



December 16, 2024

New Mexico Energy Minerals and Natural Resources Department

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

**Re: Closure Request
Poker Lake Unit 22 DTD Pad D
Incident Number NAPP2411631990
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 excavation and soil sampling activities performed at the Poker Lake Unit 22 DTD Pad D (Site). The purpose of the excavation and soil sampling activities, conducted in accordance with an approved *Remediation Work Plan (Work Plan)*, was to address waste-containing soil resulting from the release of produced water at the Site. XTO is submitting this *Closure Request*, describing excavation activities that have occurred and requesting no further action for the remediation of Incident Number NAPP2411631990.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 22, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20997°, -103.86489°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On April 9, 2024, a pump failure resulted in the loss of approximately 18 barrels (bbls) of produced water at the Site. No fluid was recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via a Notification of Release (NOR) and an Initial C-141 Application (C-141) on April 25, 2024. The release was assigned Incident Number NAPP2411631990.

Ensolum conducted Site assessment and delineation activities and presented the results in a *Work Plan*. The *Work Plan* was submitted on September 10, 2024, and approved by the NMOCD on September 17, 2024. The *Work Plan* proposed excavation of waste-containing soil identified during delineation activities. The approved *Work Plan* proposed the following:

- Excavation of 18,800 square feet on pad to a depth of 1-foot bgs;
- An estimated 700 cubic yards of soil would be excavated and properly disposed of at a New Mexico approved landfill disposal facility; and
- Soil sampling would be completed following the approved sampling variance of every 400 square feet along the floor and 200 square feet along the sidewalls of the excavation.

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SITE CHARACTERIZATION AND CLOSURE CRITERIA

It is estimated that depth to groundwater is greater than 100 bgs. To confirm depth to groundwater at the Site XTO proposed, in the *Work Plan*, to advance a soil boring to a depth of 105 feet bgs. However, based on confirmation soil sample laboratory analytical results, the proposed soil boring was not needed nor has it been drilled prior to the date of this *Closure Request*. XTO is submitting this *Closure Request* with the following strictest NMOCD Table I Closure Criteria (Closure Criteria) applied:

- 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

EXCAVATION SOIL SAMPLING ACTIVITIES

Ensolum personnel returned to the Site between September 24 and October 24, 2024, to oversee excavation activities. Based on the updated Closure Criteria, impacted soil was identified from delineation soil sample laboratory analytical results provided in the approved *Work Plan*. Excavation activities were performed by use of heavy equipment. To direct excavation activities, the soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Once field screening indicated impacted soil was adequately removed, 5-point composite soil samples were collected every 400 square feet from the floor and 200 square feet from the sidewall of the excavation extent, in accordance with the approved *Work Plan*. 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 FS65 were collected from the floor of the excavation at depths ranging from 1-foot to 4 feet bgs. Confirmation soil samples SW01 through SW10 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The confirmation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 1. Photographic documentation of the excavation activities is provided in Appendix A.

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

The final excavation extent measured approximately 25,728 square feet. A total of approximately 1,900 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and disposed of at the OWL Disposal Facility in Jal, New Mexico. The excavation was backfilled with material purchased locally and recontoured to match pre-existing Site conditions.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all confirmation soil samples collected indicated all COCs were compliant with the Closure Criteria. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix B.

XTO Energy Inc.
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Poker Lake Unit 22 DTD Pad D

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site in accordance with the approved *Work Plan* to address the April 9, 2024 release of produced water. Delineation soil sample laboratory analytical results presented in the *Work Plan* indicated chloride impacted soil existed in soil samples SS01 through SS03, and PH05 collected at 0.5 feet bgs. The final excavation extent provided in this *Closure Request* indicates these soil samples were removed. Laboratory analytical results for excavation soil samples presented in this *Closure Request* and collected from the final excavation extent on the facility pad (FS01 through FS65, and SW01 through SW10) indicated all COC concentrations were compliant with the Closure Criteria. This includes all confirmation soil samples collected in the pasture area (FS01 through FS24), presented in the *Work Plan*. The approved September 10, 2024, *Work Plan* is included in Appendix C. 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.

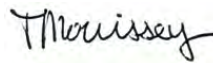
Excavation of soil has mitigated impacts at this Site. Depth to groundwater is estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2411631990.

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

Sincerely,
Ensolum, LLC



Tracy Hillard
Project Engineer



Tacoma Morrissey
Associate Principal

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

Appendices:

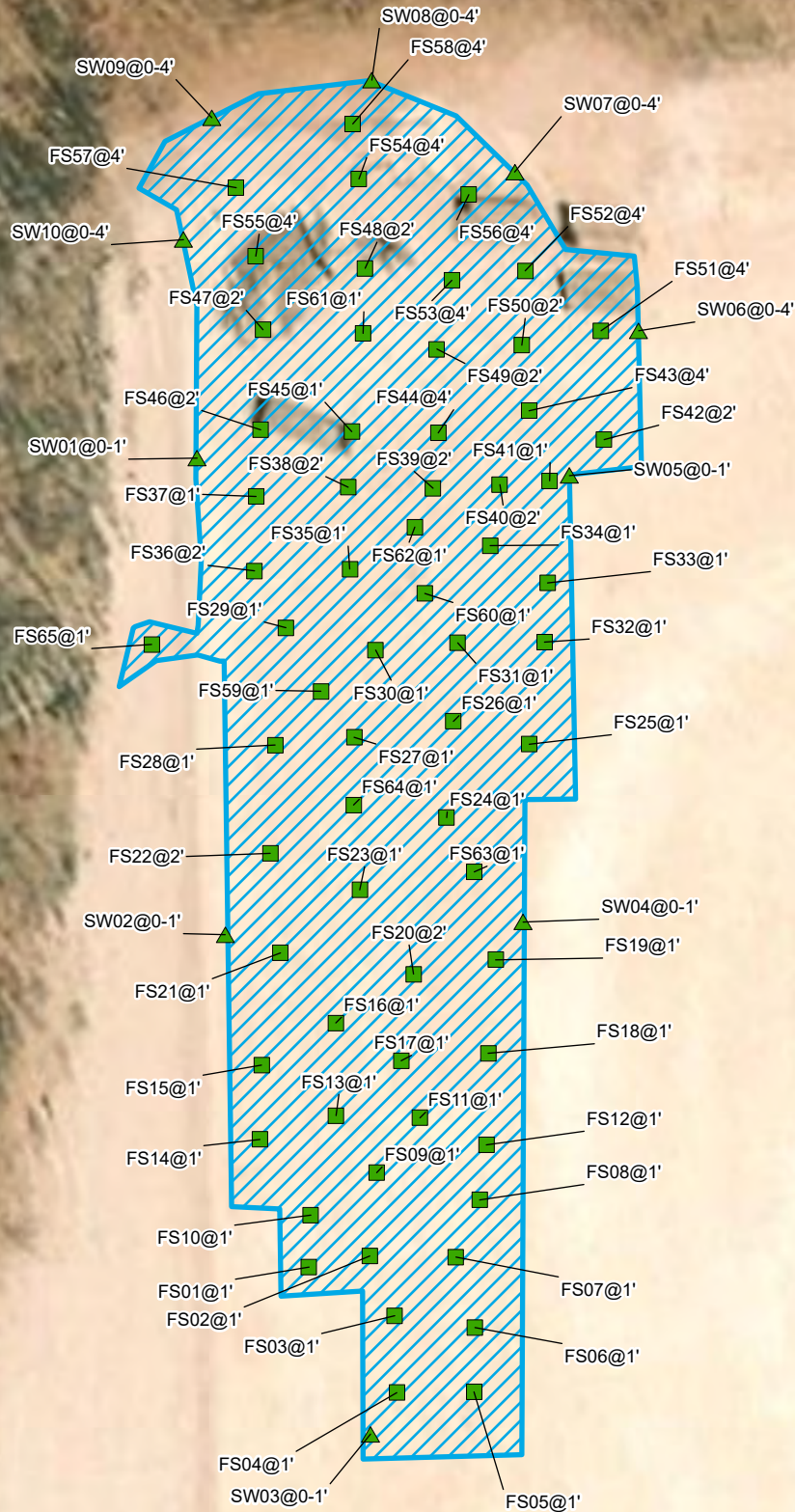
Figure 1	Excavation Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	September 10, 2024, <i>Remediation Work Plan</i>



FIGURES

Legend

- Confirmation Floor Sample in Compliance with Closure Criteria
- ▲ Confirmation Sidewall Sample in Compliance with Closure Criteria
- ▨ Excavation Extent



Notes:
Sample ID @ Depth Below Ground/Surface.

