>		Date: 12-12-24	Received By: <i>ADP</i>																									
Delivered By: (Circle One)		Observed Temp.: 14.5°C	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: <i>ADP</i>																								
Sampler - UPS - Bus - Other:		Corrected Temp.: 14.5°C	Cool <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>																									
TCKM1000 R 3.2 10/07/21		† Cardinal cannot accept verbal changes. Please email changes to celej.keene@cardinallabsnm.com																										





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC

Project Manager: David McInnis

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 337 257-8307

State: NM Zip: 88220

Project #: 03C1558434

Fax #:

P.O. #:  
Company: XTO Energy Inc.  
Attn: Amy Ruth  
Address: 3104 E. Green St.  
City: Carlsbad

Project Name: PLU Phantom Banks 20-25-31 Flowline Leak

State: NM Zip: 88220

Project Location:

Phone #:

Sampler Name: Connor Whitman

Fax #:

BILL TO

ANALYSIS REQUEST

2 of 3

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	DATE	TIME	ANALYSIS REQUEST				
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE				BTEX	TPH	CHLORIDE		
H244527	SV03	0-4	C	1							7-25-24	1210					
11	SV04	0-4	C	1								1215					
12	PH03	0.5	G	1								1300					
13	PH03A	0.5	G	1								1325					
14	PH04	0.5	G	1								1355					
15	PH04A	5	G	1								1420					
16	FS09	4	C	1							7-26-24	1005					
17	FS10	4	C	1								1010					
18	FS11	4	C	1								1015					
19	FS12	4	C	1								1020					
20																	

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

Relinquished By:

Date:

Received By:

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

All Results are emailed. Please provide Email address:

Remarks: Cost Center: 1081581001 Incident ID: NAPP2418355674

Relinquished By:

Date:

Received By:

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition

CHECKED BY: (Initials)

Turnaround Time:

Standard

Bacteria (only)

Sample Condition

Sampler - UPS - Bus - Other:

Corrected Temp. °C

Cool Intact

(Initials)

Thermometer ID

Rush

Cool Intact

Observed Temp. °C

TURNAROUND R 3 Z 10/07/21

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





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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]





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

August 02, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 07/30/24 14:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 05 0.5' (H244529-01)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2024	ND	209	104	200	2.32	
DRO >C10-C28*	12.8	10.0	08/01/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	08/01/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 05A 5' (H244529-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

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	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2024	ND	209	104	200	2.32	
DRO >C10-C28*	17.2	10.0	08/01/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	08/01/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 06 0.5' (H244529-03)**

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	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2024	ND	209	104	200	2.32	
DRO >C10-C28*	23.4	10.0	08/01/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	08/01/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 64.0 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 06A 5' (H244529-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2024	ND	209	104	200	2.32	
DRO >C10-C28*	15.7	10.0	08/01/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	08/01/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.3 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 07 0.5' (H244529-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEX	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	07/31/2024	ND	464	116	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	07/30/2024	Sampling Date:	07/26/2024
Reported:	08/02/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: PH 07A 5' (H244529-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/31/2024	ND	1.96	98.2	2.00	5.95		
Toluene*	<0.050	0.050	07/31/2024	ND	2.08	104	2.00	5.60		
Ethylbenzene*	<0.050	0.050	07/31/2024	ND	2.15	107	2.00	5.41		
Total Xylenes*	<0.150	0.150	07/31/2024	ND	6.59	110	6.00	5.45		
Total BTEx	<0.300	0.300	07/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/31/2024	ND	464	116	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/31/2024	ND	209	104	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/31/2024	ND	179	89.4	200	0.570	
EXT DRO >C28-C36	<10.0	10.0	07/31/2024	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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".

