ENSOLUM

May 8, 2024

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

Re: Closure Request
PLU 21 Brushy Draw CTB
Incident Number nAPP2405336143
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 site assessment, excavation, and soil sampling activities performed at the PLU 21 Brushy Draw CTB (Site). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of crude oil and produced water at the Site. Based on excavation activities and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing remediation that has occurred, requesting a closure criteria variance, and requesting no further remediation for Incident Number nAPP2405336143.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit N, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.11083,°, -103.88852°) and is associated with oil and gas exploration and production operations on private land owned by Janey Paschal.

On February 8, 2024, corrosion on a 6-inch pipeline resulted in the release of approximately 3.0 barrels (bbls) of crude oil and 5.0 bbls of produced water onto the surface of the well pad and around active production equipment and pipelines. A vacuum truck was immediately dispatched to recover free-standing fluids; approximately 4.0 bbls of released fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on February 22, 2024. The release was assigned Incident Number nAPP2405336143.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320628103533001, located approximately 0.27 miles southwest of the Site. The most recently reported depth to groundwater measurement in the well was collected on January 28, 1998, and documented as 264 feet bgs. The total

depth of the well is 288 feet bgs. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendices A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 452 feet east of the Site. The Site is greater than 200 feet from any 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). Potential Site receptors are identified on Figure 1.

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

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

The NMOCD prefers the nearest depth to groundwater measurement used to determine Closure Criteria be less than 25 years old and within ½ mile of the Site. The USGS water well data is within ½ mile, but 26 years old. Based on the lack of sensitive receptors at the Site, the Site not being underlain by unstable geology, and nearby depth to groundwater data estimating regional depth to groundwater to be greater than 100 feet bgs in multiple directions of the Site, XTO is requesting a variance for the preferred age of the nearest depth to groundwater data guideline. The nearest depth to groundwater data includes:

- Groundwater wells USGS 320628103533001 (above-mentioned), USGS 320629103533002, and USGS 320629103533001, located within a few feet from one another, all have a most recent recorded depth to groundwater of 264 feet bgs. The wells are located 0.27 miles southwest of the Site and most recent measurements were collected on January 28, 1998, November 6, 1992, and February 5, 1959, respectively;
- Soil boring C-4730, permitted by New Mexico Office of the State Engineer (NMOSE) and located 0.96 miles southeast of the Site, was a soil boring completed completed to determine depth to water on April 17, 2024. The soil boring was drilled via air rotary and advanced to a depth of 105 feet bgs. No groundwater was encountered during the drilling and the borehole was dry;
- Groundwater well C-3832, was permitted by NMOSE with a recorded depth to groundwater of 277 feet bgs on January, 17, 2015. It is located 1.14 miles south of the Site;
- Soil boring C-4758, permitted by NMOSE and located 0.98 miles northwest of the Site, was a soil boring completed completed to determine depth to water on August 8, 2024. The soil boring was drilled via air rotary and advanced to a depth of 110 feet bgs. No groundwater was encountered during the drilling and the borehole was dry; and
- NMOSE monitoring well C-02441 located 0.36 miles northeast of the Site was not drilled, as indicated on page 4 of the drilling permit.

While all nearby USGS water wells are older than the NMOCD preferred age for reference data, historical data from the wells demonstrate depth to groundwater fluctuated only ±30 feet over a 40-year period in well 320628103533001, and ±4 feet over a 43-year period in well 320629103533002. USGS well 320629103533001 was only measured one time. USGS well 320628103533001 only exceeds the NMOCD recommended age of depth to groundwater data by 16 months. Additionally, soil boring C-4730, located 0.96 miles southeast of the Site, was dry to 105 feet bgs in April 2024, soil boring C-4758, located 0.98 miles northwest of the Site, was dry to 110 feet bgs in August 2024, and well C-3832, located 1.14 miles south of the Site, indicates a depth to water of 277 feet bgs recorded in January 2015. The regional depth to groundwater data mentioned above is historically and laterally consistent and, therefore, equally protective of the public, the environment, and groundwater as compared to the preferred guideline for age (less than 25 years) and range (½ mile) of referenced water well data. Ensolum believes the data listed above can reasonably and accurately be used to estimate depth to groundwater at the Site to be greater than 100 feet bgs. Based on the above-mentioned findings, XTO requests NMOCD consider a variance for use of water well data that is greater than 25 years old for estimating of depth to groundwater. All Well Logs used for the depth to groundwater investigation are included in Appendix A.

SITE ASSESSMENT ACTIVITIES

On March 5, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five delineation soil samples (SS01 through SS05) were collected at a depth of 0.5 feet bgs. Delineation soil sample SS01 was collected within the release extent area and SS02 through SS05 were collected outside the release extent to assess the lateral extent of the release. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) chloride using Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shippment and long term storage, but are considered to have been received in acceptable condition by the laboratory.

Laboratory analytical results for all delineation soil samples collected indicated all COC concentrations were within the Site Closure Criteria; however, soil sample SS01 contained an elevated chloride concentration (6,700 mg/kg), confirming the presence of waste-containing soil. Based on visible staining within the release area and laboratory analytical results for SS01, delineation and excavation activities appeared to be warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On March 18, 2024, Ensolum returned to the Site to conduct additional delineation and oversee excavation activities. Utilizing a hand auger, two boreholes (BH01 and BH02) were advanced within the release extent area to investigate the vertical extent of the release. Borehole BH01 was advanced in the vicinity of soil sample SS01 to a depth of 1-foot bgs. Borehole BH02 was advanced to a depth of 4 feet

bgs. Discrete soil samples were collected at 0.5 feet bgs in BH02 and the terminal depth of each borehole. Four additional delineation soil samples (SS06 through SS09) were collected at 0.5 feet bgs to provide additional lateral definition. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. Soil was excavated from the release area as indicated by delineation soil sample laboratory analytical results and field screening results. Excavation activities were performed utilizing a backhoe and transport vehicles. The excavation occurred on the well pad and was separated into two excavations due to the presence of active production equipment and pipelines located within the release.