0 10 20 40 60 80
Feet

Sources: Environmental Systems Research Institute (ESRI)

Excavation Soil Sample Locations

XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
Incident Number: nAPP2411631990
Unit B, Sec 22, T24S, R30E
Eddy County, New Mexico

FIGURE

1





TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
POKER LAKE UNIT 22 DTD PAD D
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
Excavation Confirmation Soil Samples										
FS01	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS02	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS03	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS04	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS05	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS06	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS07	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS08	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS09	09/24/2024	1	<0.050	<0.300	<10.0	18.5	<10.0	<10.0	<10.0	320
FS10	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS11	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS12	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS13	09/24/2024	1	<0.050	<0.300	<10.0	28.8	<10.0	28.8	28.8	160
FS14	09/24/2024	1	<0.050	<0.300	<10.0	37.0	<10.0	37.0	37.0	288
FS15	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS16	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS17	09/24/2024	1	<0.050	<0.300	<10.0	78.4	<10.0	78.4	78.4	320
FS18	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS19	09/24/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS20	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS21	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS22	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS23	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS24	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS25	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS26	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS27	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
FS28	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
FS29	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS30	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS31	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
POKER LAKE UNIT 22 DTD PAD D
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
FS32	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS33	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS34	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS35	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS36	10/04/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS37	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS38	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS39	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS40	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS41	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS42	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS43	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS44	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS45	09/25/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS46	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS47	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS48	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS49	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS50	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
FS51	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS52	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS53	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS54	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS55	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS56	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS57	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS58	10/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS59	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
FS60	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS61	10/10/2024	1	<0.050	<0.300	<10.0	53.0	<10.0	53.0	53.0	368
FS62	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
FS63	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
POKER LAKE UNIT 22 DTD PAD D
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
FS64	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
FS65	10/10/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW01	10/08/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SW02	10/08/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
SW03	10/07/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
SW04	09/25/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SW05	10/10/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SW06	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW07	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW08	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW09	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW10	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240

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

Photographic Log

**Photographic Log**

XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
NAPP2411631990



Photograph: 1 Date: 10/7/2024
Description: Excavation activities
View: Northwest

Photograph: 2 Date: 10/10/2024
Description: Excavation activities
View: Southeast



Photograph: 3 Date: 10/10/2024
Description: Excavation activities
View: West

Photograph: 4 Date: 11/6/2024
Description: Backfilled excavation extent
View: Northwest



APPENDIX B

Laboratory Analytical Reports & Chain of Custody Documentation



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

September 30, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 09/26/24 13:48.

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

Cardinal Laboratories is 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 01 1' (H245848-01)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/27/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 02 1' (H245848-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	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	128	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 82.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 03 1' (H245848-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	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	224	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.6 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 04 1' (H245848-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	256	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 05 1' (H245848-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 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	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.6 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 06 1' (H245848-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	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	224	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 81.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.6 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 07 1' (H245848-07)

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 08 1' (H245848-08)

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 09 1' (H245848-09)

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	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	320	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	18.5	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 10 1' (H245848-10)

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	80.0	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 11 1' (H245848-11)

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	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	80.0	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 12 1' (H245848-12)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 13 1' (H245848-13)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	28.8	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 14 1' (H245848-14)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	37.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 15 1' (H245848-15)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 16 1' (H245848-16)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 17 1' (H245848-17)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	320	16.0	09/27/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	78.4	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 95.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 18 1' (H245848-18)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	208	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 19 1' (H245848-19)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC Project Manager: Tracy Hillard Address: 3122 National Parks Hwy City: Carlsbad State: NM Zip: 88220 Phone #: 575-937-3906 Fax #: Project #: 03CIS58346 Project Owner: Project Name: PLV 22 DID RAD ID Project Location: Sampler Name: Shuree Brooks FOR LAB USE ONLY				P.O. #: Company: XTO Energy Attn: Amy Ruffa Address: 3104 E. Green St. City: Carlsbad State: NM Zip: 88220 Phone #: 575-687-7329 Fax #:							
Lab I.D. H645-848		Sample I.D. #501 #502 #503 #504 #505 #506 #507 #508 #509 #510		Depth (feet) 1 2 3 4 5 6 7 8 9 10		Matrix (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		Preserv. DATE TIME		Sampling Benzene BTEX TPH Chloride	
Relinquished By: Michelle Brown		Received By: Jennifer L. L. L.		Turnaround Time: 48 hrs Rush		Standard <input checked="" type="checkbox"/>		Bacteria (only) Cool Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Sample Condition Observed Temp. °C Corrected Temp. °C	
Relinquished By: Michelle Brown		Received By: Jennifer L. L. L.		Turnaround Time: 48 hrs Rush		Standard <input checked="" type="checkbox"/>		Bacteria (only) Cool Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Sample Condition Observed Temp. °C Corrected Temp. °C	



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2042



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

September 30, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 09/26/24 13:48.

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

Cardinal Laboratories is 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 21 1' (H245849-01)

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	09/27/2024	ND	2.08	104	2.00	5.20	
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54	
Total BTX	<0.300	0.300	09/27/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 23 1' (H245849-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	272	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 24 1' (H245849-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	368	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 25 1' (H245849-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	144	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 97.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 26 1' (H245849-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	336	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 27 1' (H245849-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEx	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	416	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 28 1' (H245849-07)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	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	464	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.7 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 29 1' (H245849-08)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/30/2024	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	09/27/2024	ND	209	104	200	1.34	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	217	109	200	2.96	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 30 1' (H245849-09)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEx	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 31 1' (H245849-10)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEx	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 32 1' (H245849-11)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEx	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 87.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 33 1' (H245849-12)

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	09/27/2024	ND	2.08	104	2.00	5.20		
Toluene*	<0.050	0.050	09/27/2024	ND	2.02	101	2.00	4.43		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.07	104	2.00	4.45		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.18	103	6.00	4.54		
Total BTEx	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.4 % 49.1-148

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 34 1' (H245849-13)

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	09/27/2024	ND	2.14	107	2.00	10.1		
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 84.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 35 1' (H245849-14)

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	09/27/2024	ND	2.14	107	2.00	10.1		
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 97.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 37 1' (H245849-15)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.14	107	2.00	10.1		
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 41 1' (H245849-16)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.14	107	2.00	10.1		
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82		
Total BTEX	<0.300	0.300	09/27/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.2 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 45 1' (H245849-17)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/27/2024	ND	2.14	107	2.00	10.1		
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	400	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 09/26/2024
Reported: 09/30/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 09/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SW 04 0-1' (H245849-18)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/27/2024	ND	2.14	107	2.00	10.1	
Toluene*	<0.050	0.050	09/27/2024	ND	2.21	110	2.00	9.46	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.21	111	2.00	9.51	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	6.87	115	6.00	8.82	
Total BTEX	<0.300	0.300	09/27/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	09/30/2024	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	09/27/2024	ND	224	112	200	2.02	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	218	109	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 88.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2+01

Page 21 of 22



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

October 10, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 10/08/24 14:10.

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

Cardinal Laboratories is 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 22 2 (H246103-01)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEX	<0.300	0.300	10/09/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	10/09/2024	ND	432	108	400	7.14		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 03 0-1 (H246103-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEX	<0.300	0.300	10/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	416	16.0	10/09/2024	ND	432	108	400	7.14		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 20 2 (H246103-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEX	<0.300	0.300	10/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	10/09/2024	ND	432	108	400	7.14		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 36 2 (H246103-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEx	<0.300	0.300	10/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	10/09/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 38 2 (H246103-05)

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	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEX	<0.300	0.300	10/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	10/09/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 39 2 (H246103-06)

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	10/09/2024	ND	2.16	108	2.00	1.67		
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38		
Total BTEx	<0.300	0.300	10/09/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	10/09/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 42 2 (H246103-07)

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	10/09/2024	ND	2.23	111	2.00	1.39		
Toluene*	<0.050	0.050	10/09/2024	ND	2.31	116	2.00	4.72		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.40	120	2.00	6.50		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.23	121	6.00	7.81		
Total BTEX	<0.300	0.300	10/09/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	10/09/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/08/2024
Reported: 10/10/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 10/07/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 40 2 (H246103-08)

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	10/09/2024	ND	2.23	111	2.00	1.39		
Toluene*	<0.050	0.050	10/09/2024	ND	2.31	116	2.00	4.72		
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.40	120	2.00	6.50		
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.23	121	6.00	7.81		
Total BTEX	<0.300	0.300	10/09/2024	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	320	16.0	10/09/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2024	ND	206	103	200	0.329	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	199	99.3	200	0.606	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 98.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 49.1-148

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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 "Caley D. Keene".

Caley 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		P.O. #:		BILL TO									
Project Manager: Tracy Hillard		Company: XTO Energy Inc.		ANALYSIS REQUEST									
Address: 3122 National Parks Hwy		Attn: Amy Ruth											
City: Carlsbad		Address: 3104 E. Green St.											
Phone #: 337 257-8307		City: Carlsbad											
Fax #: 337 257-8307		State: NM Zip: 88220											
Project #: 03C1558346		Project Owner: XTO											
Project Name: PLU 22 DTD Pad D		State: NM Zip: 88220											
Project Location:		Phone #:											
Sample Name: Andrega Mertins		Fax #:											
FOR LAB USE ONLY													
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.	SAMPLING				
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :
1	FS22	2	C	1	X						X		
2	SW03	0-1	C	1									
3	FS20	2											
4	FS36												
5	FS38												
6	FS39												
7	FS42												
8	FS40												
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Relinquished By: John M. Keene		Date: 10-8-24		Time: 1410		Received By: Stodolnick		Date: 10-8-24		Time: 1410		Received By: Stodolnick	
Delivered By: (Circle One)		Observed Temp. °C		Corrected Temp. °C		Sample Condition		CHECKED BY: (initials)		Turnaround Time: #140-010		Standard Rush 2-day	
Sampler - UPS - Bus - Other:		-2.0		-2.0		Cool Intact		SK		Thermometer ID: 7113		Bacteria (only) Sample Condition	
						No				Corrosion Factor: 45°C		Cool Intact	
						Yes						Observed Temp. °C	
						No						Corrected Temp. °C	
REMARKS: Cost Center: 2242511001 Incident ID: nAPP2411631990													
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:													
All Results are emailed. Please provide Email address: bbeill@ensolum.com, TMorrissey@ensolum.com, THillard@ensolum.com													

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

October 16, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 10/10/24 14:25.

