ENSOLUM

September 26, 2024

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

Re: Remediation Work Plan
Big Eddy Unit 251H
Incident Number NAPP2419336478
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document site assessment, delineation and excavation activities completed to date and propose to complete additional excavation and confirmation soil sampling to address impacted soil at the Big Eddy Unit 251H (Site). The purpose of the site assessment, delineation and excavation activities is to delineate and remove impacted soil resulting from a release of produced water and crude oil at the Site. The following *Work Plan* proposes to further excavate impacted soil and conduct confirmation soil sampling for Incident Number NAPP2419336478.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 34, Township 19 South, Range 31 East in Eddy County, New Mexico (32.62233°, -103.85177°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On June 28, 2024, corrosion on a steel flowline caused the release of approximately 9 barrels (bbls) of crude oil and 2 bbls of produced water to release onto the surface of a small surface pipeline right-of-way (ROW) located between two active facility pads. A vacuum truck was immediately dispatched and recovered approximately 5 bbls of released fluids. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) and submitted an Initial C-141 Application (C-141) on July 11, 2024. The release was assigned Incident Number NAPP2419336478.

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. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. On April 26, 2021, a soil boring permitted by New Mexico Office of the State Engineer (OSE) as CP-1864 was advanced approximately 0.42 miles west of the Site. The boring was drilled to a total depth of 110 feet bgs. A field geologist logged and described soils continuously. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed

that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. The Well Record and Log for CP-1864 is included in Appendix A. All wells used to evaluate depth to groundwater are presented on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a dry wash located approximately 12,930 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area).

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

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

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

SITE ASSESSMENT ACTIVITIES

On July 12, 2024, Ensolum personnel conducted site assessment activities at the Site to evaluate the release extent based on information provided on the C-141 and visual observations. Eight delineation soil samples (SS01 through SS08) were collected from a depth of 0.5 feet bgs to assess the extent of the release. Soil samples SS01 through SS06 were collected outside of the release and SS07 and SS08 were collected inside the release extent. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during all Site visits and is presented on a Photographic Log in Appendix B.

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

Laboratory analytical results for delineation soil samples SS01 through SS06 indicated COC concentrations were compliant with the Closure Criteria and reclamation requirement, successfully defining the lateral extent of the release. Delineation soil samples SS07 and SS08, collected within the

release extent indicated BTEX, TPH and/or chloride concentrations exceed the Closure Criteria and/or reclamation requirement. Based on the laboratory analytical results, additional delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION ACTIVITIES

Between August 5 and August 7, 2024, Ensolum personnel returned to the Site to oversee delineation and excavation activities. Two boreholes were advanced utilizing a hand auger in the vicinity of SS07 and SS08. The boreholes were advanced up to a maximum depth of 9 feet bgs. Soil from the boreholes were field screened for VOCs and chloride. Field screening results and observations for the boreholes were logged on lithologic soil sampling logs, which are included in Appendix C. Delineation soil samples were collected from each borehole at depths ranging from 4 feet bgs to the terminal depth of the boreholes (9 feet bgs for SS07; 8 feet bgs for SS08). The delineation soil samples were collected, handled, and analyzed as described above and submitted to Cardinal. The delineation soil sample locations are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by delineation soil sample laboratory analytical results. Due to the amount of surface and buried lines in the area, excavation activities were performed utilizing a hydrovaccum truck. The excavation occurred in a small ROW located between two active facility pads. To direct excavation activities, Ensolum personnel screened soil for VOCs and chlorides. Following removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor of the excavation. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS06 were collected from the floor of the excavation at depths ranging from 1-foot to 2 feet bgs. Confirmation soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from ground surface to 2 feet bgs. The soil samples were collected, handled, and analyzed as described above and submitted to Cardinal. The excavation extent and confirmation soil sample locations are presented on Figure 3.