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 of 1

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC		P.O. #:	
Project Manager: David McInnis		Company: XTO Energy Inc.	
Address: 3122 National Parks Hwy		Attn: Amy Ruth	
City: Carlsbad	State: NM Zip: 88220	Address: 3104 E. Green St.	
Phone #: 337 257-8307	Fax #:	City: Carlsbad	
Project #: 03C1558434	Project Owner: XTO	State: NM Zip: 88220	
Project Name: PLU Phantom Banks 20-25-31 Flowline Leak	Phone #:	Fax #:	
Project Location:			
Sampler Name: Connor Whitman			
FOR LAB USE ONLY			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.
1	PH05	0.5	1
2	PH05A	5	1
3	PH06	0.5	1
4	PH06A	5	1
5	PH07	0.5	1
6	PH07A	5	1
		# CONTAINERS	
		GROUNDWATER	
		WASTEWATER	
		SOIL	
		OIL	
		SLUDGE	
		OTHER :	
		ACID/BASE:	
		ICE / COOL	
		OTHER :	
		DATE	TIME
		7-26-24	11:00
		11:25	12:05
		12:30	13:30
		13:55	
		BTEX	
		TPH	
		CHLORIDE	
REMARKS: Cost Center: 1081581001 Incident ID: NAPP2418355674			
Please send copy of signed COC to: cwhitman@ensolum.com			
All Results are emailed. Please provide Email address: bbeill@ensolum.com, T Morrissey@ensolum.com, dmclinnis@ensolum.com			
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:			
Thermometer ID #443-4740			
Corrosion Factor: 0.00			
Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>			
Bacteria (only) Sample Condition			
Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No			
Corrected Temp. °C			
Relinquished By: [Signature]			
Date: 7/26/24			
Received By: [Signature]			
Date: 7/25			
Time: 14:25			
Relinquished By: [Signature]			
Date: 7/25			
Time: 14:25			
Delivered By: (Circle One)			
Observed Temp. °C			
Corrected Temp. °C			
Sample Condition			
Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample - UPS - Bus - Other:			

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



---

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

---

September 25, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 09/10/24 13:00.

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

[www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 20 1'	H245463-01	Soil	05-Sep-24 10:35	10-Sep-24 13:00
FS 21 1'	H245463-02	Soil	05-Sep-24 10:40	10-Sep-24 13:00
SW 05 0-1'	H245463-03	Soil	05-Sep-24 11:00	10-Sep-24 13:00
FS 22 2'	H245463-04	Soil	05-Sep-24 12:10	10-Sep-24 13:00
SW 06 0-2'	H245463-05	Soil	05-Sep-24 12:20	10-Sep-24 13:00

09/25/24 - Client changed the sample IDs on -01, -02 and -04 (see COC). This is the revised report and will replace the one sent on 09/12/24.

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 or 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 damage 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", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**FS 20 1'**  
**H245463-01 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>320</b>		16.0	mg/kg	4	4091119	HM	11-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			99.9 %	71.5-134		4091031	JH	11-Sep-24	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
Surrogate: 1-Chlorooctane			93.2 %	48.2-134		4091029	MS	11-Sep-24	8015B	
Surrogate: 1-Chlorooctadecane			91.6 %	49.1-148		4091029	MS	11-Sep-24	8015B	

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**FS 21 1'**  
**H245463-02 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>272</b>		16.0	mg/kg	4	4091119	HM	11-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091031	JH	11-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4091031	JH	11-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B
DRO >C10-C28*	50.1	10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B
EXT DRO >C28-C36	13.7	10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B

Surrogate: 1-Chlorooctane	95.7 %	48.2-134	4091029	MS	11-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	95.7 %	49.1-148	4091029	MS	11-Sep-24	8015B
-------------------------------	--------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**SW 05 0-1'**  
**H245463-03 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>288</b>		16.0	mg/kg	4	4091119	HM	11-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091031	JH	11-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			101 %	71.5-134		4091031	JH	11-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
DRO >C10-C28*	61.7		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
EXT DRO >C28-C36	15.5		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	

Surrogate: 1-Chlorooctane			94.8 %	48.2-134		4091029	MS	11-Sep-24	8015B	
---------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			93.4 %	49.1-148		4091029	MS	11-Sep-24	8015B	
-------------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**FS 22 2'**  
**H245463-04 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	4091119	HM	11-Sep-24	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091031	JH	11-Sep-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			99.6 %	71.5-134		4091031	JH	11-Sep-24	8021B	
--	--	--	--------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			89.2 %	48.2-134		4091029	MS	11-Sep-24	8015B	
----------------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