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

www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW 02 0-1	H246163-01	Soil	08-Oct-24 09:45	10-Oct-24 14:25
SW 01 0-1	H246163-02	Soil	08-Oct-24 10:15	10-Oct-24 14:25
FS 50 2	H246163-03	Soil	08-Oct-24 12:00	10-Oct-24 14:25
FS 49 2	H246163-04	Soil	08-Oct-24 12:05	10-Oct-24 14:25
FS 48 2	H246163-05	Soil	08-Oct-24 12:10	10-Oct-24 14:25
FS 47 2	H246163-06	Soil	08-Oct-24 12:15	10-Oct-24 14:25
FS 46 2	H246163-07	Soil	08-Oct-24 12:20	10-Oct-24 14:25

10/16/24 - The BTEX was originally batched as a water instead of a soil. This is the revised report with the corrected units and will replace the one sent on 10/11/24.

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

SW 02 0-1
H246163-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	368		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		104 %		77.5-125	4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

Surrogate: 1-Chlorooctane		118 %		48.2-134	4101023	MS	10-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane		118 %		49.1-148	4101023	MS	10-Oct-24	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

SW 01 0-1
H246163-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	336		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	77.5-125		4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

Surrogate: 1-Chlorooctane			107 %	48.2-134		4101023	MS	10-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			107 %	49.1-148		4101023	MS	10-Oct-24	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

FS 50 2
H246163-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	416		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %		77.5-125	4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			111 %		48.2-134	4101023	MS	10-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			116 %		49.1-148	4101023	MS	10-Oct-24	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

FS 49 2
H246163-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	112		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			104 %		77.5-125	4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			70.7 %		48.2-134	4101023	MS	10-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			70.7 %		49.1-148	4101023	MS	10-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

FS 48 2
H246163-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		103 %		77.5-125		4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	

Surrogate: 1-Chlorooctane		125 %		48.2-134		4101023	MS	11-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane		115 %		49.1-148		4101023	MS	11-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

FS 47 2
H246163-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	96.0		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %	77.5-125		4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			112 %	48.2-134		4101023	MS	10-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			113 %	49.1-148		4101023	MS	10-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

FS 46 2
H246163-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	112		16.0	mg/kg	4	4101116	AC	11-Oct-24	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Toluene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	4101021	JH	10-Oct-24	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	4101021	JH	10-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	103 %	77.5-125	4101021	JH	10-Oct-24	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

Surrogate: 1-Chlorooctane	131 %	48.2-134	4101023	MS	10-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane	133 %	49.1-148	4101023	MS	10-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 4101116 - 1:4 DI Water									
Blank (4101116-BLK1)					Prepared & Analyzed: 11-Oct-24				
Chloride	ND	16.0	mg/kg						
LCS (4101116-BS1)					Prepared & Analyzed: 11-Oct-24				
Chloride	448	16.0	mg/kg	400		112 80-120			
LCS Dup (4101116-BSD1)					Prepared & Analyzed: 11-Oct-24				
Chloride	448	16.0	mg/kg	400		112 80-120	0.00	20	

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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4101021 - Volatiles**Blank (4101021-BLK1)**

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	77.5-125			

LCS (4101021-BS1)

Prepared & Analyzed: 10-Oct-24

Benzene	2.19	0.050	mg/kg	2.00		110	80.8-112			
Toluene	2.12	0.050	mg/kg	2.00		106	78.7-114			
Ethylbenzene	2.13	0.050	mg/kg	2.00		107	70.9-120			
m,p-Xylene	4.28	0.100	mg/kg	4.00		107	76.9-119			
o-Xylene	2.07	0.050	mg/kg	2.00		104	71.7-120			
Total Xylenes	6.35	0.150	mg/kg	6.00		106	75.6-119			
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0500		103	77.5-125			

LCS Dup (4101021-BSD1)

Prepared & Analyzed: 10-Oct-24

Benzene	2.14	0.050	mg/kg	2.00		107	80.8-112	2.46	8.26	
Toluene	2.07	0.050	mg/kg	2.00		103	78.7-114	2.33	9.03	
Ethylbenzene	2.08	0.050	mg/kg	2.00		104	70.9-120	2.46	11.9	
m,p-Xylene	4.17	0.100	mg/kg	4.00		104	76.9-119	2.56	11	
o-Xylene	2.05	0.050	mg/kg	2.00		102	71.7-120	1.12	15	
Total Xylenes	6.22	0.150	mg/kg	6.00		104	75.6-119	2.09	12.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.0524		mg/kg	0.0500		105	77.5-125			

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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Manager: TRACY HILLARD
Fax To:

Reported:
16-Oct-24 11:37

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4101023 - General Prep - Organics**Blank (4101023-BLK1)**

Prepared & Analyzed: 10-Oct-24

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	58.7		mg/kg	50.0		117	48.2-134			
Surrogate: 1-Chlorooctadecane	58.2		mg/kg	50.0		116	49.1-148			

LCS (4101023-BS1)

Prepared & Analyzed: 10-Oct-24

GRO C6-C10	217	10.0	mg/kg	200		109	66.4-123			
DRO >C10-C28	220	10.0	mg/kg	200		110	66.5-118			
Total TPH C6-C28	437	10.0	mg/kg	400		109	77.6-123			
Surrogate: 1-Chlorooctane	61.5		mg/kg	50.0		123	48.2-134			
Surrogate: 1-Chlorooctadecane	59.7		mg/kg	50.0		119	49.1-148			

LCS Dup (4101023-BS1)

Prepared & Analyzed: 10-Oct-24

GRO C6-C10	216	10.0	mg/kg	200		108	66.4-123	0.705	17.7	
DRO >C10-C28	220	10.0	mg/kg	200		110	66.5-118	0.0322	21	
Total TPH C6-C28	436	10.0	mg/kg	400		109	77.6-123	0.333	18.5	
Surrogate: 1-Chlorooctane	60.4		mg/kg	50.0		121	48.2-134			
Surrogate: 1-Chlorooctadecane	58.0		mg/kg	50.0		116	49.1-148			

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST	
Project Manager: Tracy Willard	P.O. #:				
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.				
City: Carlsbad	Attn: Amy Ruth				
State: NM Zip: 88220	Address: 3104 E. Greene St.				
Phone #: 337-257-8307 Fax #:	City: Carlsbad				
Project #: 034558346 Project Owner: XTO	State: NM Zip: 88220				
Project Location:	Phone #:				
Sampler Name: Andrew Martins	Fax #:				

FOR LAB USE ONLY		LAB I.D.		Sample I.D.		Sample Depth (feet)		(G)RAB OR (C)OMP.		# CONTAINERS	MATRIX						PRESERV	SAMPLING	DATE TIME						BTEX	TPH	CHLORIDE						
		SW02		O-1		0-1		✓		1																							
		SWD1		O-1		0-1		✓		1																							
		FS50																															
		FS49																															
		FS48																															
		FS47																															
		FS46																															

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Relinquished By: [Signature]	Date: 10-10-24	Received By: Speediequy
Relinquished By: [Signature]	Date: 10-25	Received By: [Signature]

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 1.9c Corrected Temp. °C: -2.5c	Sample Condition Cool Intact: Yes No Yes No	CHECKED BY: (Initials) [Signature]
Turnaround Time: 2242511001	Standard Push: [X] Add'l Phone #:	Bacteria (only) Sample Condition Cool Intact: Yes No Yes No	Incident ID: NAPP2411031990
REMARKS: All Results are emailed. Please provide Email address: TWillard@ensolum.com bheill@ensolum.com, TMorrissey@ensolum.com, dmclinnis@ensolum.com			



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

October 15, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 10/11/24 9:42.

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

Cardinal Laboratories is 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: SW 05 0-1 (H246199-01)

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	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTX	<0.300	0.300	10/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 82.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.8 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 59 1 (H246199-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEX	<0.300	0.300	10/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 70.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 60 1 (H246199-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEX	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	288	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 85.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 61 1 (H246199-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEx	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	368	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	53.1	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 62 1 (H246199-05)

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	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEX	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	384	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 63 1 (H246199-06)

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	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEx	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	432	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 88.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 64 1 (H246199-07)

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	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEX	<0.300	0.300	10/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/12/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/12/2024	ND					

Surrogate: 1-Chlorooctane 97.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/11/2024
Reported: 10/15/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

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

Sample ID: FS 65 1 (H246199-08)

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	10/14/2024	ND	1.95	97.3	2.00	4.37		
Toluene*	<0.050	0.050	10/14/2024	ND	1.99	99.4	2.00	4.61		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.01	101	2.00	4.53		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.01	100	6.00	4.47		
Total BTEX	<0.300	0.300	10/14/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	10/14/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2024	ND	212	106	200	0.905	
DRO >C10-C28*	<10.0	10.0	10/12/2024	ND	203	101	200	0.990	
EXT DRO >C28-C36	<10.0	10.0	10/12/2024	ND					

Surrogate: 1-Chlorooctane 77.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

October 29, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 10/25/24 12:06.