The excavation extent measures approximately 1,090 square feet. A total of approximately 45 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS07A and SS08A collected at 4 feet bgs, SS07B collected at 9 feet bgs, and SS08B collected at 8 feet bgs indicated that all COC concentrations were compliant with Closure Criteria and successfully define the vertical extent of the release. As indicated above, delineation soil samples SS07 and SS08 indicated COC concentrations exceeding reclamation requirement, however, these samples were removed during excavation activities.

Laboratory analytical results for confirmation soil samples FS01 through FS04 indicated TPH and or chloride concentrations exceeded reclamation requirement. All other confirmation soil samples collected indicated COC concentrations were compliant with the Closure Criteria and reclamation requirement. Laboratory analytical results are summarized in Table 1 and complete laboratory analytical reports are included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

Site assessment, delineation, and excavation activities were conducted at the Site to address the June 2024, release of crude oil and produced water. The release extent has been laterally delineated by soil samples SS01 through SS06 and vertically delineated by delineation soil samples SS07A and SS08A. A total of approximately 45 cubic yards of impacted soil was removed during the excavation activities, however, based on laboratory analytical results for confirmation soil samples FS01 through FS04, impacted soil at the Site still exists. XTO proposes to complete the following remediation activities:

- Excavation of TPH and chloride-impacted soil to a depth of 4 feet bgs in the areas of FS01 through FS04. The excavation will proceed vertically until COC concentrations indicate analytical results are below Closure Criteria, and laterally until sidewall samples confirm COC concentrations are compliant with the reclamation requirement in the top four feet.
- Following the removal of all impacted soil, confirmation soil samples will be collected and handled as described above and analyzed for the same COCs listed above.
- An additional 80 cubic yards of impacted soil is estimated to be removed by excavation. The excavated soil will be transferred to an approved landfill facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing conditions and re-seeded with the recommended BLM seed mixture.

XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such, XTO requests approval of this *Work Plan* by NMOCD. XTO will complete the soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD. If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Senior Geologist