Following removal of the waste-containing soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavated areas. 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 and FS02 were collected from the floor of the excavated areas at 1-foot bgs. Confirmation soil samples SW01 through SW04 were collected from the sidewalls of the excavated areas at depths ranging from the ground surface to 1-foot bgs. The excavation confirmation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation confirmation soil sample locations are presented on Figure 3. Photographic documentation of the excavation is included in Appendix B.

The final excavation extent measured between the two excavated areas was approximately 170 square feet. A total of approximately 10 cubic yards of waste-containing soil was removed during the excavation activities. The soil was transported and properly disposed of at R360 Landfill Disposal Facility in Hobbs, New Mexico.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation and final confirmation soil samples collected indicated all COC concentrations are compliant with the Site Closure Criteria. Waste-containing soil was present as indicated by elevated chloride concentrations in delineation soil samples SS01 and BH02 collected at 0.5 feet bgs, and confirmation sidewall soil samples SW03 and SW04. Delineation soil sample SS01 was removed during excavation activities. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the February 2024, release of crude oil and produced water. Excavation activities were conducted to remove waste-containing soil to the maximum extent practicable (MEP) without compromising the stability of active production equipment and pipelines, and worker safety. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Closure Criteria. All accessible waste-containing soil exceeding the reclamation requirement has been removed. An estimated 68 cubic yards of waste-containing soil remains on pad, immediately adjacent to or beneath active production equipment and pipelines in the vicinity of borehole BH02. The remaining soil is delineated to the reclamation requirement by BH02A, and SS04, SS06 through SS09, and will be reclaimed during pad abandonment or any major facility reconstruction. The area where soil concentrations exceed the reclamation requirement is presented on Figure 3. Based on laboratory analytical results, no further remediation is required at this time. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing Site conditions. Areas pending reclamation will be completed during pad abandonment or major facility reconstruction.

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 nAPP2405336143.

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

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Senior Geologist

Ashley L. Ager, M.S., P.G.
Principal

cc: Amy Ruth, XTO
Amanda Garcia, XTO
Janey Paschal

Appendices:

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

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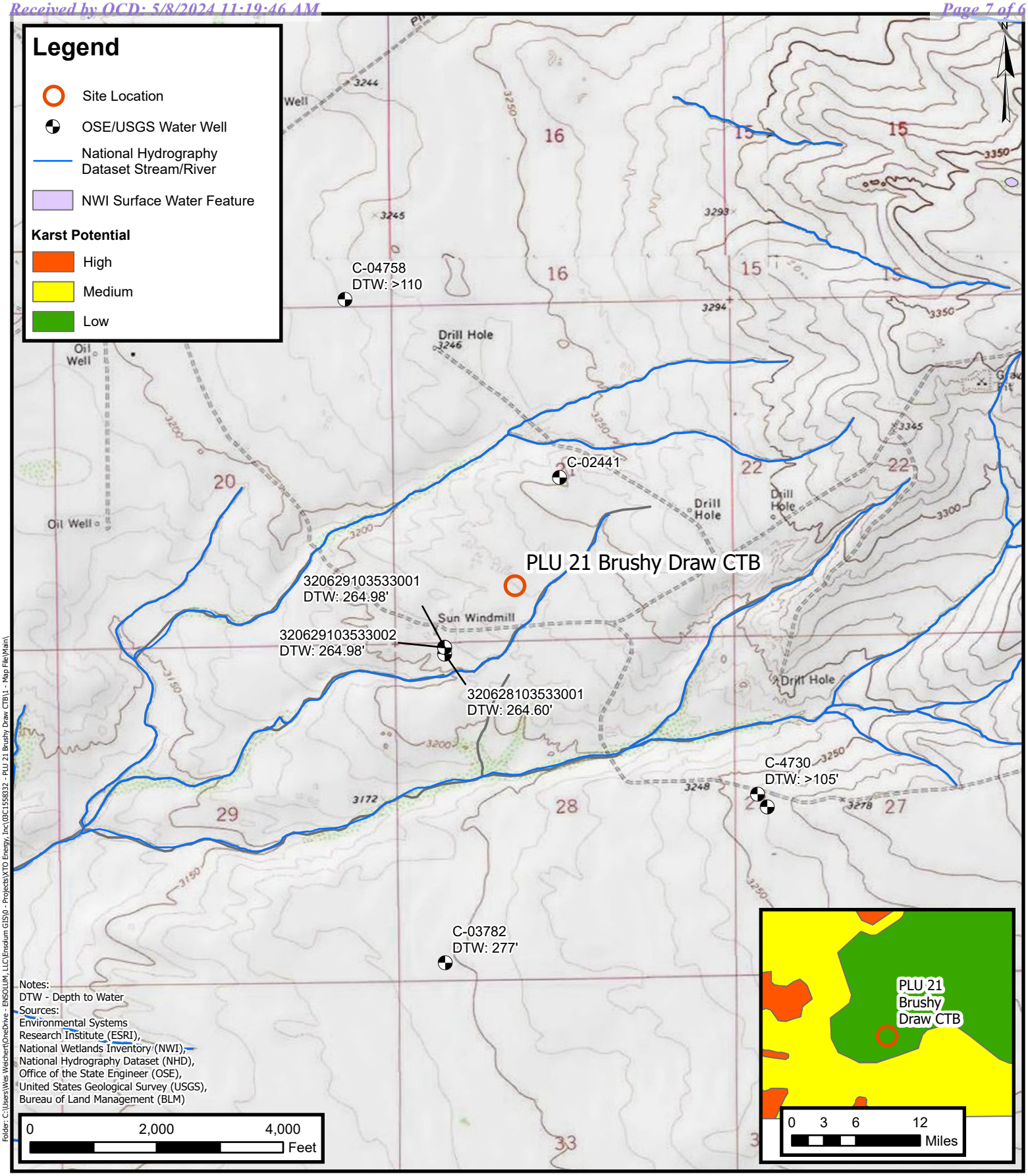
FIGURES



Folder: C:\Users\Wes Welchert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558332 - PLU 21 Brushy Draw CTB\1 - Map File\Main\