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

Cardinal Laboratories is 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 43 4' (H246514-01)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	9.24	
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05	
Total BTEX	<0.300	0.300	10/25/2024	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	80.0	16.0	10/28/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 44 4' (H246514-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 51 4' (H246514-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEx	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	64.0	16.0	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 52 4' (H246514-04)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/28/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 53 4' (H246514-05)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	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	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 54 4' (H246514-06)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 55 4' (H246514-07)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	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	16.0	16.0	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 56 4' (H246514-08)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/28/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 57 4' (H246514-09)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS 58 4' (H246514-10)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 06 0-4' (H246514-11)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	48.0	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 94.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 07 0-4' (H246514-12)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEx	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	32.0	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 94.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 08 0-4' (H246514-13)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	48.0	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 09 0-4' (H246514-14)

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	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/25/2024
Reported: 10/29/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO 32.20997,-103.86489

Sampling Date: 10/24/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SW 10 0-4' (H246514-15)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	9.24		
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57		
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22		
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05		
Total BTEX	<0.300	0.300	10/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	240	16.0	10/28/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO ANALYSIS REQUEST Company Name: Ensolum, LLC Project Manager: Tracy Hillard Address: 3122 National Parks Hwy City: Carlsbad Phone #: 575-937-3906 Project #: 03C1558346 Project Name: PLU 22 DTD Pad D Project Location: 32.20997, -103.86489 Sampler Name: Mario Sarkis FOR LAB USE ONLY							P.O. #: Company: XTO Energy Attn: Colton Brown Address: 3104 E Greene St. City: Carlsbad State: NM Zip: 88220 Phone #: 575-988-2390 Fax #:										
							P.O. #: Company: XTO Energy Attn: Colton Brown Address: 3104 E Greene St. City: Carlsbad State: NM Zip: 88220 Phone #: 575-988-2390 Fax #:										
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	BTEX	TPH	Chlorides
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :							
H344514	F343	4		1									10/24/24	1307	V	V	V
	F344	4		1									1307	V	V	V	
	F351	4		1									1309	V	V	V	
	F352	4		1									1310	V	V	V	
	F353	4		1									1312	V	V	V	
	F354	4		1									1313	V	V	V	
	F355	4		1									1314	V	V	V	
	F356	4		1									1315	V	V	V	
	F357	4		1									1317	V	V	V	
	F358	4		1									1320	V	V	V	

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Relinquished By: [Signature] Date: 10/25/24 Received By: Speedaigney

Relinquished By: Time: 1800 Date: Received By: [Signature]

Delivered By: (Circle One)
☒ Observed Temp. °C: 32.0
☐ Corrected Temp.: 2.00
☐ Sample Condition Cool Intact Yes ☐ No ☐ Checked BY: [Signature]
☐ Bacteria (only) Sample Condition Cool Intact Yes ☐ No ☐ Turnaround Time: #140-0.00
☐ Thermometer ID #443 Correction Factor +5°C Standard Fusin 4848 ☒ Bacteria (only) Sample Condition Cool Intact Yes ☐ No ☐ Cost Center: 2242511001 Incident Number: NAPP2411631990 REMARKS: thward@ensolum.com/kthompson@ensolum.com

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Tracy Hillard

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 575-937-3906

Project #: 03C1558346

Project Name: PLU 22 DTD Pad D

Project Location: 32.20997, -103.86489

Sampler Name: Mario Sarkis

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Depth (feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

BTEX

TPH

Chlorides

Relinquished By:

Date: 10/25/24

Received By:

DATE

TIME

BTEX

TPH

Chlorides

Relinquished By:

Date: 10/25/24

Received By:

DATE

TIME

BTEX

TPH

Chlorides

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Sample Condition

CHECKED BY:

CHECKED BY:

Thermometer ID

Thermometer ID

Standard

Standard

Bacteria (only)

Bacteria (only)

Sample Condition

Sample Condition

Observed Temp. °C

Observed Temp. °C

Corrected Temp. °C

Corrected Temp. °C

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



APPENDIX C

September 10, 2024, *Remediation Work Plan*



September 10, 2024

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan
Poker Lake Unit 22 DTD Pad D
Incident Number NAPP2411631990
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document the site assessment, delineation and soil sampling activities completed to date and propose a work plan to address waste-containing soil identified at the Poker Lake Unit 22 DTD Pad D (Site). The purpose of the remediation activities was to determine the presence or absence of impacted and/or waste-containing soil resulting from a produced water release at the Site. The following *Work Plan* proposes to confirm depth to groundwater via temporary soil boring and remove waste-containing soil identified within the release extent.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 22, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20997°, -103.86489°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On April 9, 2024, a pump failure resulted in the release of 18 barrels (bbls) of produced water into a temporary lined containment area, onto the pad surface, and into the adjacent pasture area. No fluids were recovered. XTO submitted an Initial C-141 Application (C-141) on April 25, 2024. The release was assigned Incident Number NAPP2411631990.

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. On March 26, 1959, a USGS groundwater monitoring well (USGS 321203103511801) was measured and recorded with a depth to groundwater as 423.1 feet bgs. The total depth of the well is 474 feet bgs. The location of the well is approximately 0.83 miles southeast of the release and is depicted on Figure 1. The Well Record and Log is included in Appendix A.

XTO Energy, Inc.
Remediation Work Plan
Poker Lake Unit 22 DTD Pad D

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 1,873 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).

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) - gasoline range organics (GRO) and diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On April 9, 2024 Ensolum personnel conducted a Site visit to evaluate the release extent based on information provided from XTO and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix B.

On April 25, 2024, Ensolum returned to the Site to take assessment samples from within the release. Five delineation soil samples (SS01 through SS05) were collected from a depth of 0.5 feet bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The delineation soil sample locations were mapped utilizing a GPS unit and are depicted on Figure 2.

On May 21 and 22, 2024, Ensolum personnel returned to the site to oversee delineation activities. Delineation boreholes BH01 through BH04 and potholes PH01 through PH05 were advanced via hand auger and backhoe to assess the vertical extent of the release to a maximum depth of 1-foot bgs. Delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 1-foot bgs. Delineation soil sample PH04 was taken at the point of release below the removed temporary lined containment. Additional delineation soil samples (SS06 through SS11) were taken surrounding the release to confirm the lateral extent of the release. Field screening results and observations were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations were mapped utilizing a GPS unit and are depicted on Figure 2.

Based on field screenings, no impacted or waste-containing soil was identified in the pasture areas. Vegetation in this area appears to be healthy and not impacted by the release. In order to confirm the absence of impacted or waste-containing soil, twenty-three 5-point composite confirmation soil samples were taken from the pasture area that represented no more than 200 square feet of the release extent in an approximate 4,587 square foot area. The 5-point composite samples were collected by placing five

XTO Energy, Inc.
Remediation Work Plan
Poker Lake Unit 22 DTD Pad D

equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS06, and FS08 through FS24 were collected at a depth of 0.5 feet bgs. Please note FS07 was inadvertently skipped in the sampling nomenclature. The soil samples were field screened for VOCs and chloride and mapped with a handheld GPS unit. The confirmation soil sample locations are depicted on Figure 3.

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

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation soil samples indicated all COCs were compliant with the Closure Criteria. All COC concentrations for terminal soil samples of the delineation boreholes and potholes were in compliance with the Closure Criteria and reclamation requirement, successfully defining the vertical extent of the release. All COC concentrations for the delineation soil samples collected outside the release extent met Closure Criteria and reclamation requirement, successfully defining the lateral extent of the release. Laboratory analytical results for all COC concentrations for composite soil samples FS01 through FS24 were in compliance with the strictest Table 1 Closure Criteria, verifying the absence of impacted or waste-containing soil in the pasture area. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site, XTO proposes to advance a soil boring to a depth of 105 feet bgs. The soil boring will be located within 0.5 miles of the Site and a field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the follow-up Closure Report.

The delineation soil sampling results indicate soil containing elevated chloride concentrations exist on pad across an approximate 18,800 square foot area and extends to depths ranging from 0.5 feet to 1-foot bgs. As such, XTO proposes to complete the following remediation activities:

- Excavation of waste-containing soil to a depth of 1-foot bgs. Excavation will proceed laterally until sidewall samples confirm all COC concentrations are compliant with the Closure Criteria and reclamation requirement.
- The area below the temporary lined containment that has been removed will be composite sampled to confirm the absence of waste-containing soil. If waste-containing soil is located, it will be included in the excavation area increasing the total area by 4,335 square feet and total volume by 160 cubic yards.
- Due to the estimated size of the excavation, XTO requests a variance for the frequency of confirmation soil samples. XTO proposes five-point composite samples to be collected at a sampling frequency of 400 square feet along the excavation floor and a sampling frequency of

XTO Energy, Inc.
Remediation Work Plan
Poker Lake Unit 22 DTD Pad D

200 square feet along the excavation sidewalls. The proposed sampling frequency would reduce the total amount of samples from approximately 118 samples (200 square feet) to approximately 62 samples. The soil samples will be handled as described above and analyzed for all COCs. The 200 square foot and 400 square foot sampling grids are depicted in Figure 4a and Figure 4b, respectively, based on the proposed excavation extent.

- An estimated 700 cubic yards of waste-containing soil will be excavated and disposed of at the R360 disposal facility in Hobbs, New Mexico.
- The excavation will be backfilled with locally procured material and recontoured to match pre-existing conditions.
- Vegetation in the pasture area of the release will continue to be monitored and may be re-seeded as necessary.

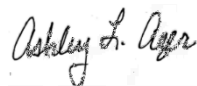
XTO plans to drill the depth to water boring in November 2024, once the schedule is confirmed with the licensed drillers. XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD.

