



July 8, 2024

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
PLUC 2 Frac Pond  
Incident Number nAPP2401640490  
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, delineation, excavation, and soil sampling activities performed at the PLUC 2 Frac Pond (Site). The purpose of the site assessment, excavation and soil sampling activities was to address impacts to soil resulting the illegal release of produced water with friction reducer (FR) at the Site. Based on field observations and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing Site assessment, delineation, and excavation activities that have occurred and requesting no further action for the remediation of Incident Number nAPP2401640490.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit G, Section 11, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.14874°, -103.84923°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On January 7, 2024, approximately 24 barrels (bbls) of produced water with FR was illegally released at the Site. No fluid was recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via an Initial C-141 Application (C-141) on January 16, 2024. The release was assigned Incident Number nAPP2401640490.

Produced water is recycled through filtering and separation, then mixed in a blender with friction reducer and used as hydraulic fracturing fluid during the well completion process. The safety data sheet (SDS) for friction reducer is provided in Appendix A.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320856103502801, located approximately 0.46 miles

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east of the Site. The groundwater well has a reported depth to groundwater of 391 feet bgs from and has a total depth of 482 feet bgs. The reference well record is included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 1,728 feet north 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 (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the closest depth to groundwater data exceeding 25 years, as preferred by the NMOCD, 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 March 5, 2024, site assessment activities were conducted at the Site to evaluate the release extent based on information provided on the C-141 and visual observations. Twelve assessment soil samples (SS01 through SS12) were collected within and around the release extent from a depth of 0.5 feet bgs to assess for the presence or absence of impacted soil. The assessment soil samples were field screened volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit and a Photographic Log is included in Appendix C.

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

Laboratory analytical results for assessment soil samples SS01, SS02, SS05, and SS09, collected from within the release extent, indicated that chloride concentrations exceeded the Closure Criteria. Soil samples SS03, SS04, SS06 through SS08, and SS10 through SS12 were compliant with the Site Closure Criteria, and thus defined the lateral extent of the release. Due to the presence of impacted soil, additional vertical delineation activities were scheduled to determine the vertical extent of impacted soil.

## DELINEATION ACTIVITIES

Between March 5 and April 10, 2024, Ensolum personnel returned to the Site to oversee delineation soil sampling activities. Four potholes were advanced utilizing a hand auger and track-mounted backhoe, to a maximum of 4 feet bgs within the release extent. Soil samples were collected from each pothole at depths ranging from 1-foot bgs to 4 feet bgs. Soil from the potholes were field screened for VOCs and

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chloride. Field screening results and observations for each pothole were documented on lithologic/soil sampling logs and are included as Appendix D. The soil samples were collected, handled, and analyzed as described above. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for soil samples SS01A, SS05A, and SS09A, collected at depths ranging from 1 foot to 2 feed bgs indicated chloride concentrations exceeded the Closure Criteria. Laboratory analytical results for all terminal depths of the delineation potholes, collected at depths ranging from 2 feet to 4 feet bgs, indicated all COCs were compliant with the Closure Criteria and successfully define the vertical extent of the release. Based on the laboratory analytical data, impacted soil existed at the Site and excavation activities were warranted. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix E.

## EXCAVATION SOIL SAMPLING ACTIVITIES

Following delineation activities, on April 10, 2024, soil was excavated from the release area as indicated by delineation soil sample laboratory analytical results and field screening results. Excavation activities were performed utilizing a track-mounted backhoe and transport vehicles. Following the removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS08 were collected from the floor of the excavation at 4 feet bgs. Confirmation soil samples SW01 through SW03 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The excavation confirmation soil samples were collected, handled, and analyzed following the same procedures as described above. The final excavation extent and excavation confirmation soil sample locations are depicted on Figure 3. Photographic documentation of the excavation is included in Appendix B.

The final excavation extent was approximately 1,600 square feet. A total of approximately 237 cubic yards of impacted soil was removed during the excavation activities. The soil was transported and properly disposed of at OWL Disposal Facility in Jal, New Mexico.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the confirmation soil samples indicated that all COC concentrations were compliant with the Site Closure Criteria and that all impacted soil was removed during excavation activities. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix E.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the January 7, 2024 illegal release of produced water with FR. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Closure Criteria. Based on laboratory analytical results, no further remediation is required at this time. The excavation has been backfilled with material purchased locally and recontoured to match pre-existing Site conditions.

Excavation of soil has mitigated impacts at this Site. Depth to groundwater is estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2401640490.