Tacoma Morrissey
Associate Principal

cc:
Colton Brown, XTO
Kaylan Dirkx, XTO
BLM

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

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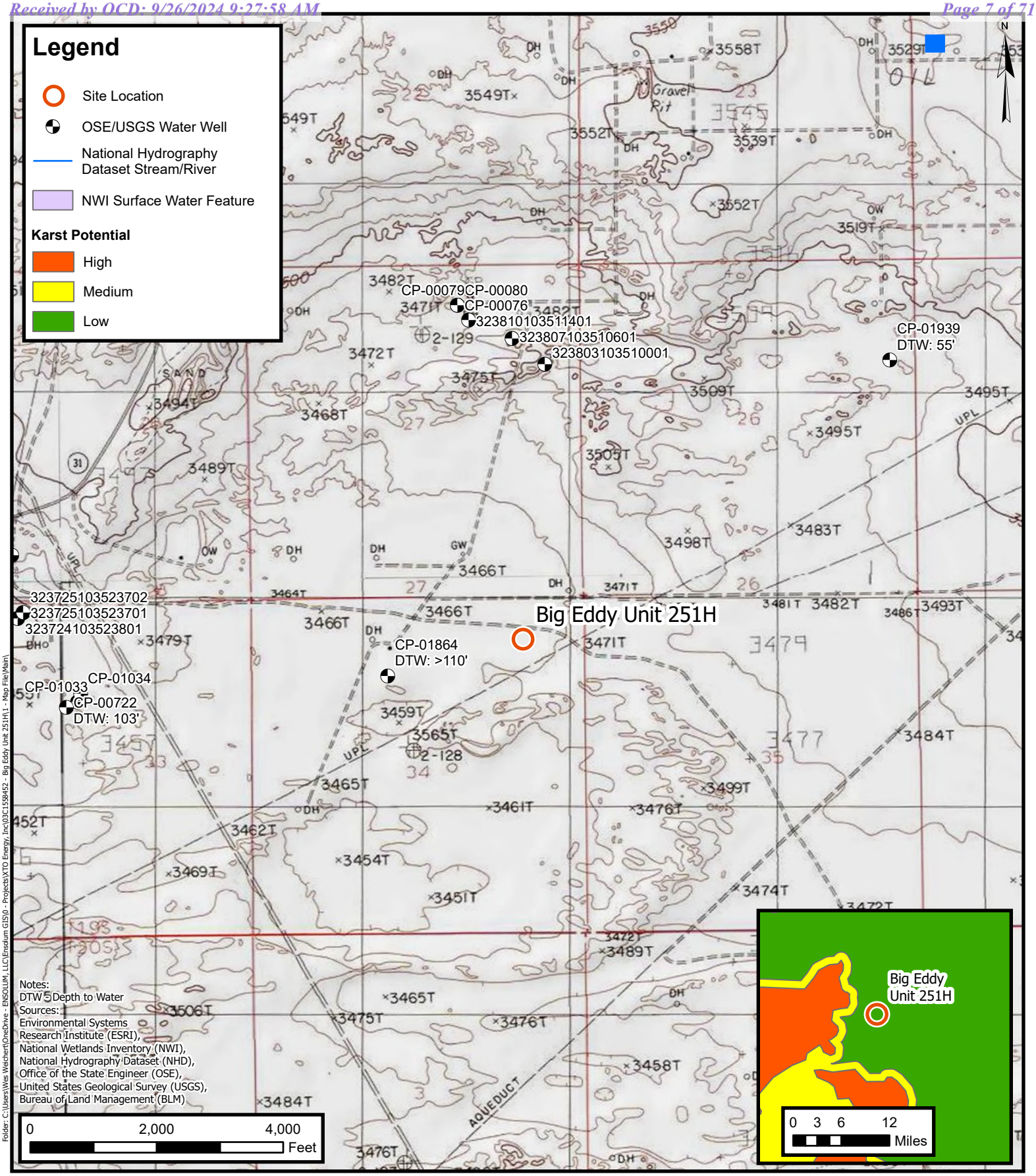
FIGURES



Folder: C:\Users\Wes Weichert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1598452 - Big Eddy Unit 251H\1 - Map File\Main\