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

Sincerely,
Ensolum, LLC



Tracy Hillard
Staff Engineer



Ashley Ager, PG, MS
Program Director

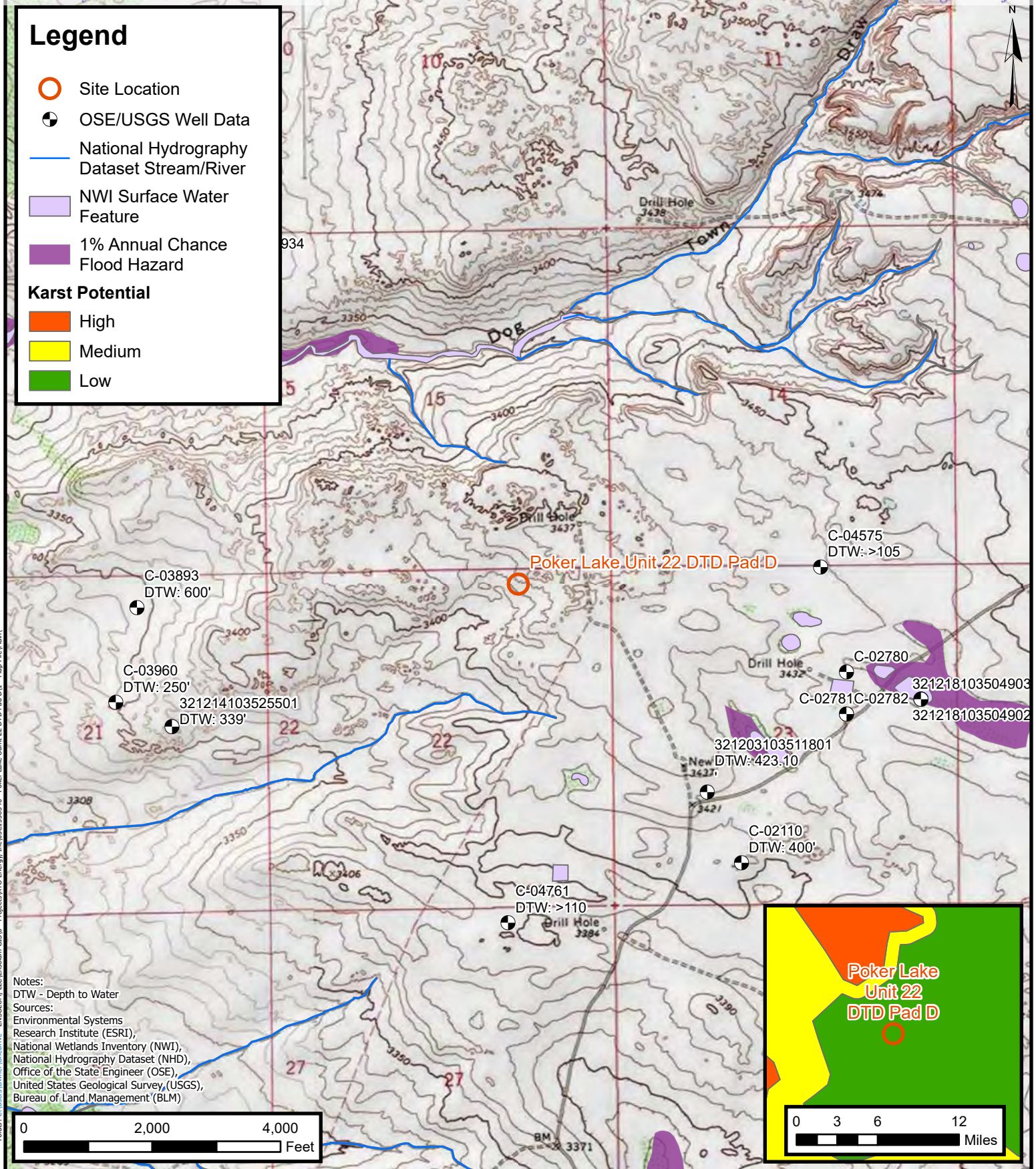
cc: Amy Ruth, XTO
Amanda Garcia, XTO
BLM

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Confirmation Soil Sample Locations
Figure 4a	Proposed Excavation Extent with 200 Square Foot Sampling Grid
Figure 4b	Proposed Excavation Extent with 400 Square Foot Sampling Grid
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES



Site Receptor Map

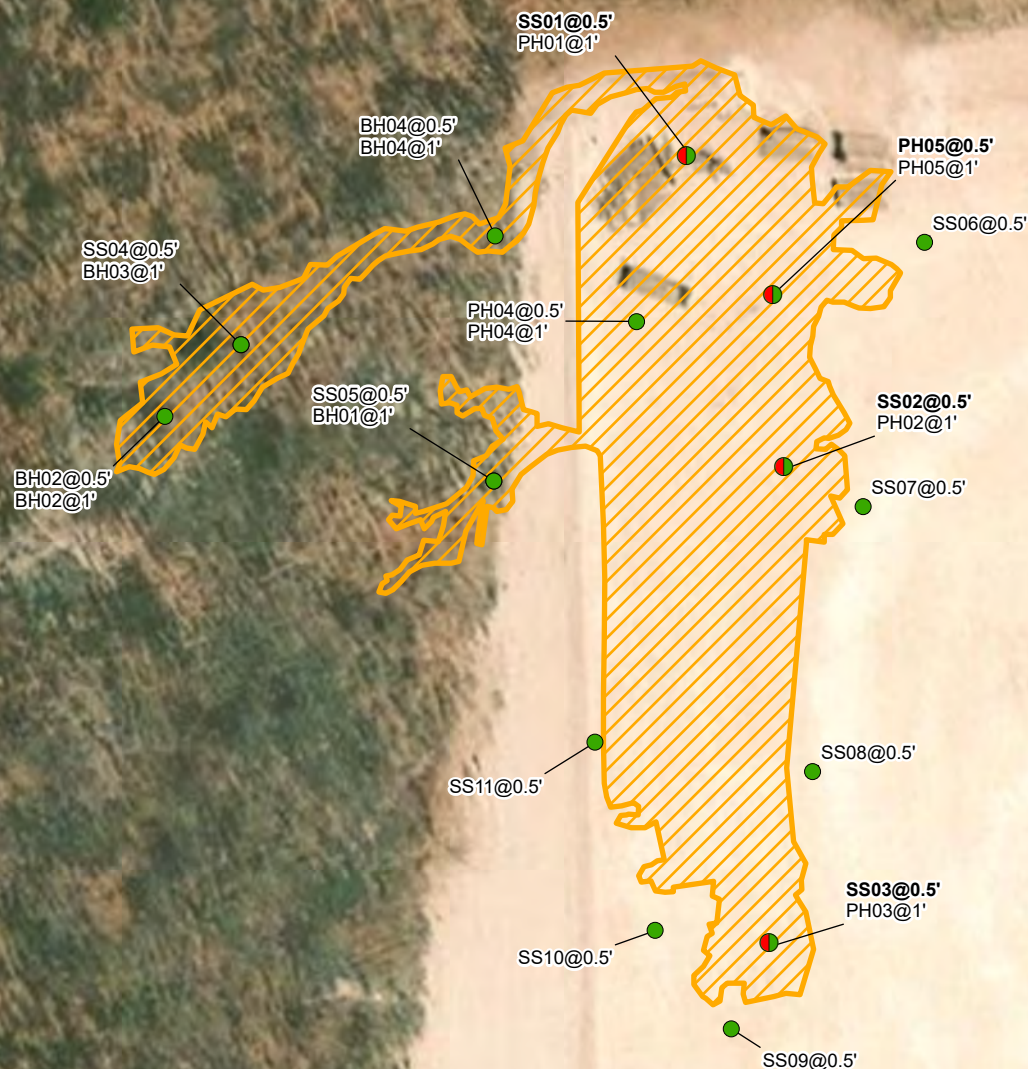
XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
Incident Number: NAPP2411631990
Unit B, Sec 22, T24S, R30E
Eddy County, New Mexico

FIGURE

1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- ▨ Release Extent



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

0 15 30 60 90 120
 Feet

Sources: Environmental Systems Research Institute (ESRI)



Delineation Soil Sample Locations

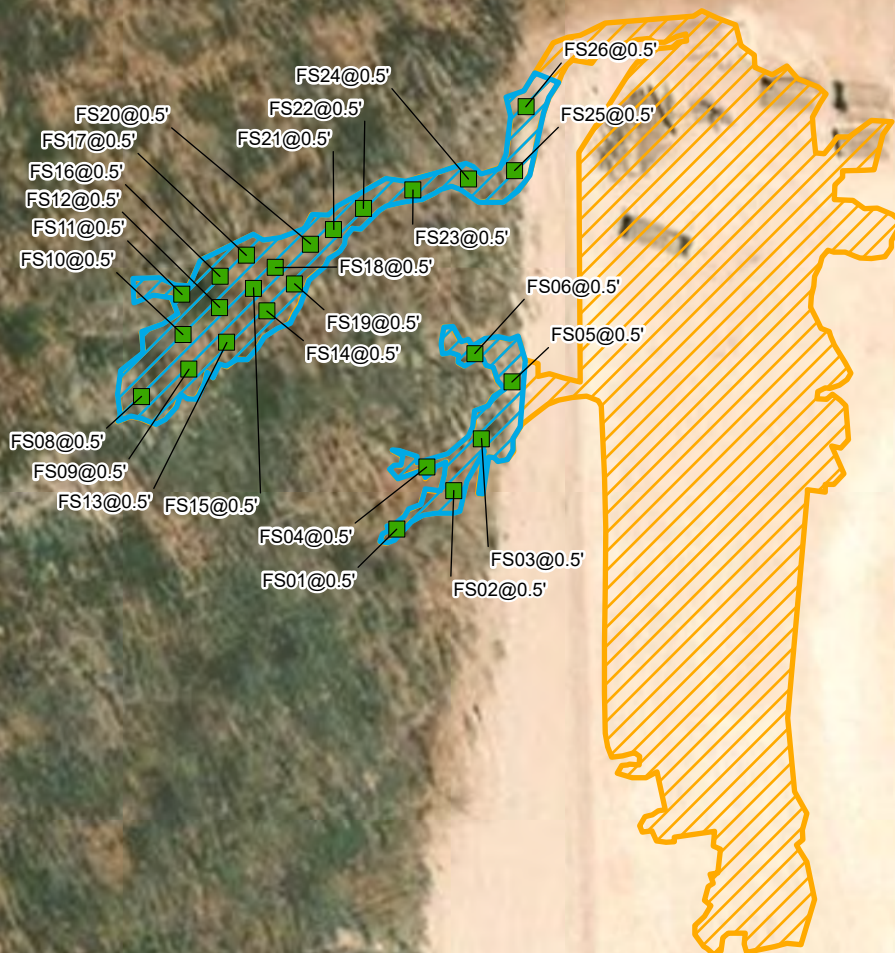
XTO Energy, Inc
 Poker Lake Unit 22 DTD Pad D
 Incident Number: nAPP2411631990
 Unit B, Sec 22, T24S, R30E
 Eddy County, New Mexico