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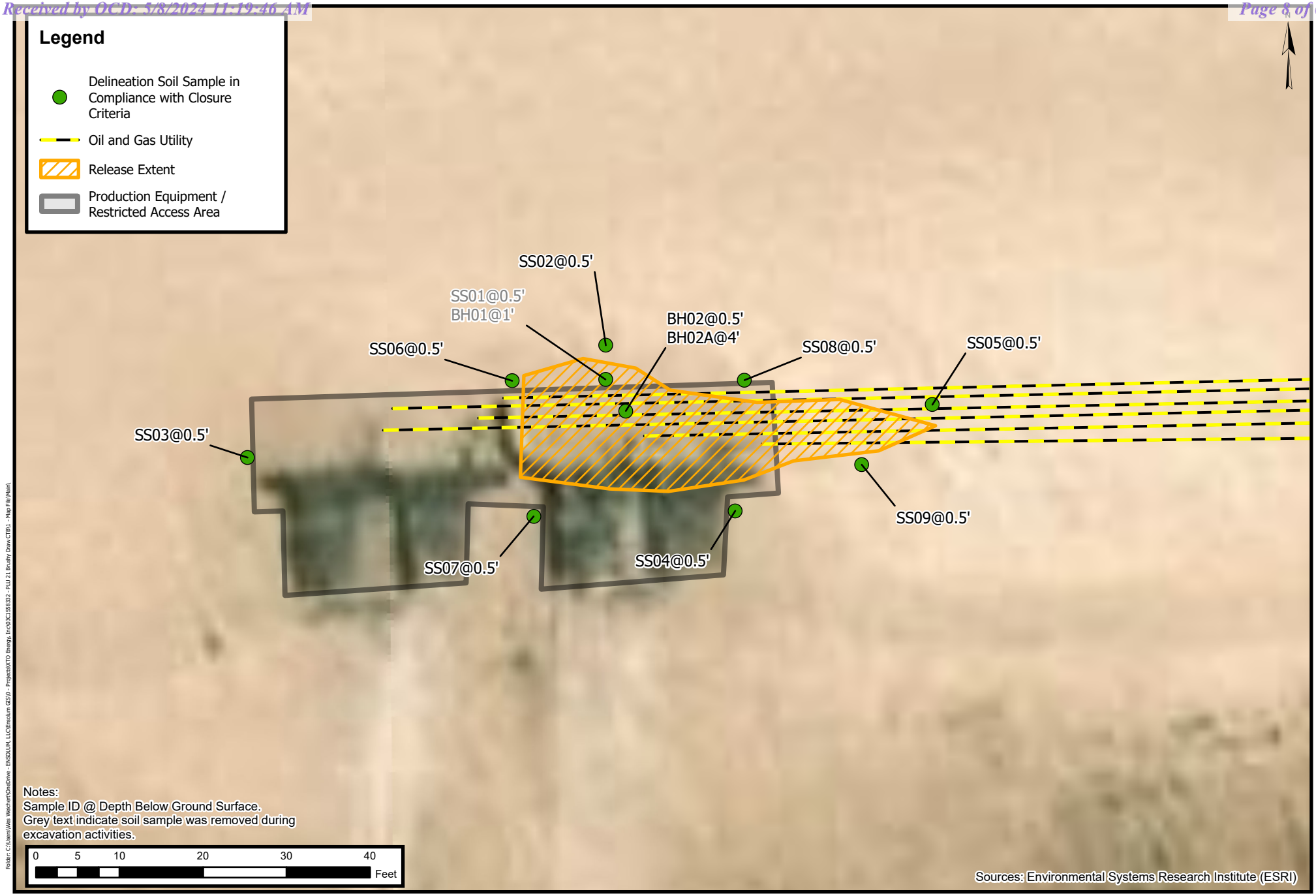
Site Receptor Map

XTO Energy, Inc
PLU 21 Brushy Draw CTB
Incident Number: nAPP2405336143
Unit N, Sec 21, T25S, R30E
Eddy County, New Mexico

FIGURE 1



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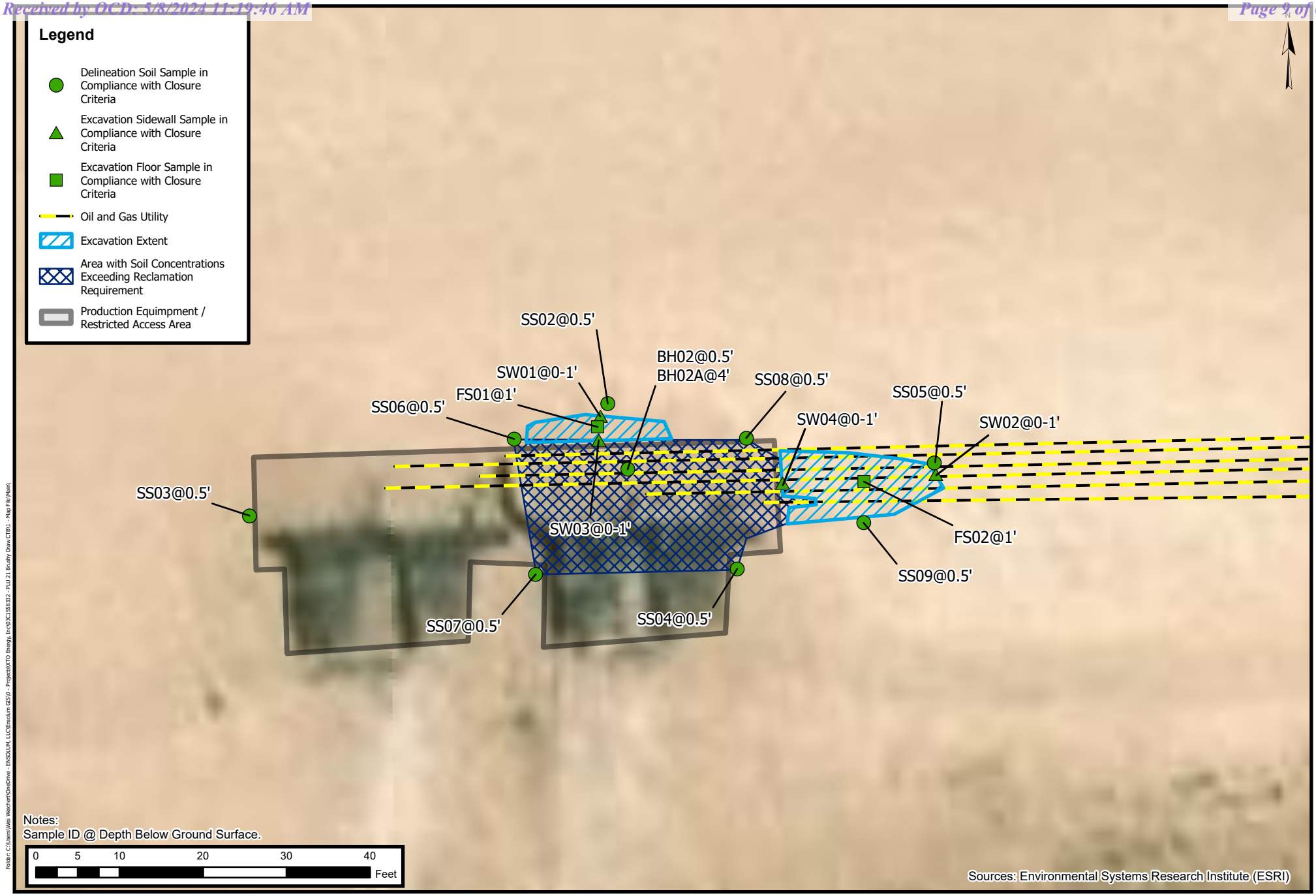
Delineation Soil Sample Locations