<i>Surrogate: 1-Chlorooctadecane</i>			87.2 %	49.1-148		4091029	MS	11-Sep-24	8015B	
--------------------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**SW 06 0-2'**  
**H245463-05 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	4091119	HM	11-Sep-24	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091031	JH	11-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091031	JH	11-Sep-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			98.2 %		71.5-134	4091031	JH	11-Sep-24	8021B	
--	--	--	--------	--	----------	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091029	MS	11-Sep-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			100 %		48.2-134	4091029	MS	11-Sep-24	8015B	
----------------------------------	--	--	-------	--	----------	---------	----	-----------	-------	--

<i>Surrogate: 1-Chlorooctadecane</i>			98.1 %		49.1-148	4091029	MS	11-Sep-24	8015B	
--------------------------------------	--	--	--------	--	----------	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4091119 - 1:4 DI Water</b>									
<b>Blank (4091119-BLK1)</b>					Prepared & Analyzed: 11-Sep-24				
Chloride	ND	16.0	mg/kg						
<b>LCS (4091119-BS1)</b>					Prepared & Analyzed: 11-Sep-24				
Chloride	400	16.0	mg/kg	400		100	80-120		
<b>LCS Dup (4091119-BSD1)</b>					Prepared & Analyzed: 11-Sep-24				
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

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

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

**Batch 4091031 - Volatiles****Blank (4091031-BLK1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0502		mg/kg	0.0500		100	71.5-134			

**LCS (4091031-BS1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

Benzene	1.95	0.050	mg/kg	2.00		97.4	82.8-130			
Toluene	1.88	0.050	mg/kg	2.00		93.8	86-128			
Ethylbenzene	1.86	0.050	mg/kg	2.00		92.9	85.9-128			
m,p-Xylene	3.72	0.100	mg/kg	4.00		92.9	89-129			
o-Xylene	1.82	0.050	mg/kg	2.00		90.8	86.1-125			
Total Xylenes	5.53	0.150	mg/kg	6.00		92.2	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0499		mg/kg	0.0500		99.8	71.5-134			

**LCS Dup (4091031-BSD1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

Benzene	1.97	0.050	mg/kg	2.00		98.4	82.8-130	0.997	15.8	
Toluene	1.90	0.050	mg/kg	2.00		94.9	86-128	1.22	15.9	
Ethylbenzene	1.89	0.050	mg/kg	2.00		94.5	85.9-128	1.69	16	
m,p-Xylene	3.79	0.100	mg/kg	4.00		94.8	89-129	1.99	16.2	
o-Xylene	1.85	0.050	mg/kg	2.00		92.6	86.1-125	1.91	16.7	
Total Xylenes	5.64	0.150	mg/kg	6.00		94.0	88.2-128	1.96	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0507		mg/kg	0.0500		101	71.5-134			

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: TRACY HILLARD  
Fax To:

Reported:  
25-Sep-24 08:42

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

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

**Batch 4091029 - General Prep - Organics****Blank (4091029-BLK1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	52.6		mg/kg	50.0		105	48.2-134		
Surrogate: 1-Chlorooctadecane	52.9		mg/kg	50.0		106	49.1-148		

**LCS (4091029-BS1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

GRO C6-C10	189	10.0	mg/kg	200		94.3	66.4-123		
DRO >C10-C28	185	10.0	mg/kg	200		92.6	66.5-118		
Total TPH C6-C28	374	10.0	mg/kg	400		93.5	77.6-123		
Surrogate: 1-Chlorooctane	54.7		mg/kg	50.0		109	48.2-134		
Surrogate: 1-Chlorooctadecane	53.2		mg/kg	50.0		106	49.1-148		

**LCS Dup (4091029-BSD1)**

Prepared: 10-Sep-24 Analyzed: 11-Sep-24

GRO C6-C10	200	10.0	mg/kg	200		100	66.4-123	5.78	17.7
DRO >C10-C28	196	10.0	mg/kg	200		98.1	66.5-118	5.80	21
Total TPH C6-C28	396	10.0	mg/kg	400		99.0	77.6-123	5.79	18.5
Surrogate: 1-Chlorooctane	59.8		mg/kg	50.0		120	48.2-134		
Surrogate: 1-Chlorooctadecane	57.9		mg/kg	50.0		116	49.1-148		