FIGURE

2

Legend

- Confirmation Floor
- Sample in Compliance with Closure Criteria
- Release Extent
- Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 15 30 60 90 120
Feet

Sources: Environmental Systems Research Institute (ESRI)

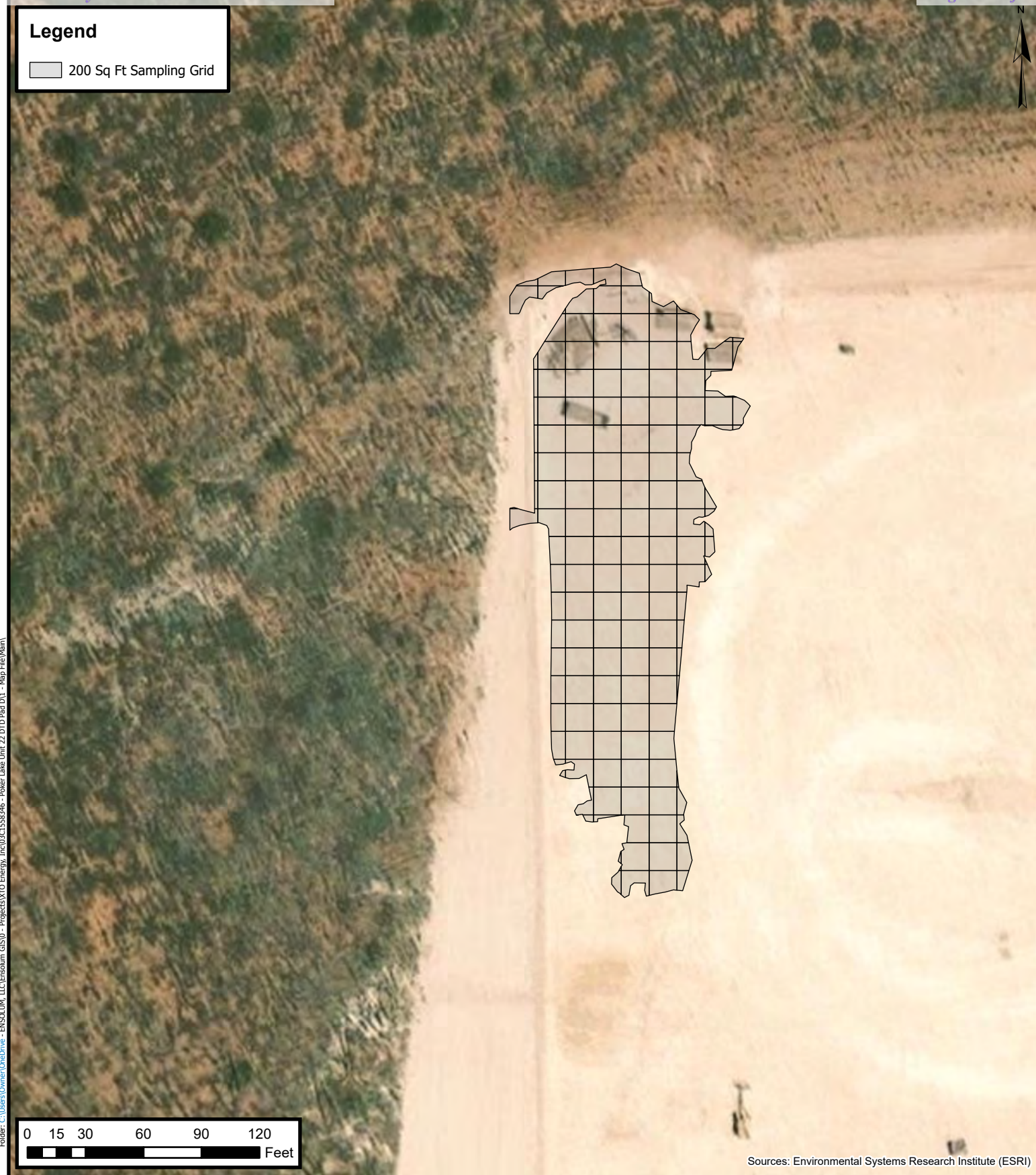


Confirmation Soil Sample Locations

XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
Incident Number: nAPP2411631990
Unit B, Sec 22, T24S, R30E
Eddy County, New Mexico

FIGURE

3

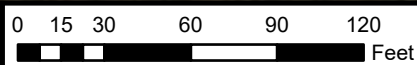


**Proposed Excavation Extent
with 200 Square Foot Sampling Grid**
XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
Incident Number: nAPP2411631990
Unit B, Sec 22, T24S, R30E
Eddy County, New Mexico

**FIGURE
4a**

Legend

400 Sq Ft Sampling Grid



Sources: Environmental Systems Research Institute (ESRI)



**Proposed Excavation Extent
with 400 Square Foot Sampling Grid**
XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
Incident Number: nAPP2411631990
Unit B, Sec 22, T24S, R30E
Eddy County, New Mexico

**FIGURE
4b**



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 22 DTD Pad D
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
SS01	04/26/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,360
PH01	05/22/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS02	04/26/2024	0.5	<0.050	<0.300	<10.0	34.1	<10.0	34.1	34.1	1,300
PH02	05/22/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
SS03	04/26/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	672
PH03	05/22/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SS04	04/26/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
BH03	05/21/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SS05	04/26/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
BH01	05/21/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SS06	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS07	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SS08	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SS09	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SS10	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SS11	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH02	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH02	05/21/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH04	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
BH04	05/21/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
PH04	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
PH04	05/22/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
PH05	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,260
PH05	05/22/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480
Confirmation Soil Samples										
FS01	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS02	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS03	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS04	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 22 DTD Pad D
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
FS05	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS06	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS08	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS09	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS10	05/21/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS11	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS12	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS13	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS14	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS15	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS16	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS17	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS18	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS19	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS20	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS21	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS22	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS23	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS24	05/22/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

Referenced Well Records



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:
Groundwater

Geographic Area:
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.

Groundwater levels for the Nation

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

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 321203103511801

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

USGS 321203103511801 24S.30E.23.3124143

Eddy County, New Mexico
Latitude 32°12'03", Longitude 103°51'18" NAD27
Land-surface elevation 3,423 feet above NAVD88
The depth of the well is 474 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1959-03-26			D	62610	2998.18	NGVD29	1	Z		
1959-03-26			D	62611	2999.90	NAVD88	1	Z		
1959-03-26			D	72019	423.10		1	Z		

Explanation

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

Section	Code	Description
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

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



Page Contact Information: [USGS Water Data Support Team](#)
Page Last Modified: 2024-07-03 12:20:34 EDT
0.39 0.37 nadww02



APPENDIX B

Photographic Log

**Photographic Log**

XTO Energy, Inc
Poker Lake Unit 22 DTD Pad D
NAPP2411631990



Photograph: 1 Date: 4/9/2024
Description: Soil staining in release footprint
View: North



Photograph: 2 Date: 4/25/2024
Description: Delineation sampling activities
View: Southwest



Photograph: 3 Date: 5/21/2024
Description: Confirmation sampling activities
View: Southeast





Photograph: 4 Date: 5/22/2024
Description: Delineation activities
View: Northwest





APPENDIX C


Lithologic Soil Sampling Logs


 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH01		Date: 5/21/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.210014, -103.865368			Logged By: TH		Method: Hand Auger			
			Hole Diameter: 4"		Total Depth: 1' bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	196	0.0	N	SS05	0.5	0	SP-SC	0-1' SILTY SAND with clay, dark brown, poorly graded, no stain, no odor.
M	<156.8	0.0	N	BH01	1	1		
						TD		


 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH02		Date: 5/21/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Hand Auger		
Coordinates: 32.210079, -103.865737				Hole Diameter: 4"		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	<158.6	0.0	N	BH02	0.5	0	SP	0-1' SILTY SAND, dark brown, poorly graded, no stain, no odor.
M	<156.8	0.0	N	BH02	1	1		
						TD		
								Total Depth @ 1' bgs.


 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH03		Date: 5/21/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Hand Auger		
Coordinates: 32.210194, -103.865573				Hole Diameter: 4"		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	196	0.0	N	SS04	0.5	0	SP-SC	0-1' SILTY SAND with clay, dark brown, poorly graded, no stain, no odor.
M	156.8	0.0	N	BH03	1	1		
						TD		Total Depth @ 1' bgs.
<div style="position: absolute; top: 0; right: 0; width: 100%; height: 100%; border-left: 1px solid black; border-top: 1px solid black;"></div>								


 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH04		Date: 5/21/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Hand Auger		
Coordinates: 32.210248, -103.865364				Hole Diameter: 4"		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	190.4	0.0	N	BH04	0.5	0	SP-SC	0-1' SILTY SAND with clay, dark brown, poorly graded, no stain, no odor.
M	156.8	0.0	N	BH04	1	1		
						TD		

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH01		Date: 5/22/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Backhoe		
Coordinates: 32.210323, -103.865125				Hole Diameter: ~1.5'		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	2,200	0.6	N	SS01	0.5	0	CCHE	0-1' CALICHE, pad fill, no stain, no odor.
D	<156.8	0.0	N	PH01	1	1		
						TD		Total Depth @ 1' bgs.