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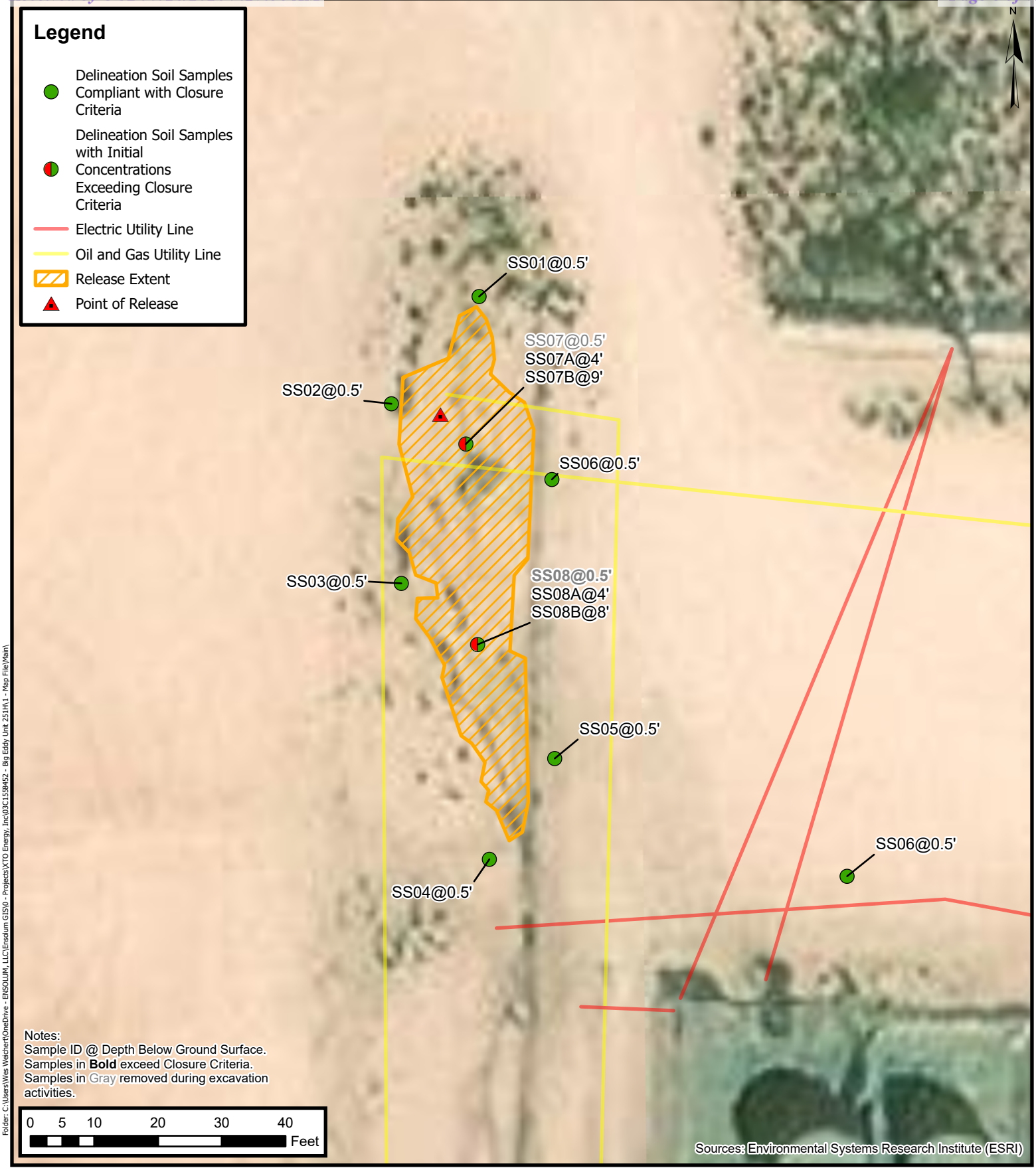
Site Receptor Map

XTO Energy, Inc
Big Eddy Unit 251H
Incident Number: NAPP2419336478
Unit A, Sec 34, T19S, R31E
Eddy Co, New Mexico, United States

FIGURE 1



Folder: C:\Users\Wes Welchert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558452 - Big Eddy Unit 251H\1 - Map File\Main\