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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**



Meredith Roberts  
Staff Geologist



Tacoma Morrissey  
Associate Principal

cc: Amy Ruth, XTO  
Amanda Garcia, XTO  
Bureau of Land Management

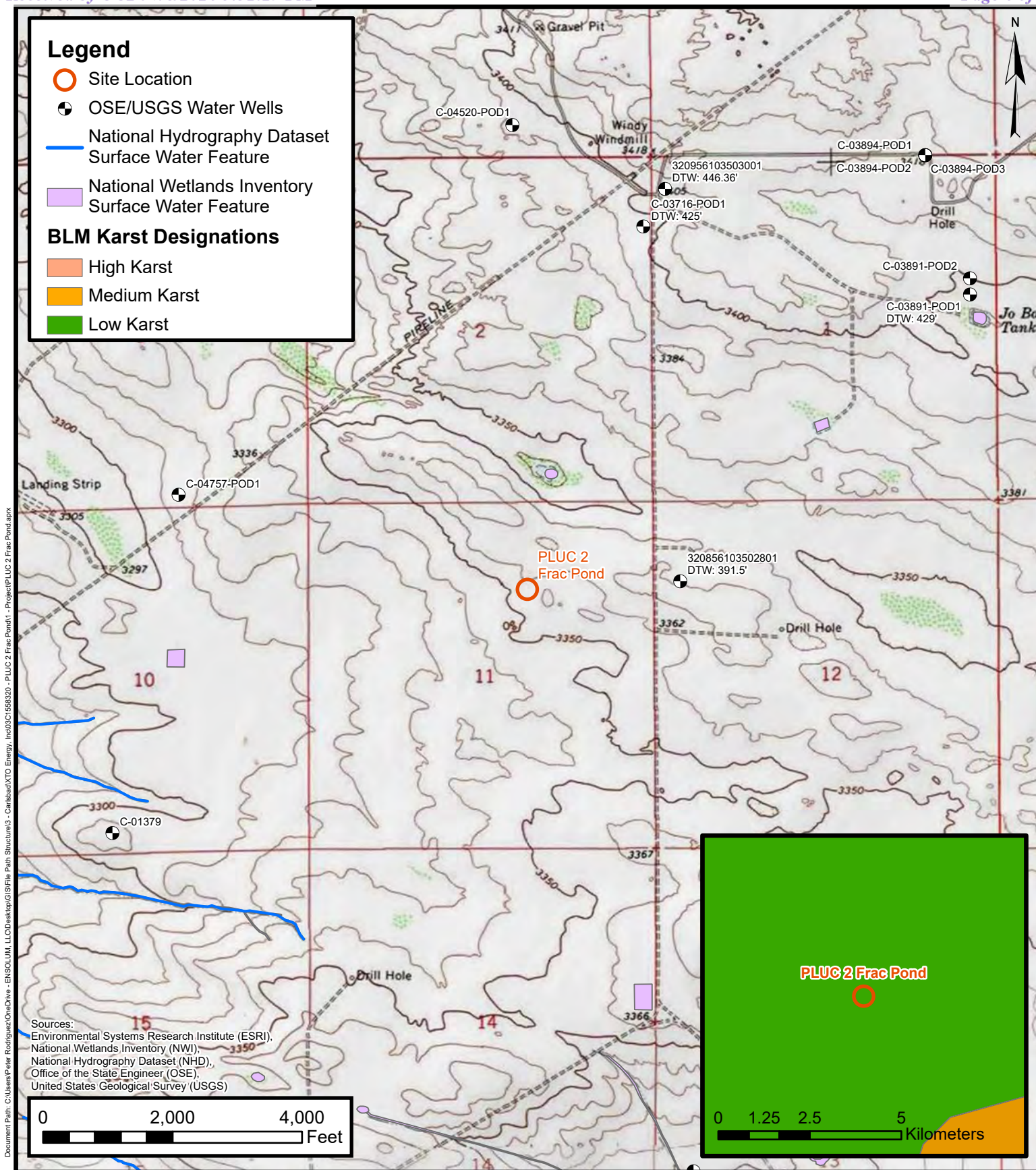
Appendices:

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	Friction Reducer SDS
Appendix B	Referenced Well Record
Appendix C	Photographic Log
Appendix D	Lithologic Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES