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH02		Date: 5/22/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Backhoe		
Coordinates: 32.210032, -103.865056				Hole Diameter: ~1.5'		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	CCHE	0-1' CALICHE, pad fill, no stain, no odor.
D	1,254	0.7	N	SS02	0.5			
D	308	0.0	N	PH02	1	1		
						TD		Total Depth @ 1' bgs.

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH03		Date: 5/22/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Backhoe		
Coordinates: 32.209580, -103.865067				Hole Diameter: ~1.5'		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	700	0.0	N	SS03	0.5	0	CCHE	0-1' CALICHE, pad fill, no stain, no odor.
D	229.6	0.0	N	PH03	1	1		
						TD		Total Depth @ 1' bgs.

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH04		Date: 5/22/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Backhoe		
Coordinates: 32.210165, -103.865206				Hole Diameter: ~1.5'		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	CCHE	0-1' CALICHE, pad fill, no stain, no odor.
D	554.4	0.0	N	PH04	0.5			
D	268.6	0.0	N	PH04	1	1		
						TD		Total Depth @ 1' bgs.

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH05		Date: 5/22/2024				
		Site Name: Poker Lake Unit 22 DTD Pad D						
		Incident Number: NAPP2411631990						
		Job Number: 03C1558326						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: TH		Method: Backhoe		
Coordinates: 32.210189, -103.865053				Hole Diameter: ~1.5'		Total Depth: 1' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	CCHE	0-1' CALICHE, pad fill, no stain, no odor.
D	610.4	0.0	N	PH05	0.5			
D	448	0.0	N	PH05	1	1		
						TD		Total Depth @ 1' bgs.



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

May 02, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 04/26/24 13:30.

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.

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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 04/26/2024
Reported: 05/02/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 04/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 01 0.5' (H242245-01)

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	04/30/2024	ND	2.22	111	2.00	5.78	
Toluene*	<0.050	0.050	04/30/2024	ND	2.25	113	2.00	4.41	
Ethylbenzene*	<0.050	0.050	04/30/2024	ND	2.25	112	2.00	4.29	
Total Xylenes*	<0.150	0.150	04/30/2024	ND	6.82	114	6.00	3.97	
Total BTX	<0.300	0.300	04/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	2360	16.0	04/30/2024	ND	432	108	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/30/2024	ND	208	104	200	1.58	
DRO >C10-C28*	<10.0	10.0	04/30/2024	ND	189	94.6	200	6.21	
EXT DRO >C28-C36	<10.0	10.0	04/30/2024	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 04/26/2024
Reported: 05/02/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 04/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 02 0.5' (H242245-02)

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	04/30/2024	ND	2.22	111	2.00	5.78		
Toluene*	<0.050	0.050	04/30/2024	ND	2.25	113	2.00	4.41		
Ethylbenzene*	<0.050	0.050	04/30/2024	ND	2.25	112	2.00	4.29		
Total Xylenes*	<0.150	0.150	04/30/2024	ND	6.82	114	6.00	3.97		
Total BTEX	<0.300	0.300	04/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	1300	16.0	04/30/2024	ND	432	108	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/30/2024	ND	208	104	200	1.58	
DRO >C10-C28*	34.1	10.0	04/30/2024	ND	189	94.6	200	6.21	
EXT DRO >C28-C36	<10.0	10.0	04/30/2024	ND					

Surrogate: 1-Chlorooctane 76.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.3 % 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
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 04/26/2024
Reported: 05/02/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 04/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 03 0.5' (H242245-03)

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	04/30/2024	ND	2.05	103	2.00	0.0123		
Toluene*	<0.050	0.050	04/30/2024	ND	2.10	105	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/30/2024	ND	2.12	106	2.00	1.12		
Total Xylenes*	<0.150	0.150	04/30/2024	ND	6.20	103	6.00	1.20		
Total BTEX	<0.300	0.300	04/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	672	16.0	04/30/2024	ND	432	108	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/30/2024	ND	208	104	200	1.58	
DRO >C10-C28*	<10.0	10.0	04/30/2024	ND	189	94.6	200	6.21	
EXT DRO >C28-C36	<10.0	10.0	04/30/2024	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 04/26/2024
Reported: 05/02/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 04/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 04 0.5' (H242245-04)

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	04/30/2024	ND	2.05	103	2.00	0.0123	
Toluene*	<0.050	0.050	04/30/2024	ND	2.10	105	2.00	1.56	
Ethylbenzene*	<0.050	0.050	04/30/2024	ND	2.12	106	2.00	1.12	
Total Xylenes*	<0.150	0.150	04/30/2024	ND	6.20	103	6.00	1.20	
Total BTEX	<0.300	0.300	04/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	176	16.0	04/30/2024	ND	432	108	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/30/2024	ND	208	104	200	1.58	
DRO >C10-C28*	<10.0	10.0	04/30/2024	ND	189	94.6	200	6.21	
EXT DRO >C28-C36	<10.0	10.0	04/30/2024	ND					

Surrogate: 1-Chlorooctane 71.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 63.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 04/26/2024
Reported: 05/02/2024
Project Name: PLU 22 DTD PAD D
Project Number: 03C1558346
Project Location: XTO

Sampling Date: 04/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 05 0.5' (H242245-05)

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	04/30/2024	ND	2.05	103	2.00	0.0123		
Toluene*	<0.050	0.050	04/30/2024	ND	2.10	105	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/30/2024	ND	2.12	106	2.00	1.12		
Total Xylenes*	<0.150	0.150	04/30/2024	ND	6.20	103	6.00	1.20		
Total BTEX	<0.300	0.300	04/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	176	16.0	04/30/2024	ND	432	108	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/30/2024	ND	208	104	200	1.58	
DRO >C10-C28*	<10.0	10.0	04/30/2024	ND	189	94.6	200	6.21	
EXT DRO >C28-C36	<10.0	10.0	04/30/2024	ND					

Surrogate: 1-Chlorooctane 81.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC	P.O. #:
Project Manager: Tracy Hillard	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Amy Ruth
City: Carlsbad	Address: 3104 E. Green St.
State: NM Zip: 88220	City: Carlsbad
Phone #: 337 257-8307	State: NM Zip: 88220
Fax #:	Phone #:
Project #: 03C1558346	Fax #:
Project Owner: XTO	
Project Name: PLU 22 DTD Pad D	
Project Location:	
Sampler Name: Connor Whitman	

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H242345	5501	0.5'	G	1											
1	5502									4-25-24	1215	/	/	/	
2	5503										1225	/	/	/	
3	5504										1230	/	/	/	
4	5505										1235	/	/	/	
5															

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Relinquished By: <i>CHH</i>	Date: 4/24/24	Received By: <i>[Signature]</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Add'l Phone #:
	Time: 0700		All Results are emailed. Please provide Email address: <i>tohill@ensolum.com, Morrissey@ensolum.com, Thillard@ensolum.com</i>

Relinquished By: <i>[Signature]</i>	Date: 4/24/24	Received By: <i>[Signature]</i>	REMARKS: NAPP2411631990
	Time: 1330		Cost Center: 2242511001

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only)	Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	<i>[Signature]</i>	Thermometer ID: #113	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	Observed Temp. °C
		No <input type="checkbox"/> Yes <input type="checkbox"/>		Correction Factor: #1140	No <input type="checkbox"/> Yes <input type="checkbox"/>	Corrected Temp. °C

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



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

May 29, 2024

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 05/23/24 13:30.

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.

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 01 1' (H242874-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 95.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 02 1' (H242874-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	320	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 03 1' (H242874-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 04 0.5' (H242874-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	496	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 04 1' (H242874-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1		
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95		
Total BTEX	<0.300	0.300	05/26/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 72.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 05 0.5' (H242874-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	05/29/2024	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	05/24/2024	ND	191	95.4	200	0.0335	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	193	96.4	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PH 05 1' (H242874-07)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1		
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95		
Total BTEX	<0.300	0.300	05/26/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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Page 10 of 10



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

May 29, 2024

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 05/23/24 13:30.

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.

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 06 0.5 (H242875-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 80.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.9 % 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, LLC
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 07 0.5 (H242875-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 72.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.8 % 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, LLC
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 08 0.5 (H242875-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	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	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 98.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.1 % 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, LLC
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 09 0.5 (H242875-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 84.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 49.1-148

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 10 0.5 (H242875-05)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 80.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.1 % 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, LLC
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 11 0.5 (H242875-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	2.04	102	2.00	15.1	
Toluene*	<0.050	0.050	05/26/2024	ND	2.05	103	2.00	10.3	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.09	104	2.00	8.54	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.13	102	6.00	7.95	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1051

Page 9 of 9



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

May 29, 2024

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 05/23/24 13:30.

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.

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 01 1' (H242876-01)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	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	144	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 87.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.2 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 02 0.5' (H242876-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.6 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 02 1' (H242876-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 03 1' (H242876-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 04 0.5' (H242876-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/29/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 04 1' (H242876-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



ANALYSIS REQUEST

Page 9 of 9



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

May 30, 2024

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

RE: PLU 22 DTD PAD D

Enclosed are the results of analyses for samples received by the laboratory on 05/23/24 13:30.

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.