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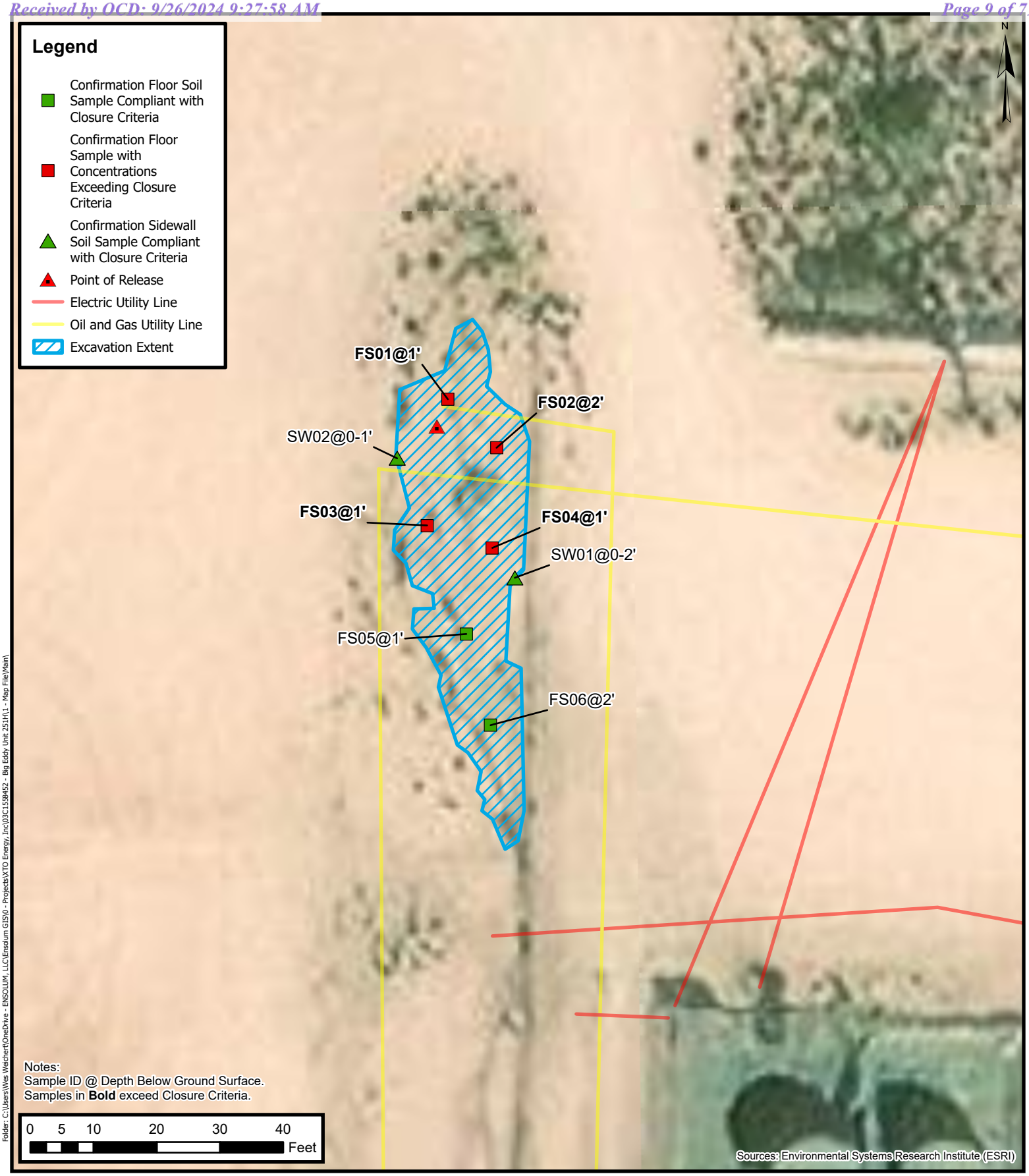
Delineation Soil Sample Locations

XTO Energy, Inc
Big Eddy Unit 251H
Incident Number: NAPP2419336478
Unit A, Sec 34, T19S, R31E
Eddy Co, New Mexico, United States

FIGURE 2



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Excavation Soil Sample Locations

XTO Energy, Inc
Big Eddy Unit 251H
Incident Number: NAPP2419336478
Unit A, Sec 34, T19S, R31E
Eddy Co, New Mexico, United States

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Big Eddy Unit 251H
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	07/12/2024	0.5	<0.050	<0.300	<10.0	17.1	<10.0	17.1	17.1	48.0
SS02	07/12/2024	0.5	<0.050	<0.300	<10.0	13.4	<10.0	13.4	13.4	64.0
SS03	07/12/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SS04	07/12/2024	0.5	<0.050	1.07	<10.0	64.8	15.7	64.8	80.5	352
SS05	07/12/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SS06	07/12/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
~~SS07~~	~~07/12/2024~~	~~0.5~~	~~<0.050~~	~~0.41~~	~~25.9~~	~~148~~	~~43.8~~	~~174~~	~~**218**~~	~~**11,400**~~
SS07A	08/07/2024	4	<0.050	<0.300	<10.0	11.4	<10.0	11.4	11.4	1,150
SS07B	08/07/2024	9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
~~SS08~~	~~07/12/2024~~	~~0.5~~	~~**102**~~	~~**1,890**~~	~~16,100~~	~~39,900~~	~~7,410~~	~~**56,000**~~	~~**63,400**~~	~~80~~
SS08A	08/07/2024	4	<0.050	0.322	<10.0	213	35.9	213	249	80
SS08B	08/07/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
Confirmation Soil Samples										
FS01	08/07/2024	1	<0.050	<0.300	<10.0	198	56.6	198	**260**	**1,060**
FS02	08/06/2024	2	<0.050	<0.300	<10.0	66.6	11	66.6	77.6	**4,040**
FS03	08/07/2024	1	<0.050	<0.300	11.3	269	60.1	280	**340**	**1,950**
FS04	08/06/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**3,400**
FS05	08/06/2024	1	<0.050	<0.300	<10.0	36.6	12	36.6	48.6	160
FS06	08/06/2024	2	<0.050	<0.300	<10.0	16.8	<10.0	16.8	16.8	80
SW01	08/07/2024	0-2	<0.050	<0.300	<10.0	14	<10.0	14	14	320
SW02	08/07/2024	0-1	<0.050	<0.300	<10.0	20.2	<10.0	20.2	20.2	320