XTO Energy, Inc
PLU 21 Brushy Draw CTB
Incident Number: nAPP2405336143
Unit N, Sec 21, T25S, R30E
Eddy County, New Mexico

FIGURE 2



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Excavation Soil Sample Locations

XTO Energy, Inc
PLU 21 Brushy Draw CTB
Incident Number: nAPP2405336143
Unit N, Sec 21, T25S, R30E
Eddy County, New Mexico

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 21 Brushy Draw CTB
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~~	~~03/05/2024~~	~~0.5~~	~~<0.050~~	~~<0.300~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~6,700~~
~~BH01~~	~~03/18/2024~~	~~1~~	~~<0.050~~	~~<0.300~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~80.0~~
BH02	03/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	67.8	<10.0	67.8	4,080
BH02A	03/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS02	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS04	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS05	03/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS06	03/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS07	03/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS08	03/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS09	03/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Confirmation Soil Samples										
FS01	03/18/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS02	03/18/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SW01	03/18/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SW02	03/18/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW03	03/18/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
SW04	03/18/2024	0-1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,960

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

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APPENDIX A

Referenced Well Records

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320628103533001

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 320628103533001 25S.30E.21.333424

Eddy County, New Mexico
Latitude 32°06'28", Longitude 103°53'30" NAD27
Land-surface elevation 3,207 feet above NAVD88
The depth of the well is 288 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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 measure
1958-08-21		D	62610		2972.36	NGVD29	1	Z		
1958-08-21		D	62611		2974.00	NAVD88	1	Z		
1958-08-21		D	72019	233.00			1	Z		
1959-02-05		D	62610		2939.26	NGVD29	P	Z		
1959-02-05		D	62611		2940.90	NAVD88	P	Z		
1959-02-05		D	72019	266.10			P	Z		
1983-02-01		D	62610		2945.48	NGVD29	1	Z		
1983-02-01		D	62611		2947.12	NAVD88	1	Z		
1983-02-01		D	72019	259.88			1	Z		
1998-01-28		D	62610		2940.76	NGVD29	1	S		
1998-01-28		D	62611		2942.40	NAVD88	1	S		
1998-01-28		D	72019	264.60			1	S		

Explanation

Section	Code	Description

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
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320629103533002

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 320629103533002 25S.30E.21.33342 A

Eddy County, New Mexico
Latitude 32°06'29", Longitude 103°53'30" NAD27
Land-surface elevation 3,209 feet above NAVD88
The depth of the well is 280 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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 measure
1949-03-10		D	62610		2939.36	NGVD29	P	Z		
1949-03-10		D	62611		2941.00	NAVD88	P	Z		
1949-03-10		D	72019	268.00			P	Z		
1992-11-06		D	62610		2942.38	NGVD29	P	S		
1992-11-06		D	62611		2944.02	NAVD88	P	S		
1992-11-06		D	72019	264.98			P	S		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929

Section	Code	Description
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2024-05-01 17:22:40 EDT
0.35 0.29 nadww02

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320629103533001

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 320629103533001 25S.30E.21.33342

Eddy County, New Mexico
Latitude 32°06'29", Longitude 103°53'30" NAD27
Land-surface elevation 3,209 feet above NAVD88
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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 measure
1959-02-05		D	62610		2944.36	NGVD29	1	Z		
1959-02-05		D	62611		2946.00	NAVD88	1	Z		
1959-02-05		D	72019	263.00			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.

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U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2024-05-01 17:23:42 EDT
0.36 0.3 nadww02

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Sample Name: C-4730 (BH01)	Date: 4/17/2023	
Site Name: PLU 27 Brushy Draw 161H		
Incident No: NAPP2217546910 & NAPP2218236445		
Job Number: 03c1558091		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Air Rotary
Coordinates: 32.10164,-103.87624	Hole Diameter: 6" dia.	Total Depth: 105' bgs.