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 01 0.5 (H242877-01)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8		
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2		
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8		
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7		
Total BTEX	<0.300	0.300	05/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/29/2024	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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.6 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 02 0.5 (H242877-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.0 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 03 0.5 (H242877-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.8 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 04 0.5 (H242877-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEX	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 05 0.5 (H242877-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTX	<0.300	0.300	05/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 06 0.5 (H242877-06)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8		
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2		
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8		
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7		
Total BTEX	<0.300	0.300	05/25/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	64.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 08 0.5 (H242877-07)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8	
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2	
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8	
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7	
Total BTEx	<0.300	0.300	05/25/2024	ND					

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

Chloride, SM4500CI-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	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	206	103	200	0.718	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	203	101	200	4.10	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 09 0.5 (H242877-08)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/25/2024	ND	1.92	96.2	2.00	18.8		
Toluene*	<0.050	0.050	05/25/2024	ND	1.90	94.9	2.00	14.2		
Ethylbenzene*	<0.050	0.050	05/25/2024	ND	1.97	98.6	2.00	14.8		
Total Xylenes*	<0.150	0.150	05/25/2024	ND	6.00	100	6.00	14.7		
Total BTEX	<0.300	0.300	05/25/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 92.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/21/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 10 0.5 (H242877-09)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	192	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 11 0.5 (H242877-10)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9		
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0		
Total BTEx	<0.300	0.300	05/26/2024	ND						

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

Chloride, SM4500CI-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	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 12 0.5 (H242877-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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
 TRACY HILLARD
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 13 0.5 (H242877-12)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9		
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0		
Total BTEX	<0.300	0.300	05/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	64.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 97.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 14 0.5 (H242877-13)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	240	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 15 0.5 (H242877-14)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEx	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 92.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 16 0.5 (H242877-15)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9		
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0		
Total BTEX	<0.300	0.300	05/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	336	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 97.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 17 0.5 (H242877-16)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 18 0.5 (H242877-17)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 19 0.5 (H242877-18)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	208	16.0	05/29/2024	ND	416	104	400	10.9	

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 99.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 20 0.5 (H242877-19)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	208	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 21 0.5 (H242877-20)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9		
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0		
Total BTEx	<0.300	0.300	05/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 98.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 22 0.5 (H242877-21)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/29/2024	ND	416	104	400	10.9		

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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 96.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 23 0.5 (H242877-22)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9		
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0		
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3		
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0		
Total BTEX	<0.300	0.300	05/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 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	160	16.0	05/30/2024	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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/23/2024
 Reported: 05/30/2024
 Project Name: PLU 22 DTD PAD D
 Project Number: 03C1558346
 Project Location: XTO 32.209997-103.86489

Sampling Date: 05/22/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FS 24 0.5 (H242877-23)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2024	ND	1.90	94.9	2.00	23.9	
Toluene*	<0.050	0.050	05/26/2024	ND	1.98	99.1	2.00	23.0	
Ethylbenzene*	<0.050	0.050	05/26/2024	ND	2.06	103	2.00	22.3	
Total Xylenes*	<0.150	0.150	05/26/2024	ND	6.34	106	6.00	22.0	
Total BTEX	<0.300	0.300	05/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	240	16.0	05/30/2024	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	05/24/2024	ND	187	93.4	200	0.623	
DRO >C10-C28*	<10.0	10.0	05/24/2024	ND	205	103	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	05/24/2024	ND					

Surrogate: 1-Chlorooctane 96.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager




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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

104

Company Name: Ensolum, LLC																					
Project Manager: Tracy Hillard						BILL TO															
Address: 601 N Marlenfeld Street, Suite 400						P.O. #:															
City: Midland State: TX Zip: 79701						Company: XTO Energy															
Phone #: 575-937-3900 Fax #: Project Owner: XTO Attn: Amy Ruth						Address: 3104 Breune															
Project #: 03C158346						State: NM City: Carlsbad															
Project Location: PU 22 DTD Pad B						Zip: 88220															
Sample Name: Tracy Hillard						Phone #: 432-601-0571															
						Fax #:															
FOR LAB USE ONLY						MATRIX PRESERV SAMPLING															
Lab I.D.						(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :															
Sample I.D.						DATE TIME TPH 8015 BTX 8021 Chloride 4500															
H242877	FS11	0.5	C	X	5/22/24	1220	X	X	X												
10	FS12		I																		
11	FS13		I																		
12	FS14		I																		
13	FS15		I																		
14	FS16		I																		
15	FS17		I																		
16	FS18		I																		
17	FS19		I																		
18	FS20		I																		
19	FS20		I																		
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.																					
Relinquished By: [Signature]						Date: 5/23/24	Received By: [Signature]														
Reinquinshed By:						Date:	Received By:														
Delivered By: (Circle One)						Observed Temp.: °C	Corrected Temp.: °C	Sample Condition Cool Intact Yes No	Checked BY: (Initials)												
Sampler - UPS - Bus - Other:						Observed Temp.: °C	Corrected Temp.: °C	Sample Condition Cool Intact Yes No	Checked BY: (Initials)												
REMARKS: Turnaround Time: Standard Rush Thermometer ID #443-#1140 Correction Factor: +0.3°C @ 20.5/23/24 Bacteria (only) Sample Condition Cool Intact Observed Temp.: °C Corrected Temp.: °C																					



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↑

BILL TO

ANALYSIS REQUEST

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

From: [Tacoma Morrissey](#)
To: [Wells, Shelly, EMNRD](#)
Cc: [Brown, Colton S](#)
Subject: [EXTERNAL] RE: NAPP2411631990 POKER LAKE UNIT 22 DTD PAD D
Date: Monday, December 23, 2024 10:40:52 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

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

Hi Shelly,

Attached are photos 2 and 3. Unfortunately when getting the pdf to a proper size to submit sometimes the photos become grainy. The temporary lined containment was within the release extent already, so sampling was completed as part of the release extent. I'm confirming with the staff onsite if they have any additional photos from the section of the excavation taken to 4 feet bgs. One of the staff onsite confirmed they did not take photos, but I'm hoping the second staff onsite did. I'll let you know- we have reiterated to our staff that these photos are critical.

The lined containment was removed before delineation activities which is why it was not included in the figures. However, the release description states "...a pump failure resulted in the release of 18 barrels (bbls) of produced water into a temporary lined containment area, onto the pad surface, and into the adjacent pasture area." Though the containment was removed, some equipment, visible in the Work Plan photolog, impeded delineation to be completed beneath the area that the containment had been, so we proposed confirmation sampling to confirm if impacts existed beneath that area. The Work Plan proposed sampling prior to excavation, but based on surface soil sample screenings, the entire release extent was excavated to at least 1-foot bgs prior to confirmation soil sampling and submittal to the laboratory.

Hope this helps, please let me know of any other questions.

Thanks,



Tacoma Morrissey

Associate Principal

337-257-8307

Ensolum, LLC

in f X

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Monday, December 23, 2024 10:36 AM
To: Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: NAPP2411631990 POKER LAKE UNIT 22 DTD PAD D

[**EXTERNAL EMAIL**]

Hi Tacoma,

I am reviewing the remediation closure report for the following release NAPP2411631990 POKER LAKE UNIT 22 DTD PAD D and have two questions for you. Do you possibly have any better excavation photos? Photos 2 and 3 that are in the closure report are grainy, specifically. Your backfill photograph 4 is perfect. If you have a clearer photo of the entire excavation as well as the deeper parts of the excavation that would be appreciated. Also, in the 9/17/24 approved remediation plan, it was stated the area below the temporary lined containment that has been removed would be sampled. No mention of sampling around that area was made in the remediation summary. Was this done? As its location was never clearly pointed out in the Figure, I can not tell.

I appreciate hearing back from you when you are able to get back to me.

I hope you have a Merry Christmas,

Shelly

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

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

General Information
Phone: (505) 629-6116

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

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

QUESTIONS

Action 412707

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2411631990
Incident Name	NAPP2411631990 POKER LAKE UNIT 22 DTD PAD D @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	POKER LAKE UNIT 22 DTD PAD D
Date Release Discovered	04/09/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Pump Produced Water Released: 18 BBL Recovered: 0 BBL Lost: 18 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

General Information
Phone: (505) 629-6116

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

QUESTIONS, Page 2

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 09/10/2024
--	--

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 3

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	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
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

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

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

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

Chloride (EPA 300.0 or SM4500 Cl B)	2360
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	34.1
GRO+DRO (EPA SW-846 Method 8015M)	34.1
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	04/26/2024
On what date will (or did) the final sampling or liner inspection occur	11/18/2024
On what date will (or was) the remediation complete(d)	11/18/2024
What is the estimated surface area (in square feet) that will be reclaimed	22275
What is the estimated volume (in cubic yards) that will be reclaimed	845
What is the estimated surface area (in square feet) that will be remediated	22275
What is the estimated volume (in cubic yards) that will be remediated	845

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

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

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 4

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/17/2024
<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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QUESTIONS, Page 5

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS, Page 6

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	394400
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/24/2024
What was the (estimated) number of samples that were to be gathered	130
What was the sampling surface area in square feet	23000

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	25728
What was the total volume (cubic yards) remediated	1900
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	25728
What was the total volume (in cubic yards) reclaimed	1900
Summarize any additional remediation activities not included by answers (above)	Site assessment and excavation activities were conducted at the Site, in accordance with the Work Plan, to address the April 9, 2024 release of produced water. The approved September 10, 2024, Work Plan is included in Appendix C. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the strictest Table I 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.

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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/17/2024
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QUESTIONS, Page 7

Action 412707

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 412707

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 412707
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation closure approved.	12/23/2024