**ENSOLUM**  
Environmental, Engineering and  
Hydrogeologic Consultants

## Site Receptor Map

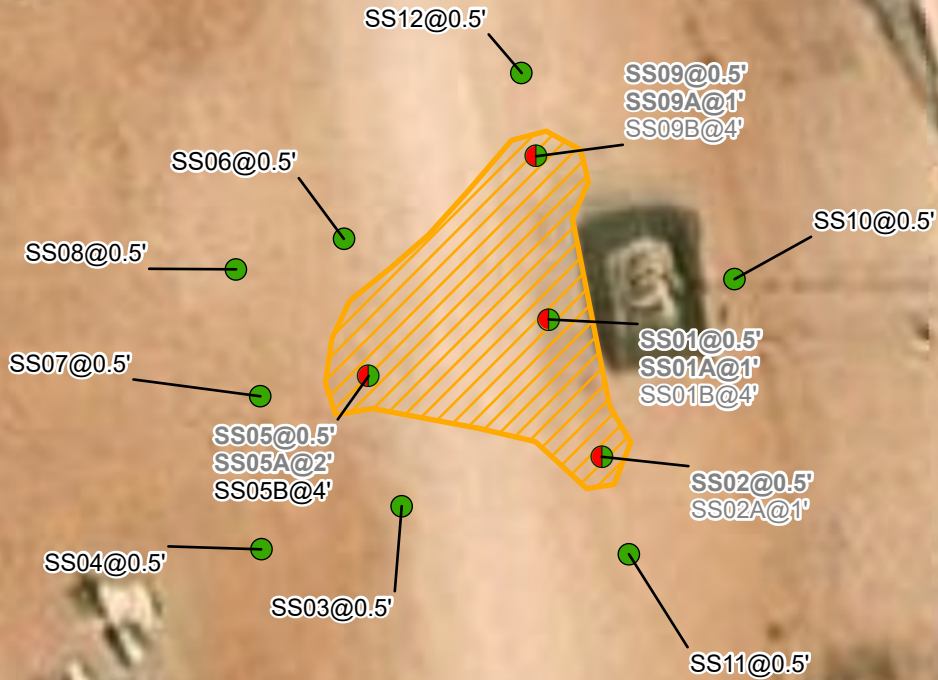
XTO Energy, Inc  
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Eddy County, New Mexico

**FIGURE**  
**1**

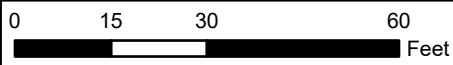


## Legend

- Delineation Soil Samples
- Compliant with Closure Criteria
- Delineation Soil Samples with Initial Concentrations Exceeding Closure Criteria
- ▨ Release Extent



Notes:  
Sample ID @ Depth Below Ground Surface.  
Samples in bold indicate sample exceeded applicable Closure Criteria.  
Samples in gray were removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI)

## Delineation Soil Sample Locations

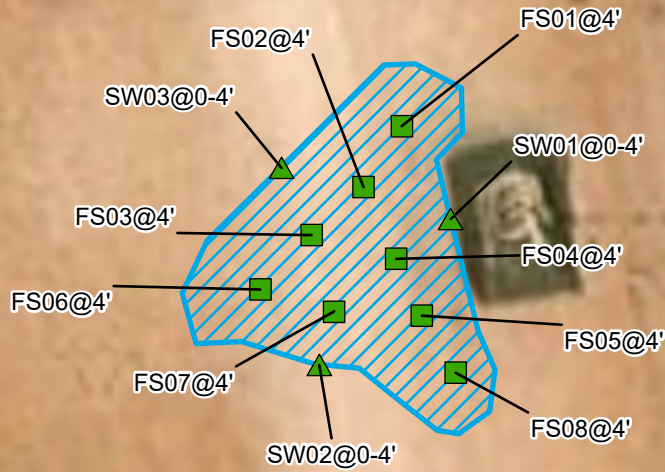
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FIGURE  
2

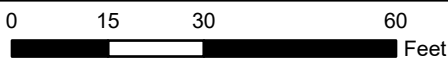


## Legend

- Floor Soil Samples  
■ Compliant with Closure Criteria
- Sidewall Soil Samples  
▲ Compliant with Closure Criteria
- Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Confirmation Soil Sample Locations

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FIGURE

3





TABLES

TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
PLUC 2 Frac Pond  
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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	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	7,200
SS01A	03/14/2024	1	<0.050	<0.300	<10.0	16.7	<10.0	16.7	16.7	17,200
SS01B	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS02	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	5,440
SS02A	03/14/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
SS03	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
SS04	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
SS05	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,200
SS05A	03/14/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,760
SS05B	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS06	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80.0
SS07	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	320
SS08	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
SS09	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,440
SS09A	03/14/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	17,600
SS09B	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SS10	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	128
SS11	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	144
SS12	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
Confirmation Soil Samples										
FS01	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS02	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS03	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS04	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS05	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS06	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS07	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS08	04/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112



TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
PLUC 2 Frac Pond  
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
SW01	04/10/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SW02	04/10/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW03	04/10/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0

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

### Friction Reducer SDS

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# SAFETY DATA SHEET

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Number 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product Name POLYglide Xcel-200

### Other means of identification

Product Code(s) 10497

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

PfP Industries  
29738 Goynes Rd.  
Katy, TX 77493

#### Manufacturer Address

PfP Industries  
29738 Goynes Rd.  
Katy, TX 77493

### Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
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### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

#### Warning

Combustible liquid

10497 - POLYglide Xcel-200

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<b>Appearance</b> Opaque	<b>Physical state</b> Liquid	<b>Odor</b> Mineral Oil
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**Precautionary Statements - Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

In case of fire: Use CO2, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Information**

May be harmful in contact with skin  
Harmful to aquatic life

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. FIRST AID MEASURES****Description of first aid measures**

<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	No information available.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.
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### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

<b>Advice on safe handling</b>	Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.
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### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Opaque  
**Color** Milky white to yellow  
**Odor** Mineral Oil  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm <sup>2</sup> /s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	