Comments/Well Construction: no field screening conducted, lithology descriptions/observations only. Total depth to 105' bgs, dry hole.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0.5	0	CCHE	0-40', CALICHE, dry, light brown-off white, poorly sorted, some fine to medium grain sand.
					10	10		@10', some coarse gravel
					20	20		
					30	30		
					40	40	SC	40'-80', CLAYEY SAND, dry, reddish brown, poorly sorted, fine to medium grain.
					50	50		
					60	60		
					70	70		
					80	80		@80', light brown.
					90	90		
					100	100		
					105		TD	Total depth at 105 feet bgs.
					110	110		

ENSOLUM

Sample Name: C-4758 (BH01)	Date: 8/08/2023	
Site Name: PLU PC 17 BATTERY		
Incident Number: nAPP2233951574		
Job Number: 03C1558215		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell/S. Welvang	Method: Air Rotary Rig
Coordinates: 32.123284, -103.897084	Hole Diameter: N/A	Total Depth: 110'

Comments: No field screening was conducted.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
						10	CCHE	0-10'. Caliche w/sand. Tan to light brown, very fine to fine grained, well graded, subrounded to subangular grains, dry.
						20	SW	10-20'. Sand. Reddish brown, very fine to fine grained, subrounded to subangular grains, well graded, trace CCHE, dry.
						30	SW	20-30'. Sand w/CCHE mixture. Very fine to fine grained, CCHE medium to coarse grains, sand reddish brown, tan to light brown CCHE Well graded.
						40	SC	30-50'. Clayey sand w/ gravel. Brown, very fine to fine grained, gravel small grained, trace CCHE, dry.
						50		
						60	SP	50-80'. Sand, brown (trace red), very fine to fine grained, poorly graded, subrounded to subangular, dry.
						70		
						80		80-90'. Sand. Yellowish tan, very fine to fine grained, poorly graded, trace silty, trace orange sand, trace CCHE, dry.
						90		90'-110'. Sand. Brownish red, very fine to fine grained, poorly graded, subrounded to subangular, dry.
						100		
						110		110': stopped drilling and set casing to 110'.

TD at 110' bgs.

2.02087
5-

READ INSTRUCTIONS ON BACK

Revised June 1991

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

17944
465599

'95 MAR 21 PM 12 54
STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

1. Name and mailing address of applicant: Byron W. Paschal
Box 1847
Pecos, TX 79772

File No. C-2441

Received: March 17, 1995

2. Describe well location under one of the following subheadings:

a. ____¼ ____¼ S½ ¼ of Sec. 21 Twp. 25 South Rge. 30 East NMPM, in Eddy County.

b. X = _____ feet, Y = _____ feet, New Mexico Coordinate System _____ Zone in the _____ Grant.

3. Approximate depth (if known) 300' feet; outside diameter of casing 6 5/8" inches.

Name of driller (if known) ***

4. Use of water (check use applied for):

____ One household, non-commercial trees, lawn and garden not to exceed one acre.

✓ Livestock watering.

____ More than one household, non-commercial trees, lawns and gardens not to exceed a total of one acre.

____ Drill and test a well intended to be used for domestic, drinking and sanitary or stock water purposes in conjunction with the building or dwelling unit.

____ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

____ Prospecting, mining or drilling operations to discover or develop natural resources.

____ Construction of public works, highways and roads.

If any of the last three items were marked, give name and nature of business under Remarks (Item 5).

STATE ENGINEER OFFICE
ROSWELL NEW MEXICO
'95 MAR 17 AM 10 57

5. Remarks: _____

I, Byron W Paschal, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Byron W. Paschal, Applicant 3/14/95

By: _____ Date: _____

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to specific conditions numbered 1 & 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before March 31, 1996.

Donald T. Lopez, Acting State Engineer

By: Richard C. Cibak, Area Supervisor

Date: March 20, 1995 File No. C-2441

***PLEASE NOTE GENERAL CONDITION OF APPROVAL "B"

WR Filed: _____

GENERAL CONDITIONS OF APPROVAL

A. The maximum amount of water that may be appropriated under this permit is 3 acre-feet in any year.
B. The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eights (2 3/8) inches outside diameter (Section 72-12-12).
C. Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Failure to file the well record within that time shall result in automatic cancellation of the permit. Well record forms will be provided by the State Engineer upon request.
D. The casing shall not exceed 7 inches outside diameter except under specific conditions in which reasons satisfactory to the State Engineer are shown.
E. If the well under this permit is used at any time to serve more than one household or livestock in a commercial feed lot operation, or for drinking and sanitation purposes in conjunction with a commercial operation, the permittee shall comply with Specific Conditions of Approval number 5(b).
F. In the event this well is combined with other wells permitted under Section 72-12-1 New Mexico Statutes Annotated, the total outdoor use shall not exceed the irrigation of one acre of non-commercial trees, lawn, and garden, or the equivalent outside consumptive use, and the total appropriation for household and outdoor use from the entire water distribution system shall not exceed 3 acre-feet in any year.
G. If artesian water is encountered, all rules and regulations pertaining to the drilling and casing of artesian wells shall be complied with.

SPECIFIC CONDITIONS OF APPROVAL

(Applicable only when so indicated on the other side of this form.)

1. Depth of the well shall not exceed the thickness of the (a) valley fill or (b) Ogallala formation.
2. The well shall be constructed to artesian well specifications and the State Engineer shall be notified before casing is landed or cemented.
3. Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
4. Use shall be limited to household, non-commercial trees, lawn and garden not to exceed one acre and/or stock use.
5. A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water; pumping records shall be submitted to the District Supervisor: (a) for each calendar month, on or before the 10th day of the following month (b) on or before the 10th of January, April, July and October of each year for the three preceding calendar months (c) for each calendar year on or before the 10th day of January of the following year.
6. The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.
7. Final approval for the use of the well shall be dependent upon a leakage test made by the State Engineer.
8. Use shall be limited strictly to household, drinking and sanitary purposes; water shall be conveyed from the well to the place of use in closed conduit and the effluent returned to the underground so that it will not appear on the surface. No irrigation of lawns, gardens, trees or use in any type of pool or pond is authorized under this permit.
9. No water shall be used from this well unless and until a permit has been issued to an applicant who intends to use the water for any of the purposes described in § 72-12-1.

INSTRUCTIONS

The application shall be made in the name of the actual user of the well for the purpose specified in the application.

The application shall be filed in triplicate and forwarded with a $5.00 filing fee to the State Engineer.

A separate application must be filed for each well to be drilled or used.

If well to be used is an existing well, an explanation (and the file number, if possible) should be given under Remarks (Item 5).