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

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-1864 CP-1864

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Dr.	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	37'	14.58"	N
	LONGITUDE	-103°	51'	31.48"	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SW SE Sec. 15 T24S R31E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
02/26/2021	02/26/2021	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	±6.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

OSE DIV/DIST NOV 11 2021 PM12:24

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. CP-1864	POD NO. 1	TRN NO. 686596	
LOCATION 21 4 T19S R31E Sec 34		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1.5	1.5	Caliche w/ sand, no odor, no stain, tan, off white, dry	Y ✓ N	
1.5	13	11.5	Sand, no odor, no stain, m-f, well sorted, gray, trace silt, some caliche, dry	Y ✓ N	
13	24	11	Sandstone, m-f, low consolidation, gray, little coarse gravel, dry	Y ✓ N	
24	34	10	Sand w/ caliche, gray, tan, moist, m-f, well sorted	Y ✓ N	
34	41	7	Caliche /Sand, m-f, well sorted, tan, offwhite, mod. consolidation, moist	Y ✓ N	
41	50	9	Clayey sand, gray, fine grain, well sorted, med. plasticty, cohesive, moist, w/ cal	Y ✓ N	
50	69	19	Caliche w/ sandy clay, m-f, no cohesion, no plasticity, dry	Y ✓ N	
69	79	10	Sandstone, tan, m-f, , high consolidation, dry	Y ✓ N	
79	92	13	Clayey sand,medium plasticity, cohesive, fine grained sand, brown, moist	Y ✓ N	
92	110	18	Claystone, brown, high plasticity, cohesive, no odor, no stain, moist	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge

OSE DII MAR 11 2021 PM4:27

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 03/09/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1864	POD NO. 1	TRN NO. 686596	
LOCATION 21 4 T19S R31E Sec 34		WELL TAG ID NO. NA	PAGE 2 OF 2

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 686596
File Nbr: CP 01864
Well File Nbr: CP 01864 POD1

Apr. 07, 2021

KYLE ITTRELL
XTO ENERGY INC
6401 HOLIDAY HILL ROAD
MIDLAND, TX 79707

Greetings:

The above numbered permit was issued in your name on 01/29/2021.

The Well Record was received in this office on 03/11/2021, stating that it had been completed on 02/26/2021, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 01/28/2022.

If you have any questions, please feel free to contact us.