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 or 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 damage 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 or 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 damage 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*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensulium, LLC

Project Manager: Tracy Hillard

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 337 257-8307

Project #: 03C1558434

Project Name: PLU Phantom Banks 20-25-31 Flowline Leak

Project Location:

Sampler Name: Connor Whitman

FOR LAB USE ONLY

BILL TO

ANALYSIS REQUEST

1 of 1

P.O. #:

Company: XTO Energy Inc.

Attn: Amy Ruth

Address: 3104 E. Green St.

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

Lab I.D.

Sample I.D.

Sample Depth (feet)

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL :

OTHER :

DATE

TIME

BTEX

TPH

CHLORIDE

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

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:



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

September 16, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 09/12/24 15:39.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 23 4' (H245547-01)**

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	09/13/2024	ND	2.21	110	2.00	0.422	
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42	
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72	
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86	
Total BTEX	<0.300	0.300	09/13/2024	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/13/2024	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 64.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.2 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 08 0-4' (H245547-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2024	ND	2.21	110	2.00	0.422		
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42		
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72		
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86		
Total BTEX	<0.300	0.300	09/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	09/13/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 85.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 09 0-4' (H245547-03)**

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	09/13/2024	ND	2.21	110	2.00	0.422		
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42		
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72		
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86		
Total BTEX	<0.300	0.300	09/13/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/13/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 79.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 07 0-4' (H245547-04)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2024	ND	2.21	110	2.00	0.422	
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42	
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72	
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86	
Total BTEX	<0.300	0.300	09/13/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/13/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 78.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.7 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: SW 10 0-4' (H245547-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2024	ND	2.21	110	2.00	0.422		
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42		
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72		
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86		
Total BTEX	<0.300	0.300	09/13/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	09/13/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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  
DAVID MCINNIS  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	09/12/2024	Sampling Date:	09/11/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU PHANTOM BANKS 20-25-31 FLOWL	Sampling Condition:	Cool & Intact
Project Number:	03C1558434	Sample Received By:	Alyssa Parras
Project Location:	XTO		

**Sample ID: FS 29 6' (H245547-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2024	ND	2.21	110	2.00	0.422		
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42		
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72		
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86		
Total BTEX	<0.300	0.300	09/13/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	09/13/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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".

---

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

[illegible]

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

---

September 25, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU PHANTOM BANKS 20-25-31 FLOWLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 09/19/24 13:15.

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

[www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" being more prominent.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:Reported:  
25-Sep-24 08:54

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW 11 0-4	H245699-01	Soil	17-Sep-24 10:20	19-Sep-24 13:15
SW 12 0-4	H245699-02	Soil	17-Sep-24 10:25	19-Sep-24 13:15
SW 13 0-2	H245699-03	Soil	17-Sep-24 10:30	19-Sep-24 13:15
FS 30 2	H245699-04	Soil	17-Sep-24 10:45	19-Sep-24 13:15
FS 28 2	H245699-05	Soil	17-Sep-24 10:50	19-Sep-24 13:15
FS 25 4	H245699-06	Soil	17-Sep-24 10:55	19-Sep-24 13:15
FS 26 5	H245699-07	Soil	17-Sep-24 11:00	19-Sep-24 13:15
FS 27 4	H245699-08	Soil	17-Sep-24 11:05	19-Sep-24 13:15
FS 17 4	H245699-09	Soil	17-Sep-24 11:10	19-Sep-24 13:15
FS 18 4	H245699-10	Soil	17-Sep-24 11:15	19-Sep-24 13:15
FS 19 4	H245699-11	Soil	17-Sep-24 11:20	19-Sep-24 13:15
FS 24 4	H245699-12	Soil	17-Sep-24 11:25	19-Sep-24 13:15
SW 14 0-4	H245699-13	Soil	17-Sep-24 12:20	19-Sep-24 13:15

09/25/24 - Client changed the sample ID on -11 (see COC). This is the revised report and will replace the one sent on 09/23/24.