Applications for appropriation, well records and requests for information in the following basins should be addressed to the State Engineer at the location indicated.

Bluewater, Estancia, Rio Grande, Sandia, Gallup and San Juan Basins
District No. 1, 3311 Candelaria, NE, Suite A, Albuquerque, NM 87107

Capitan, Carlsbad, Curry County, Fort Sumner, Hondo, Jal, Lea County, Penasco, Portales, Roswell, Tucumcari and Upper Pecos Basins District No. 2, 1900 West Second Street, Roswell, NM 88201

Animas, Gila-San Francisco, Lordsburg, Mimbres, Nutt-Hockett, Playas, San Simon and Virden Valley Basins
District No. 3, P.O. Box 844, Deming, NM 88031

Lower Rio Grande, Tularosa, Hueco, Las Animas Creek and Hot Springs Basins
District No. 4, 133 Wyatt Drive, Suite 3, Las Cruces, NM 88005

Canadian River Basin
State Engineer Office, P.O. Box 25102, Santa Fe, NM 87504-5102

B. Paschal
Box 1847
Pecos, TX 79772

MALAGA NM
APR
4
1996
AM
88263

32 USA

State Engineer Office
District II - 1900 West Second St.
Roswell, New Mexico 88201-1712

C-2241

April 4, 96

Dear Sir,

I did not drill the well.

Thanks

Byron Paschal

STATE ENGINEER OFFICE
ROSWELL NEW MEXICO
'96 APR 8 AM 11 52

C-2441

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ROSWELL

THOMAS C. TURNEY
State Engineer

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

STATE ENGINEER OFFICE
SANTA FE NEW MEXICO
96 APR 2 AM 9 52

April 1, 1996

FILE: C-2441

Byron W. Paschal
Box 1847
Pecos, TX 79772

Dear Mr. Paschal:

Application for Permit to Appropriate Underground Waters in Accordance With Section 72-12-1 New Mexico Statutes, approved March 20, 1995, required that a well record be filed in this office on or before March 31, 1996. To date this instrument has not been filed.

If this well has been drilled, it is very important that you advise this office the date the well was drilled and the name of the driller.

If this well has not been drilled, please advise this office. This permit expired on the above date and it will be necessary that you file a new application if you wish to drill a well.

Sincerely,

Richard C. Cibak
Area Supervisor

tg
cc: Santa Fe

STATE OF NEW MEXICO

'95 MAR 21 PM 12 54

STATE ENGINEER OFFICE

STATE ENGINEER OFFICE
SANTA FE, NEW MEXICO

DONALD T. LOPEZ
Acting State Engineer

ROSWELL

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

March 17, 1995

FILE: C-2441

Byron W. Paschal
Box 1847
Pecos, TX 79772

Dear Mr. Paschal:

Enclosed is your copy of Application to Appropriate Underground Waters in Accordance With Section 72-12-1 New Mexico Statutes, as numbered above, which has been approved subject to the conditions on the permit.

Please note General Condition of Approval "B", which states: "The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-1 New Mexico Statutes Annotated. A licensed driller shall not be required for the construction of a driven well; provided, that the casing shall not exceed two and three-eights (2 3/8) inches outside diameter (Section 72-12-1).

Please see that the well driller files the well record in this office within 10 days after completion of drilling.

Your rights under this permit will expire on March 31, 1996, unless the well is drilled and well record is filed in this office on or before the above date.

Sincerely,

Richard C. Cibak
Area Supervisor

tg
Enclosure
cc: Santa Fe

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 21 Brushy Draw CTB
Incident Number nAPP2405336143

Photograph: 1 Date: 3/5/2024
Description: Site assessment, release extent area.
View: West

Photograph: 2 Date: 3/5/2024
Description: Site assessment, release point area.
View: Southwest

Photograph: 3 Date: 3/15/2024
Description: Final excavation extent.
View: West

Photograph: 4 Date: 3/15/2024
Description: Final excavation extent.
View: East

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: BH01	Date: 3/14/2024
	Site Name: PLU 21 Brushy Draw CTB	
	Incident Number: nAPP2405336143	
	Job Number: 03C1558332	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hand Auger
Coordinates: 32.110825, -103.888695	Hole Diameter: 3.5"	Total Depth: 1'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride field 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, tan, poorly sorted, medium grains, salt staining, no odor, moist.
M	7,268	0.0	Y	SS01	0.5			
D	<168	0.0	N	BH01	1	1	SP	1' SAND with silt, brown, very fine grained, no stain, no odor, dry.
							TD	Total Depth @ 1' bgs.

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: BH02	Date: 3/15/2024
	Site Name: PLU 21 Brushy Draw CTB	
	Incident Number: nAPP2405336143	
	Job Number: 03C1558332	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hand Auger
Coordinates: 32.110814, -103.888687	Hole Diameter: 3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride field screenings.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-4' CALICHE, tan, poorly sorted, medium grains, no staining, no odor, moist.
M	3,757	13.0	N	BH02	0.5			
D	4,832	1.3	N			1		
D	2,481	0.0	N			2		
D	1,070	0.0	N			3		
D	200	0.1	N	BH02A	4	4	SP	4' SAND with silt, brown, very fine grained, no stain, no odor, dry.
							TD	Total Depth @ 4' bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

March 12, 2024

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 21 BRUSHY DRAW CTB

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

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/07/2024	Sampling Date:	03/05/2024
Reported:	03/12/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 01 0.5' (H241157-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	2.19	109	2.00	0.168	
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.5 %* *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	**6700**	16.0	03/11/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

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

Surrogate: 1-Chlorooctane *82.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/07/2024	Sampling Date:	03/05/2024
Reported:	03/12/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 02 0.5' (H241157-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	2.19	109	2.00	0.168	
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.4 %* *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	03/11/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

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

Surrogate: 1-Chlorooctane *76.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/07/2024	Sampling Date:	03/05/2024
Reported:	03/12/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 03 0.5' (H241157-03)