Sincerely,

Andrew Dennis
(575)622-6521

drywell

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APPENDIX B

Photographic Log

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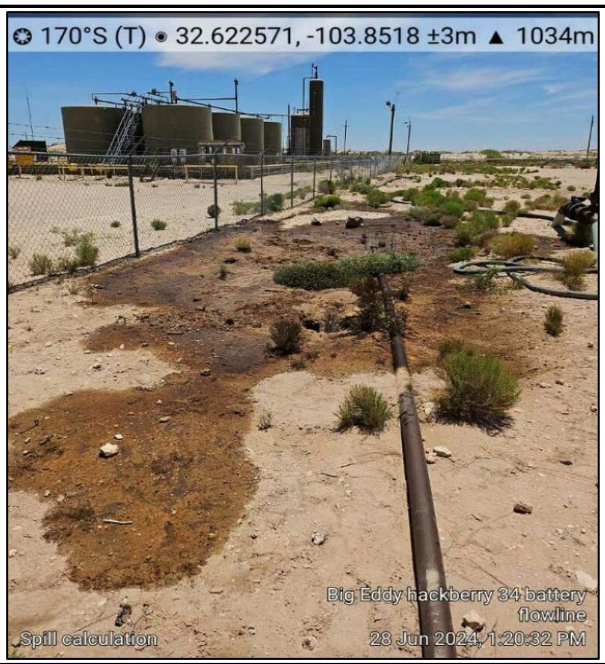
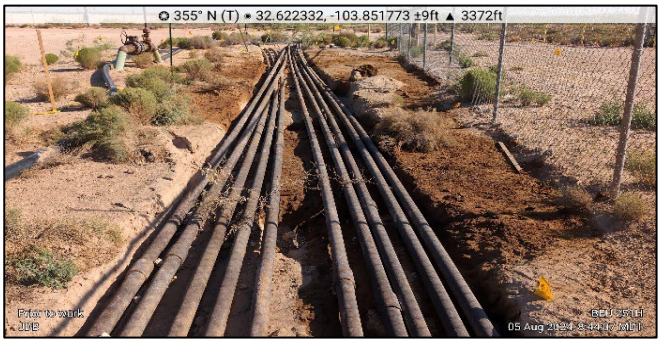
Photographic Log
XTO Energy, Inc
Big Eddy Unit 251H
Incident Number NAPP2419336478



Photograph: 1 Date: 6/28/2024
Description: Staining after discovery of release.
View: South



Photograph: 2 Date: 8/5/2024
Description: Site assessment activities.
View: North

Photograph: 3 Date: 8/7/2024
Description: Excavation extent area.
View: Southeast

Photograph: 4 Date: 8/7/2024
Description: Excavation extent area.
View: North

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APPENDIX C

Lithologic Soil Sampling Logs

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Sample Name: SS07	Date: 8/7/2024
Site Name: Big Eddy Unit 251H	
Incident Number: nAPP2419336478	
Job Number: 03C1558452	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: JB	Method: Hand Auger	
Coordinates: 32.62233, 103.85177	Hole Diameter: 4"	Total Depth: 9'

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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SC	(0-9') CLAYEY SAND, moist, pale, dark brown-brown, well graded, trace silt, strong H/C odor, dark brown staining.
D	11,400	218	Y	SS07	0.5			
D	6782	>5000	Y		1	1		
D	462.4	303.4	Y		2	2		
D	462	81.2	Y		3	3		
D	1472	10.1	N	SS07A	4	4		(@4') poorly graded
D	1472	6.7	N		5	5		(@5') no odor
D	2380	6.7	N		6	6		
D	2380	6.7	N		7	7		
D	632.8	6.7	N		8	8		
D	173.6	6.7	N	SS07B	9	9		

Total depth @ 9 feet bgs

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Sample Name: SS08	Date: 8/7/2024	
Site Name: Big Eddy Unit 251H		
Incident Number: nAPP2419336478		
Job Number: 03C1558452		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: JB	Method: Hand Auger
Coordinates: 32.62233, 103.85177	Hole Diameter: 4"	Total Depth: 8'

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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SC	(0-8') CLAYEY SAND, moist, pale, dark brown-brown, well graded, trace silt, strong H/C odor, dark brown staining.
D	63,400	80	Y	SS08	0.5			
D						1		
D	464.2	304.6	Y		2	2		
D	464.2	357.4	Y		3	3		
D	464	363	Y	SS08A	4	4		(@4') poorly graded
D	464	321	Y		5	5		
D	464	306	N		6	6		
D	464	290	N		7	7		
D	347.2	14.8	N	SS08B	8	8		(@8') no odor

Total depth @ 8 feet bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

July 23, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BIG EDDY UNIT 251H

Enclosed are the results of analyses for samples received by the laboratory on 07/12/24 15:14.