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 or 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 damage 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".

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**SW 11 0-4**  
**H245699-01 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>256</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		100 %		71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	-------	--	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane		97.6 %		48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--------	--	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane		101 %		49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	-------	--	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**SW 12 0-4**  
**H245699-02 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>256</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			101 %	71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			99.8 %	48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			104 %	49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**SW 13 0-2**  
**H245699-03 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>272</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	101 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	93.6 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	97.7 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	--------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 30 2**  
**H245699-04 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>432</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	101 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	89.4 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	93.9 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	--------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 28 2**  
**H245699-05 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			102 %	71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			103 %	48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			108 %	49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 25 4**  
**H245699-06 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>192</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			102 %	71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			104 %	48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			108 %	49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 26 5**  
**H245699-07 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>320</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	102 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	-------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	107 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	-------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 27 4**  
**H245699-08 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

Chloride	48.0		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
----------	------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			99.4 %	48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			107 %	49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 17 4**  
**H245699-09 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>272</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	97.0 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	102 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	-------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 18 4**  
**H245699-10 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>160</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			101 %	71.5-134		4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			93.7 %	48.2-134		4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			98.7 %	49.1-148		4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	--------	----------	--	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 19 4**  
**H245699-11 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>192</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	99.6 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	104 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	-------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**FS 24 4**  
**H245699-12 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>528</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	102 %	71.5-134	4091923	JH	20-Sep-24	8021B
---------------------------------------	-------	----------	---------	----	-----------	-------

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B

Surrogate: 1-Chlorooctane	92.9 %	48.2-134	4091927	MS	19-Sep-24	8015B
---------------------------	--------	----------	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	97.1 %	49.1-148	4091927	MS	19-Sep-24	8015B
-------------------------------	--------	----------	---------	----	-----------	-------

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**SW 14 0-4**  
**H245699-13 (Soil)**

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

**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>304</b>		16.0	mg/kg	4	4092018	HM	20-Sep-24	4500-Cl-B	
-----------------	------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4091923	JH	20-Sep-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4091923	JH	20-Sep-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			101 %		71.5-134	4091923	JH	20-Sep-24	8021B	
---------------------------------------	--	--	-------	--	----------	---------	----	-----------	-------	--

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4091927	MS	19-Sep-24	8015B	

Surrogate: 1-Chlorooctane			92.2 %		48.2-134	4091927	MS	19-Sep-24	8015B	
---------------------------	--	--	--------	--	----------	---------	----	-----------	-------	--

Surrogate: 1-Chlorooctadecane			97.8 %		49.1-148	4091927	MS	19-Sep-24	8015B	
-------------------------------	--	--	--------	--	----------	---------	----	-----------	-------	--

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4092018 - 1:4 DI Water</b>										
<b>Blank (4092018-BLK1)</b>										
					Prepared & Analyzed: 20-Sep-24					
Chloride	ND	16.0	mg/kg							
<b>LCS (4092018-BS1)</b>										
					Prepared & Analyzed: 20-Sep-24					
Chloride	400	16.0	mg/kg	400		100	80-120			
<b>LCS Dup (4092018-BSD1)</b>										
					Prepared & Analyzed: 20-Sep-24					
Chloride	416	16.0	mg/kg	400		104	80-120	3.92	20	

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

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

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

**Batch 4091923 - Volatiles****Blank (4091923-BLK1)**

Prepared: 19-Sep-24 Analyzed: 20-Sep-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0502		mg/kg	0.0500		100	71.5-134			

**LCS (4091923-BS1)**

Prepared: 19-Sep-24 Analyzed: 20-Sep-24

Benzene	2.12	0.050	mg/kg	2.00		106	82.8-130			
Toluene	2.07	0.050	mg/kg	2.00		104	86-128			
Ethylbenzene	2.16	0.050	mg/kg	2.00		108	85.9-128			
m,p-Xylene	4.36	0.100	mg/kg	4.00		109	89-129			
o-Xylene	2.14	0.050	mg/kg	2.00		107	86.1-125			
Total Xylenes	6.51	0.150	mg/kg	6.00		108	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0524		mg/kg	0.0500		105	71.5-134			