BTEX 8021B mg/kg **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	2.19	109	2.00	0.168	
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.2 %* *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	03/11/2024	ND	432	108	400	3.64	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/09/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/09/2024	ND					

Surrogate: 1-Chlorooctane *87.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/07/2024	Sampling Date:	03/05/2024
Reported:	03/12/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 04 0.5' (H241157-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	2.19	109	2.00	0.168	
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.6 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/11/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/09/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/09/2024	ND					

Surrogate: 1-Chlorooctane *76.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *79.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/07/2024	Sampling Date:	03/05/2024
Reported:	03/12/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO		

Sample ID: SS 05 0.5' (H241157-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/09/2024	ND	2.19	109	2.00	0.168	
Toluene*	<0.050	0.050	03/09/2024	ND	2.15	108	2.00	0.167	
Ethylbenzene*	<0.050	0.050	03/09/2024	ND	2.12	106	2.00	0.173	
Total Xylenes*	<0.150	0.150	03/09/2024	ND	6.18	103	6.00	0.149	
Total BTEX	<0.300	0.300	03/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *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	03/11/2024	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/09/2024	ND	220	110	200	3.30	
DRO >C10-C28*	<10.0	10.0	03/09/2024	ND	208	104	200	0.798	
EXT DRO >C28-C36	<10.0	10.0	03/09/2024	ND					

Surrogate: 1-Chlorooctane *68.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Tacoma Morrissey	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.
City: Carlsbad State: NM Zip: 88220	Attn: Amy Ruth
Phone #: 337 257-8307 Fax #:	Address: 3104 E. Green St.
Project #: 03C1558332 Project Owner: XTO	City: Carlsbad
Project Name: PLU 21 Brushy Draw CTB	State: NM Zip: 88220
Project Location:	Phone #:
Sampler Name: Connor Whitman	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	ANALYSIS REQUEST: TPH	BTEX	Chloride
H241157																		
1	SS01	0.5	G	1			✓					✓		3/5/24	1340	✓	✓	✓
2	SS02	0.5													1400			
3	SS03	0.5													1405			
4	SS04	0.5													1410			
5	SS05	0.5													1415			CW

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

Relinquished By:	Date: 3.7.24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1420		All Results are emailed. Please provide Email address: TMorrissey@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS: nAPP2405336143
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.4 Corrected Temp. °C	Sample Condition Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No	CHECKED BY: (Initials)
			Turnaround Time: Standard ☒ Rush ☐ Thermometer ID #113 Correction Factor -0.5°C #140
			Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

March 22, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 21 BRUSHY DRAW CTB

Enclosed are the results of analyses for samples received by the laboratory on 03/18/24 12:04.

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 accreditated through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/14/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 06 0.5' (H241379-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.5 %* *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	03/18/2024	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	03/19/2024	ND	206	103	200	2.69	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	202	101	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *87.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/14/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 07 0.5' (H241379-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.7 %* *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	**32.0**	16.0	03/18/2024	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	03/19/2024	ND	206	103	200	2.69	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	202	101	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *77.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *71.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/14/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 08 0.5' (H241379-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.3 %* *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	03/18/2024	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	03/19/2024	ND	206	103	200	2.69	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	202	101	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *82.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/14/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 09 0.5' (H241379-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.8 %* *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	**32.0**	16.0	03/18/2024	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	03/19/2024	ND	206	103	200	2.69	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	202	101	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *80.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/14/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: BH 01 1' (H241379-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.5 %* *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	03/18/2024	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	03/19/2024	ND	206	103	200	2.69	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	202	101	200	0.758	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *91.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC	**BILL TO** P.O. #:
Project Manager: Ben Belill	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Amy Ruth
City: Carlsbad State: NM Zip: 88220	Address: 3104 E. Green St.
Phone #: 337 257-8307 Fax #:	City: Carlsbad
Project #: 03C1558332 Project Owner: XTO	State: NM Zip: 88220
Project Name: PLU 21 Brushy Draw CTB	Phone #:
Project Location:	Fax #:
Sampler Name: Connor Whitman	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	TPH	BTEX	Chloride
H241379														3/14/24	1240			
1	SS06	0.5	G	1			S					I			1245			
2	SS07	0.5													1250			
3	SS08	0.5													1255			
4	SS09	0.5												↓	1305			
5	BH01	1	↓	↓			↓					↓						
															CW			

Relinquished By: Kaitlyn Smith	Date: 3-18-24 Time: 1204	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: TMorrissey@ensolum.com bbelill@Ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.9 Corrected Temp. °C	Sample Condition Cool ☑ Yes Intact ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials) TO.

REMARKS: nAPP2405336143

Cost Center:

Turnaround Time: Standard ☑ Rush ☐ Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C

Thermometer ID #113 Correction Factor -0.5°C TO. 3/18/24 #140 Corrected Temp. °C

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

CARDINAL Laboratories

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

March 22, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 21 BRUSHY DRAW CTB

Enclosed are the results of analyses for samples received by the laboratory on 03/18/24 12:04.

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 accreditated through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: FS 01 1' (H241381-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.1 %* *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	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: FS 02 1' (H241381-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.9 %* *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	**160**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *91.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: BH 02 0.5' (H241381-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.2 %* *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	**4080**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	**67.8**	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *96.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *106 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: BH 02A 4' (H241381-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.4 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *98.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *107 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SW 01 0-1' (H241381-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.17	109	2.00	0.305	
Toluene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	0.151	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.07	103	2.00	0.323	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.01	100	6.00	0.261	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.9 %* *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	**128**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *96.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *106 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SW 02 0-1' (H241381-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/19/2024	ND	2.12	106	2.00	2.54	
Toluene*	<0.050	0.050	03/19/2024	ND	2.15	107	2.00	7.48	
Ethylbenzene*	<0.050	0.050	03/19/2024	ND	2.19	109	2.00	11.2	
Total Xylenes*	<0.150	0.150	03/19/2024	ND	6.50	108	6.00	11.8	
Total BTEX	<0.300	0.300	03/19/2024	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	**112**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SW 03 0-1' (H241381-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/19/2024	ND	2.12	106	2.00	2.54	
Toluene*	<0.050	0.050	03/19/2024	ND	2.15	107	2.00	7.48	
Ethylbenzene*	<0.050	0.050	03/19/2024	ND	2.19	109	2.00	11.2	
Total Xylenes*	<0.150	0.150	03/19/2024	ND	6.50	108	6.00	11.8	
Total BTEX	<0.300	0.300	03/19/2024	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	**2000**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	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