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**Other Information**

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

**10. STABILITY AND REACTIVITY**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

**Symptoms related to the physical, chemical and toxicological characteristics**

Symptoms	No information available.
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**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 5.2 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Skin corrosion/irritation	No information available.
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Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability	No information available.
Bioaccumulation	There is no data for this product.
Other adverse effects	No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

DOT	Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))
-----	---

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

10497 - POLYglide Xcel-200

Revision Date 01-Aug-2019

PICCS Complies  
AICS Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

**US State Regulations** This product does not contain any substances regulated by state right-to-know regulations

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

10497 - POLYglide Xcel-200

Revision Date 01-Aug-2019

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<u>NFPA</u>	Health hazards	2	Flammability	2	Instability	0	Physical and chemical properties	-
<u>HMIS</u>	Health hazards	2	Flammability	2	Physical hazards	0	Personal protection	X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PFP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

**End of Safety Data Sheet**



## APPENDIX B

### Referenced Well Record

---





USGS Home  
Contact USGS  
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:  
Groundwater

Geographic Area:  
United States

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 the Nation

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

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 320856103502801

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

USGS 320856103502801 25S.30E.12.113211

Eddy County, New Mexico  
Latitude 32°08'56", Longitude 103°50'28" NAD27  
Land-surface elevation 3,371 feet above NAVD88  
The depth of the well is 482 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 of measurement
1959-03-25			D 62610		2978.00	NGVD29	1		Z	
1959-03-25			D 62611		2979.70	NAVD88	1		Z	
1959-03-25			D 72019	391.30			1		Z	
1983-01-31			D 62610		2979.00	NGVD29	1		Z	
1983-01-31			D 62611		2980.70	NAVD88	1		Z	
1983-01-31			D 72019	390.30			1		Z	
1987-10-20			D 62610		2978.89	NGVD29	1		Z	
1987-10-20			D 62611		2980.59	NAVD88	1		Z	
1987-10-20			D 72019	390.41			1		Z	
1992-11-06			D 62610		2978.89	NGVD29	1		S	
1992-11-06			D 62611		2980.59	NAVD88	1		S	
1992-11-06			D 72019	390.41			1		S	
1998-01-28			D 62610		2979.22	NGVD29	1		S	
1998-01-28			D 62611		2980.92	NAVD88	1		S	
1998-01-28			D 72019	390.08			1		S	

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

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)  
**Title: Groundwater for USA: Water Levels**  
**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)  
Page Last Modified: 2024-05-16 11:23:47 EDT  
0.31 0.24 nadww01



## APPENDIX C

### Photographic Log

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**Photographic Log**

XTO Energy, Inc  
PLUC 2 Frac Pond  
nAPP2401640490

Date & Time: Tue, Mar 25, 2024 at 09:30:42 MST  
Position: +332.146703° / -103.849103° (±16.2ft)  
Altitude: 3371ft (±10.1ft)  
Datum: WGS-84  
Azimuth Bearing: 358° N04W 6329m to True (±12°)  
Elevation Angle: -04.3°  
Horizon Angle: -00.5°  
Zoom: 1.0X  
DLO 0-2 Frac Pond



Photograph: 1 Date: 3/5/2024  
Description: Release extent  
View: North



Photograph: 2 Date: 3/14/2024  
Description: Delineation with hand auger  
View: West



Photograph: 3 Date: 3/14/2024  
Description: Delineation with hand auger  
View: Southeast



Photograph: 4 Date: 4/10/2024  
Description: Delineation with heavy equipment  
View: Northeast



**Photographic Log**

XTO Energy, Inc  
PLUC 2 Frac Pond  
nAPP2401640490



Photograph: 5                      Date: 4/10/2024  
Description: Delineation with heavy equipment  
View: South



Photograph: 6                      Date: 4/10/2024  
Description: Excavation activities  
View: Southwest



Photograph: 7                      Date: 4/10/2024  
Description: Final excavation extent  
View: Southwest




Photograph: 8                      Date: 4/10/2024  
Description: Backfilled excavation extent  
View: Northeast




## APPENDIX D


### Lithologic Soil Sampling Logs


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 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: SS01		Date: 3/14/2024				
		Site Name: PLU C-2 Frac Pond						
		Incident Number: nAPP2401640490						
		Job Number: 03C1558320						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.148809, -103.849145				Logged By: KS/TH		Method: Hand Auger/Backhoe		
				Hole Diameter: 4" & 24"		Total Depth: 4'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	8,489	0.0	Y	SS01	0.5	0	SP-SM	(0-3') SAND with silt, brown, very fine grained with some gravel, poorly sorted, staining through 0.5' bgs, no odor, moist.
M	8,580	2.0	N	SS01A	1	1		
M	2,357	1.9	N			1.5		
M	767.2	0.0	N			2		Hand Auger Refusal, Depth @ 1.5 feet bgs
M	162.4	0.7	N			3		(@3') SAND with silt, tan, very fine grained, poorly sorted
M	<162.4	0	N	SS01B	4	4		(@4') CALICHE, white, well sorted
								Total Depth @ 4 feet bgs, Advanced via backhoe