**LCS Dup (4091923-BSD1)**

Prepared: 19-Sep-24 Analyzed: 20-Sep-24

Benzene	2.15	0.050	mg/kg	2.00		108	82.8-130	1.74	15.8	
Toluene	2.10	0.050	mg/kg	2.00		105	86-128	1.35	15.9	
Ethylbenzene	2.17	0.050	mg/kg	2.00		108	85.9-128	0.165	16	
m,p-Xylene	4.36	0.100	mg/kg	4.00		109	89-129	0.0457	16.2	
o-Xylene	2.14	0.050	mg/kg	2.00		107	86.1-125	0.283	16.7	
Total Xylenes	6.50	0.150	mg/kg	6.00		108	88.2-128	0.124	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0508		mg/kg	0.0500		102	71.5-134			

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 or 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 damage 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU PHANTOM BANKS 20-25-31 F  
Project Number: 03C1558434  
Project Manager: DAVID MCINNIS  
Fax To:

Reported:  
25-Sep-24 08:54

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

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

**Batch 4091927 - General Prep - Organics****Blank (4091927-BLK1)**

Prepared &amp; Analyzed: 19-Sep-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	49.4		mg/kg	50.0		98.8	48.2-134			
Surrogate: 1-Chlorooctadecane	51.4		mg/kg	50.0		103	49.1-148			

**LCS (4091927-BS1)**

Prepared &amp; Analyzed: 19-Sep-24

GRO C6-C10	194	10.0	mg/kg	200		96.8	66.4-123			
DRO >C10-C28	198	10.0	mg/kg	200		99.0	66.5-118			
Total TPH C6-C28	392	10.0	mg/kg	400		97.9	77.6-123			
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	48.2-134			
Surrogate: 1-Chlorooctadecane	56.7		mg/kg	50.0		113	49.1-148			

**LCS Dup (4091927-BS1)**

Prepared &amp; Analyzed: 19-Sep-24

GRO C6-C10	196	10.0	mg/kg	200		98.1	66.4-123	1.30	17.7	
DRO >C10-C28	200	10.0	mg/kg	200		100	66.5-118	1.16	21	
Total TPH C6-C28	397	10.0	mg/kg	400		99.1	77.6-123	1.23	18.5	
Surrogate: 1-Chlorooctane	55.0		mg/kg	50.0		110	48.2-134			
Surrogate: 1-Chlorooctadecane	56.8		mg/kg	50.0		114	49.1-148			

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 or 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 damage 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

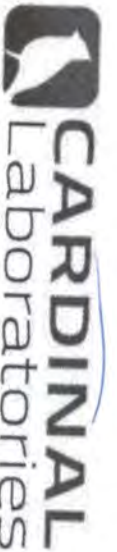
Cardinal Laboratories

\*=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 or 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 damage 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".