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2024	Sampling Date:	03/15/2024
Reported:	03/22/2024	Sampling Type:	Soil
Project Name:	PLU 21 BRUSHY DRAW CTB	Sampling Condition:	Cool & Intact
Project Number:	03C1558332	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SW 04 0-1' (H241381-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2024	ND	2.12	106	2.00	2.54	
Toluene*	<0.050	0.050	03/20/2024	ND	2.15	107	2.00	7.48	
Ethylbenzene*	<0.050	0.050	03/20/2024	ND	2.19	109	2.00	11.2	
Total Xylenes*	<0.150	0.150	03/20/2024	ND	6.50	108	6.00	11.8	
Total BTEX	<0.300	0.300	03/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *119 %* *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	**4960**	16.0	03/19/2024	ND	416	104	400	7.41	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/19/2024	ND	207	104	200	19.2	
DRO >C10-C28*	<10.0	10.0	03/19/2024	ND	207	104	200	15.6	
EXT DRO >C28-C36	<10.0	10.0	03/19/2024	ND					

Surrogate: 1-Chlorooctane *83.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Ensolum, LLC
Project Manager:	Ben Belill
Address:	3122 National Parks Hwy
City:	Carlsbad **State:** NM **Zip:** 88220
Phone #:	337 257-8307 **Fax #:**
Project #:	03C1558332 **Project Owner:** XTO
Project Name:	PLU 21 Brushy Draw CTB
Project Location:	
Sampler Name:	Connor Whitman

BILL TO

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

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH	BTEX	Chloride
H241381																		
1	FS01	1	C	1			✓					✓		3/15/24	1010			
2	FS02	1	C				✓					✓			1015			
3	BH02	0.5	G				✓					✓			1025			
4	BH02A	4	G				✓					✓			1045			
5	SW01	0-1	C				✓					✓			1105			
6	SW02	↓	C				✓					✓			1110			
7	SW03		C				✓					✓			1115			
8	SW04		C	↓			✓					✓		↓	1120			
															GW			

Relinquished By:	Date: ~~3/18/24~~	**Received By:**	
	Time: ~~3:10~~		
Relinquished By:	Date: 3/18/24	**Received By:**	
	Time: 1204		

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

All Results are emailed. Please provide Email address:
TMorrissey@ensolum.com BBelill@Ensolum.com

REMARKS: nAPP2405336143

Cost Center:

Turnaround Time: Standard ☒ Rush ☐

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No

Observed Temp. °C:

Thermometer ID ~~#113~~ #140 **Correction Factor** ~~0.5°C~~ 0 3/18/24

Corrected Temp. °C:

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

Observed Temp. °C 2.9

Corrected Temp. °C

Sample Condition: Cool ☑ Yes ☐ No Intact ☐ Yes ☐ No

CHECKED BY: (Initials)

FORM-006 R 3.2 10/07/21

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

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

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

QUESTIONS

Action 342026

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 342026
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2405336143**
Incident Name	**NAPP2405336143 PLU 21 BRUSHY DRAW CTB @ 0**
Incident Type	**Release Other**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU 21 Brushy Draw CTB
Date Release Discovered	02/08/2024
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Pipeline (Any) | Crude Oil | Released: 3 BBL | Recovered: 1 BBL | Lost: 2 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion | Pipeline (Any) | Produced Water | Released: 5 BBL | Recovered: 3 BBL | Lost: 2 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)	Release of produced water containing some crude oil.

District I
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Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 342026
	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: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 02/22/2024

District I
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 342026
	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 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1000 (ft.) and ½ (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1000 (ft.) and ½ (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	4960
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	67.8
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	03/05/2024
On what date will (or did) the final sampling or liner inspection occur	03/18/2024
On what date will (or was) the remediation complete(d)	05/08/2024
What is the estimated surface area (in square feet) that will be reclaimed	464
What is the estimated volume (in cubic yards) that will be reclaimed	68
What is the estimated surface area (in square feet) that will be remediated	170
What is the estimated volume (in cubic yards) that will be remediated	10
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	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	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 05/08/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Number: 342026
	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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**320911**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**03/15/2024**
What was the (estimated) number of samples that were to be gathered	**14**
What was the sampling surface area in square feet	**2800**

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	170
What was the total volume (cubic yards) remediated	10
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	634
What was the total volume (in cubic yards) reclaimed	93
Summarize any additional remediation activities not included by answers (above)	Site assessment and excavation activities were conducted at the Site to address the February 2024, release of crude oil and produced water. Excavation activities were conducted to remove waste containing soil to the maximum extent practicable (MEP) without compromising the stability of active production equipment and pipelines, and worker safety. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Closure Criteria. All accessible waste-containing soil exceeding the reclamation requirement has been removed. An estimated 68 cubic yards of waste-containing soil remains on pad, immediately adjacent to or beneath active production equipment and pipelines in the vicinity of borehole BH02. The remaining soil is delineated to the reclamation requirement by BH02A, and SS04, SS06 through SS09, and will be reclaimed during pad abandonment or any major facility reconstruction. The area where soil concentrations exceed the reclamation requirement is presented on Figure 3. Based on laboratory analytical results, no further remediation is required at this time. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing Site conditions. Areas pending reclamation will be completed during pad abandonment or major facility reconstruction.
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 05/08/2024

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QUESTIONS (continued)

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QUESTIONS

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

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CONDITIONS

Action 342026

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	Remediation has met 19.15.29 NMAC requirements. The variance request for the dtgw determination is approved. Soil impacts exceeding the reclamation standards have been left in place and are required to meet 19.15.29.13D (1) NMAC once the site is no longer reasonably needed for production or subsequent drilling operations.	5/30/2024
scott.rodgers	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	5/30/2024