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants					Sample Name: SS02		Date: 3/14/2024	
					Site Name: PLU C-2 Frac Pond			
					Incident Number: nAPP2401640490			
					Job Number: 03C1558320			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: KS		Method: Hand Auger	
Coordinates: 32.148750, -103.849119					Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	7,229	0.0	Y	SS02	0.5	0	SP-SM	(0-2') SAND with silt, brown, very fine grained with some caliche, poorly sorted, staining through 0.5' bgs, no odor, moist.
M	1,966	1.2	N	SS02A	1	1		
M	1,966	0.6	N			2		
						TD		Auger Refusal, Total Depth @ 2 feet bgs



 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants								Sample Name: SS05		Date: 3/14/2024	
								Site Name: PLU C-2 Frac Pond			
								Incident Number: nAPP2401640490			
								Job Number: 03C1558320			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: KS/TH		Method: Hand Auger/Trackhoe	
Coordinates: 32.148786, -103.849236								Hole Diameter: 4" & 24"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	2,357	0.0	Y	SS05	0.5	0	SP-SM	(0-4') SAND with silt, brown, very fine grained with some caliche, poorly sorted, staining through 0.5' bgs, no odor, dry.			
D	459	1.5	N			1					
D	3,348	2.1	N	SS05A	2	2					
D	<162.4	0.0	N			3		Hand Auger Refusal, Depth @ 2 feet bgs			
D	<162.4	0.0	N	SS05B	4	4		Total Depth @ 4 feet bgs, Advanced via trackhoe			

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: SS09		Date: 3/14/2024				
		Site Name: PLU C-2 Frac Pond						
		Incident Number: nAPP2401640490						
		Job Number: 03C1558320						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.148880, -103.849150			Logged By: KS/TH		Method: Hand Auger/Backhoe			
			Hole Diameter: 4"&24"		Total Depth: 4'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	2,357	0.0	Y	SS09	0.5	0	SP-SM	(0-4') SAND with silt, brown, very fine grained with some caliche, poorly sorted, staining through 0.5' bgs, no odor, dry.
D	38,114	5.2	N	SS09A	1	1		
D	851	5.2	N			2		
D	700	3.0	N			2.5		
M	3,113.6	0.0	N			3		Hand Auger Refusal, Depth @ 2.5 feet bgs
M	<162.4	0.0	N	SS09B	4	4		(@4') CALICHE, white, well sorted
								Total Depth @ 4 feet bgs, Advance via backhoe



## APPENDIX E

### Laboratory Analytical Reports & Chain of Custody Documentation

---



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

March 12, 2024

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU C-2 FRAC POND

Enclosed are the results of analyses for samples received by the laboratory on 03/07/24 14:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 01 0.5' (H241155-01)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTX	<0.300	0.300	03/09/2024	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	7200	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	228	114	200	4.37	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	219	110	200	4.34	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 02 0.5' (H241155-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721		
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33		
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65		
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63		
Total BTEX	<0.300	0.300	03/09/2024	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	5440	16.0	03/11/2024	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	228	114	200	4.37	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	219	110	200	4.34	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 03 0.5' (H241155-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	64.0	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	228	114	200	4.37	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	219	110	200	4.34	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 80.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.4 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 04 0.5' (H241155-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	48.0	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	228	114	200	4.37	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	219	110	200	4.34	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 98.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 05 0.5' (H241155-05)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	2200	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	228	114	200	4.37	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	219	110	200	4.34	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 06 0.5' (H241155-06)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 75.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 07 0.5' (H241155-07)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	320	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 87.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.4 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 08 0.5' (H241155-08)**

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	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	16.0	16.0	03/11/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 87.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.8 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 09 0.5' (H241155-09)**

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	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	1440	16.0	03/11/2024	ND	432	108	400	3.64	QM-07

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 86.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 10 0.5' (H241155-10)**

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	03/09/2024	ND	1.94	97.1	2.00	0.721	
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63	
Total BTEX	<0.300	0.300	03/09/2024	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	128	16.0	03/11/2024	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	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 82.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.6 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 11 0.5' (H241155-11)**

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	03/09/2024	ND	1.94	97.1	2.00	0.721		
Toluene*	<0.050	0.050	03/09/2024	ND	2.04	102	2.00	1.33		
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.00	100	2.00	1.65		
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.09	102	6.00	1.63		
Total BTEX	<0.300	0.300	03/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	144	16.0	03/11/2024	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	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
TACOMA MORRISSEY  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 03/07/2024  
Reported: 03/12/2024  
Project Name: PLU C-2 FRAC POND  
Project Number: 03C1558320  
Project Location: XTO

Sampling Date: 03/05/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS 12 0.5' (H241155-12)**

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	03/09/2024	ND	2.19	109	2.00	0.168		
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167		
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173		
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149		
Total BTEX	<0.300	0.300	03/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 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	64.0	16.0	03/11/2024	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	03/08/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/08/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/08/2024	ND					

Surrogate: 1-Chlorooctane 79.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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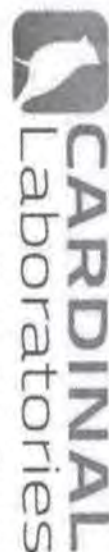
A handwritten signature in black ink, appearing to read "Celey D. Keene", written in a cursive style.