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 of 2

<b>Company Name:</b> Ensolum, LLC		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>									
<b>Project Manager:</b> David McInnis		<b>P.O. #:</b>											
<b>Address:</b> 3122 National Parks Hwy		<b>Company:</b> XTO Energy Inc.											
<b>City:</b> Carlsbad		<b>Attn:</b> Amy Ruth											
<b>Phone #:</b> 337 257-8307		<b>Address:</b> 3104 E. Green St.											
<b>State:</b> NM		<b>City:</b> Carlsbad											
<b>Zip:</b> 88220		<b>State:</b> NM											
<b>Project #:</b> 03C1558434		<b>Project Owner:</b> XTO											
<b>Project Name:</b> PLU Phantom Banks 20-25-31 Flowline Leak		<b>Phone #:</b>											
<b>Project Location:</b>		<b>Fax #:</b>											
<b>Sampler Name:</b> Connor Whitman													
<small>FOR LAB USE ONLY</small>													
<b>Lab I.D.</b>	<b>Sample I.D.</b>	<b>Sample Depth (feet)</b>	<b>(G)RAB OR (C)OMP.</b>	<b># CONTAINERS</b>	<b>MATRIX</b>			<b>PRESERV.</b>	<b>SAMPLING</b>	<b>BTEX</b>	<b>TPH</b>	<b>CHLORIDE</b>	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :
1	SWH1	0-4	C	1									
2	SW12	0-4											
3	SW13	0-2											
4	FS30	2											
5	FS28	2											
6	FS25	4											
7	FS26	5											
8	FS27	4											
9	FS17	4											
10	FS18	4											
<small>PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services furnished by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</small>													
<b>Relinquished By:</b>		<b>Date:</b> 9-19-24	<b>Received By:</b>		<b>Verbal Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b>								
<b>Relinquished By:</b> [Signature]		<b>Date:</b> 12-15	<b>Received By:</b> [Signature]		<b>All Results are emailed. Please provide Email address:</b>								
<b>Time:</b>		<b>Time:</b>	<b>Time:</b>		<b>REMARKS:</b> Cost Center: 1081581001 Incident ID: NAPP2418355674								
<b>Delivered By: (Circle One)</b>		<b>Observed Temp. °C</b>	<b>Sample Condition</b>	<b>CHECKED BY:</b>	<b>Turnaround Time:</b> Standard <input type="checkbox"/> Bacteria (only) Sample Condition								
<b>Sampler - UPS - Bus - Other:</b>		<b>Corrected Temp. °C</b>	<b>Cool Intact</b>	<b>(Initials)</b>	<b>Thermometer ID:</b> #140 <b>Standard</b> <input checked="" type="checkbox"/> <b>Cool Intact</b> <input type="checkbox"/> <b>Observed Temp. °C</b>								
			<input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Correction Factor:</b> -0.3°C <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Corrected Temp. °C</b>								

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





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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

$$2 + 2$$

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 410121

QUESTIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 410121
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2418355674
Incident Name	NAPP2418355674 PLU PHANTOM BANKS 20-25-31 @ 0
Incident Type	Release Other
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU Phantom Banks 20-25-31
Date Release Discovered	06/10/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Crude Oil   Released: 4 BBL   Recovered: 1 BBL   Lost: 3 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Production   Produced Water   Released: 12 BBL   Recovered: 4 BBL   Lost: 8 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 410121

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 410121
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>No</b>
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	<b>True</b>
The impacted area has been secured to protect human health and the environment	<b>True</b>
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	<b>True</b>
All free liquids and recoverable materials have been removed and managed appropriately	<b>True</b>
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/09/2024
--	--

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 410121

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  410121
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Site Characterization**

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

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

**Remediation Plan**

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

Requesting a remediation plan approval with this submission	Yes
<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)	12000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	37320
GRO+DRO (EPA SW-846 Method 8015M)	31760
BTEX (EPA SW-846 Method 8021B or 8260B)	177
Benzene (EPA SW-846 Method 8021B or 8260B)	4.7

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

On what estimated date will the remediation commence	06/14/2024
On what date will (or did) the final sampling or liner inspection occur	09/17/2024
On what date will (or was) the remediation complete(d)	09/17/2024
What is the estimated surface area (in square feet) that will be reclaimed	5572
What is the estimated volume (in cubic yards) that will be reclaimed	930
What is the estimated surface area (in square feet) that will be remediated	5572
What is the estimated volume (in cubic yards) that will be remediated	930

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

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



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 410121

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	410121
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
(Select all answers below that apply.)	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/09/2024
<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 410121

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  410121
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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



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 410121

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 410121
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	391342
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/18/2024
What was the (estimated) number of samples that were to be gathered	4
What was the sampling surface area in square feet	1000

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	5572
What was the total volume (cubic yards) remediated	930
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	5572
What was the total volume (in cubic yards) reclaimed	930
Summarize any additional remediation activities not included by answers (above)	Site assessment and excavation activities were conducted at the Site to address the June 10, 2024, release of crude oil and produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO has backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/09/2024

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 7  
  
Action 410121

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  410121
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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 410121

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  410121
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2418355674 PLU PHANTOM BANKS 20-25-31, thank you. This Remediation Closure Report is approved.	1/3/2025