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto: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

---

March 19, 2024

TACOMA MORRISSEY

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU C - 2 FRAC POND

Enclosed are the results of analyses for samples received by the laboratory on 03/14/24 16:03.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM, LLC  
TACOMA MORRISSEY  
705 W WADLEY AVE.  
MIDLAND TX, 79705  
Fax To:

Received: 03/14/2024  
Reported: 03/19/2024  
Project Name: PLU C - 2 FRAC POND  
Project Number: 03C1558320  
Project Location: 32.14874,-103.8492

Sampling Date: 03/14/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 01 A 1' (H241340-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/15/2024	ND	2.18	109	2.00	2.49	
Toluene*	<0.050	0.050	03/15/2024	ND	2.16	108	2.00	2.93	
Ethylbenzene*	<0.050	0.050	03/15/2024	ND	2.08	104	2.00	3.31	
Total Xylenes*	<0.150	0.150	03/15/2024	ND	6.23	104	6.00	3.27	
Total BTEX	<0.300	0.300	03/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	17200	16.0	03/15/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2024	ND	231	115	200	8.20	
DRO >C10-C28*	16.7	10.0	03/15/2024	ND	206	103	200	6.67	
EXT DRO >C28-C36	<10.0	10.0	03/15/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
TACOMA MORRISSEY  
705 W WADLEY AVE.  
MIDLAND TX, 79705  
Fax To:

Received: 03/14/2024  
Reported: 03/19/2024  
Project Name: PLU C - 2 FRAC POND  
Project Number: 03C1558320  
Project Location: 32.14874,-103.8492

Sampling Date: 03/14/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 02 A 1' (H241340-02)**

BTEx 8021B			mg/kg		Analyzed By: JH				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/15/2024	ND	2.18	109	2.00	2.49	
Toluene*	<0.050	0.050	03/15/2024	ND	2.16	108	2.00	2.93	
Ethylbenzene*	<0.050	0.050	03/15/2024	ND	2.08	104	2.00	3.31	
Total Xylenes*	<0.150	0.150	03/15/2024	ND	6.23	104	6.00	3.27	
Total BTEX	<0.300	0.300	03/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	03/15/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2024	ND	231	115	200	8.20	
DRO >C10-C28*	<10.0	10.0	03/15/2024	ND	206	103	200	6.67	
EXT DRO >C28-C36	<10.0	10.0	03/15/2024	ND					

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM, LLC  
TACOMA MORRISSEY  
705 W WADLEY AVE.  
MIDLAND TX, 79705  
Fax To:

Received: 03/14/2024  
Reported: 03/19/2024  
Project Name: PLU C - 2 FRAC POND  
Project Number: 03C1558320  
Project Location: 32.14874,-103.8492

Sampling Date: 03/14/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 05 A 2' (H241340-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/15/2024	ND	2.18	109	2.00	2.49		
Toluene*	<0.050	0.050	03/15/2024	ND	2.16	108	2.00	2.93		
Ethylbenzene*	<0.050	0.050	03/15/2024	ND	2.08	104	2.00	3.31		
Total Xylenes*	<0.150	0.150	03/15/2024	ND	6.23	104	6.00	3.27		
Total BTEX	<0.300	0.300	03/15/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1760	16.0	03/15/2024	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2024	ND	231	115	200	8.20	
DRO >C10-C28*	<10.0	10.0	03/15/2024	ND	206	103	200	6.67	
EXT DRO >C28-C36	<10.0	10.0	03/15/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
TACOMA MORRISSEY  
705 W WADLEY AVE.  
MIDLAND TX, 79705  
Fax To:

Received: 03/14/2024  
Reported: 03/19/2024  
Project Name: PLU C - 2 FRAC POND  
Project Number: 03C1558320  
Project Location: 32.14874,-103.8492

Sampling Date: 03/14/2024  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 09 A 1' (H241340-04)**

BTEx 8021B			mg/kg		Analyzed By: JH				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/15/2024	ND	2.18	109	2.00	2.49	
Toluene*	<0.050	0.050	03/15/2024	ND	2.16	108	2.00	2.93	
Ethylbenzene*	<0.050	0.050	03/15/2024	ND	2.08	104	2.00	3.31	
Total Xylenes*	<0.150	0.150	03/15/2024	ND	6.23	104	6.00	3.27	
Total BTEX	<0.300	0.300	03/15/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17600	16.0	03/15/2024	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2024	ND	231	115	200	8.20	
DRO >C10-C28*	<10.0	10.0	03/15/2024	ND	206	103	200	6.67	
EXT DRO >C28-C36	<10.0	10.0	03/15/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

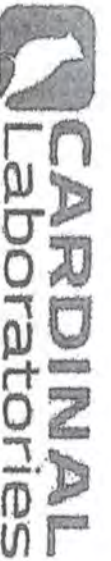
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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Tacoma Morrissey

Address: 601 N. Martin Field St. STE 400

City: Midland State: TX Zip: 79701

Phone #: 337-257-8307 Fax #:

Project #: 03C1558380 Project Owner:

Project Name: PLU C-2 Free Pond

Project Location: 32.14824, -103.8492

Sampler Name: Kaike Smith

FOR LAB USE ONLY

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: XTO Energy

Attn:

Address: 3104 E. 4th Street

City: Midland State: NM Zip: 88220

Phone #:

Fax #:

Lab I.D. Sample I.D. Depth (feet)

H241340

1 S501A  
2 S502A  
3 S505A  
4 S509A

Depth (feet)

1'  
1'  
2'  
1'

(G)RAB OR (G)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

TPH

Chlorides

BTEX

PLEASE NOTE: Liability and Damages. Cardinal's liability and claims are limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause, shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the analysis. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of data, 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 theories or otherwise.

Refringished By:

Date: 3/14/24

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Refringished By:

Date: 3/14/24

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Time: 4:03pm

Data: 4:03pm

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C 5.4

Corrected Temp. °C

Sample Condition

Cool Intact

CHECKED BY:

(Initials)

Turnaround Time:

Standard Rush

Bacteria (only) Sample Condition

Cool Intact

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

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



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

---

April 16, 2024

BEN BELILL

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU C - 2 FRAC POND

Enclosed are the results of analyses for samples received by the laboratory on 04/11/24 13:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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, LLC  
 BEN BELILL  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SS 09 B 4' (H241897-01)**

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	04/12/2024	ND	2.14	107	2.00	2.20	
Toluene*	<0.050	0.050	04/12/2024	ND	2.07	104	2.00	2.35	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	2.01	101	2.00	2.19	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.86	97.7	6.00	2.30	
Total BTEX	<0.300	0.300	04/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SS 01 B 4' (H241897-02)**

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	04/12/2024	ND	2.14	107	2.00	2.20	
Toluene*	<0.050	0.050	04/12/2024	ND	2.07	104	2.00	2.35	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	2.01	101	2.00	2.19	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.86	97.7	6.00	2.30	
Total BTEX	<0.300	0.300	04/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.1 % 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	208	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SS 05 B 4' (H241897-03)**

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	04/12/2024	ND	2.09	104	2.00	2.55	
Toluene*	<0.050	0.050	04/12/2024	ND	2.21	110	2.00	0.212	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	2.27	114	2.00	0.117	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	6.75	112	6.00	0.603	
Total BTEX	<0.300	0.300	04/12/2024	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	48.0	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.3 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 01 4' (H241897-04)**

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	04/12/2024	ND	2.03	102	2.00	0.923		
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33		
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39		
Total BTEX	<0.300	0.300	04/12/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	04/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 82.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 02 4' (H241897-05)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	192	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 92.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 03 4' (H241897-06)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	192	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 86.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.1 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 04 4' (H241897-07)**

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	04/12/2024	ND	2.03	102	2.00	0.923		
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33		
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39		
Total BTEX	<0.300	0.300	04/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	04/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 93.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.1 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 05 4' (H241897-08)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 06 4' (H241897-09)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 79.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.1 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 07 4' (H241897-10)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 74.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 08 4' (H241897-11)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 01 0-4' (H241897-12)**

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	04/12/2024	ND	2.03	102	2.00	0.923		
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33		
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39		
Total BTEX	<0.300	0.300	04/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	04/12/2024	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 95.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 49.1-148

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**Analytical Results For:**

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

Received: 04/11/2024  
 Reported: 04/16/2024  
 Project Name: PLU C - 2 FRAC POND  
 Project Number: 03C1558320  
 Project Location: XTO 32.14874,-103.84923

Sampling Date: 04/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 02 0-4' (H241897-13)**

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/12/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:04/11/2024

Reported:04/16/2024

Project Name:PLU C - 2 FRAC POND

Project Number:03C1558320

Project Location:XTO 32.14874,-103.84923

Sampling Date:04/10/2024

Sampling Type:Soil

Sampling Condition:Cool & Intact

Sample Received By:Shalyn Rodriguez

Sample ID: SW 03 0-4' (H241897-14)

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	04/12/2024	ND	2.03	102	2.00	0.923	
Toluene*	<0.050	0.050	04/12/2024	ND	2.02	101	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/12/2024	ND	1.96	98.0	2.00	2.33	
Total Xylenes*	<0.150	0.150	04/12/2024	ND	5.97	99.5	6.00	2.39	
Total BTEX	<0.300	0.300	04/12/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	04/12/2024	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	04/12/2024	ND	221	111	200	2.98	
DRO >C10-C28*	<10.0	10.0	04/12/2024	ND	216	108	200	0.204	
EXT DRO >C28-C36	<10.0	10.0	04/12/2024	ND					

Surrogate: 1-Chlorooctane94.8 %48.2-134

Surrogate: 1-Chlorooctadecane95.2 %49.1-148

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Notes and Definitions

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

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*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							<b>BILL TO</b>							<b>ANALYSIS REQUEST</b>								
Project Manager: Ben Bellill							P.O. #:															
Address: 601 N Marientfield Street, Suite 400							Company: XTO Energy															
City: Midland							Attn: Amy Ruth															
Phone #: 989 854 0852							State: TX Zip: 79701															
Project #: 03C1558380							Project Owner: XTO															
Project Name: PLU C2 Frac Pond							City: Carlsbad															
Project Location: 33.14874, -103.84923							State: NM Zip: 88220															
Sample Name: Tracy Hillard							Phone #: 432-661-0571															
FOR LAB USE ONLY							Fax #:															
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING											
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500				
1B41891	SS09B	4'	G	1	X									4-10-24	0930	X	X	X				
2	SS01B	4'	G	1											0950							
3	SS05B	4'	G	1											1000							
4	F501	4'	C	1											1245							
5	F502	4'	C	1											1250							
6	F503	4'	C	1											1345							
7	F504	4'	C	1											1305							
8	F505	4'	C	1											1310							
9	F506	4'	C	1											1315							
10	F507	4'	C	1											1320							

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Relinquished By: [Signature]	Date: 4-11-24	Received By: [Signature]
Time: 1305		
Date:		
Time:		

Remarks:  
 n.a.p.p.401640490  
 cost center: 8094011001

Turnaround Time: Standard ☒ Rush ☐

Thermometer ID: #113 ☒ #140 ☐

Corrosion Factor: 0.3°C ☒ 0.4°C ☐

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

All Results are emailed. Please provide Email address: Bbellill@ensolum.com

Bacteria (only) Sample Condition: ☒ Standard ☐ Cool Intact ☐ Observed Temp.: °C

Corrected Temp.: °C





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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS  
  
Action 361958

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 361958
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2401640490
Incident Name	NAPP2401640490 PLUC 2 FRAC POND @ 0
Incident Type	Other
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLUC 2 Frac Pond
Date Release Discovered	01/07/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Cause: Vandalism   Truck   Other (Specify)   Released: 24 BBL   Recovered: 0 BBL   Lost: 24 BBL.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Illegal dump of produced water with FR added

**District I**

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Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**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 361958

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	361958
	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)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

**Initial Response**

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

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

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

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

I hereby agree and sign off to the above statement	Name: Melanie Collins Title: Regulatory Analyst Email: Melanie.Collins@exxonmobil.com Date: 01/16/2024
--	---

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

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Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**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 361958

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	361958
	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	U.S. Geological Survey
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 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	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 1000 (ft.) and ½ (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	Low
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**

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

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

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

Chloride	(EPA 300.0 or SM4500 Cl B)	17600
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	16.7
GRO+DRO	(EPA SW-846 Method 8015M)	16.7
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	03/05/2024
On what date will (or did) the final sampling or liner inspection occur	04/10/2024
On what date will (or was) the remediation complete(d)	04/10/2024
What is the estimated surface area (in square feet) that will be reclaimed	1600
What is the estimated volume (in cubic yards) that will be reclaimed	237
What is the estimated surface area (in square feet) that will be remediated	1600
What is the estimated volume (in cubic yards) that will be remediated	237

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

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

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Action 361958

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  361958
	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>	
<i>(Select all answers below that apply.)</i>	
(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	OWL LANDFILL JAL [fJEG1635837366]
<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: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 07/08/2024
<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>	

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Action 361958

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	361958
	Action Type:	
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

<b>Deferral Requests Only</b>	
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

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Action 361958

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	361958
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	364635
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/24/2024
What was the (estimated) number of samples that were to be gathered	70
What was the sampling surface area in square feet	11455

**Remediation Closure Request**

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

Requesting a remediation closure approval with this submission	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	1600
What was the total volume (cubic yards) remediated	237
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	1600
What was the total volume (in cubic yards) reclaimed	237
Summarize any additional remediation activities not included by answers (above)	Site assessment and excavation activities were conducted at the Site to address the January 7, 2024 illegal release of produced water with FR. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Closure Criteria. Based on laboratory analytical results, no further remediation is required at this time. The excavation has been backfilled with material purchased locally and recontoured to match preexisting Site conditions.

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 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: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 07/08/2024
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QUESTIONS (continued)

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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

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CONDITIONS  
  
Action 361958

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 361958
	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 #NAPP2401640490 PLUC 2 FRAC POND, thank you. This Remediation Closure Report is approved.	7/18/2024