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

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS 01 0.5'	H244185-01	Soil	12-Jul-24 09:35	12-Jul-24 15:14
SS 02 0.5'	H244185-02	Soil	12-Jul-24 09:40	12-Jul-24 15:14
SS 03 0.5'	H244185-03	Soil	12-Jul-24 09:45	12-Jul-24 15:14
SS 04 0.5'	H244185-04	Soil	12-Jul-24 09:50	12-Jul-24 15:14
SS 05 0.5'	H244185-05	Soil	12-Jul-24 09:55	12-Jul-24 15:14
SS 06 0.5'	H244185-06	Soil	12-Jul-24 10:00	12-Jul-24 15:14

07/23/24 - Client changed the project name (see COC). This is the revised report and will replace the one sent on 07/18/24.

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 01 0.5'

H244185-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**48.0**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*109 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	**17.1**		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*110 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*128 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 02 0.5'

H244185-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**64.0**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*113 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	**13.4**		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*102 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*118 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 03 0.5'

H244185-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**256**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*112 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*97.7 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*112 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 04 0.5'

H244185-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**352**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	**0.442**		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	**0.197**		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	**0.430**		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	**1.07**		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*111 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	**64.8**		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	**15.7**		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*96.6 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*114 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 05 0.5'

H244185-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**176**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*109 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*86.3 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*100 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

SS 06 0.5'

H244185-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**112**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*114 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4071521	MS	15-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*102 %*	*48.2-134*		*4071521*	MS	*15-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*116 %*	*49.1-148*		*4071521*	MS	*15-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071619 - 1:4 DI Water										
Blank (4071619-BLK1)				Prepared & Analyzed: 16-Jul-24						
Chloride	ND	16.0	mg/kg							
LCS (4071619-BS1)				Prepared & Analyzed: 16-Jul-24						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (4071619-BSD1)				Prepared & Analyzed: 16-Jul-24						
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	

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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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071505 - Volatiles										
Blank (4071505-BLK1)				Prepared & Analyzed: 15-Jul-24						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0552*		mg/kg	*0.0500*		*110*	*71.5-134*			
LCS (4071505-BS1)				Prepared & Analyzed: 15-Jul-24						
Benzene	2.10	0.050	mg/kg	2.00		105	82.8-130			
Toluene	2.28	0.050	mg/kg	2.00		114	86-128			
Ethylbenzene	2.35	0.050	mg/kg	2.00		118	85.9-128			
m,p-Xylene	4.95	0.100	mg/kg	4.00		124	89-129			
o-Xylene	2.34	0.050	mg/kg	2.00		117	86.1-125			
Total Xylenes	7.29	0.150	mg/kg	6.00		122	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0531*		mg/kg	*0.0500*		*106*	*71.5-134*			
LCS Dup (4071505-BSD1)				Prepared & Analyzed: 15-Jul-24						
Benzene	2.01	0.050	mg/kg	2.00		101	82.8-130	4.24	15.8	
Toluene	2.18	0.050	mg/kg	2.00		109	86-128	4.58	15.9	
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	85.9-128	5.47	16	
m,p-Xylene	4.74	0.100	mg/kg	4.00		118	89-129	4.35	16.2	
o-Xylene	2.23	0.050	mg/kg	2.00		111	86.1-125	5.09	16.7	
Total Xylenes	6.96	0.150	mg/kg	6.00		116	88.2-128	4.59	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0524*		mg/kg	*0.0500*		*105*	*71.5-134*			

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:30

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071521 - General Prep - Organics										
Blank (4071521-BLK1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*51.2*		mg/kg	*50.0*		*102*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*57.9*		mg/kg	*50.0*		*116*	*49.1-148*			
LCS (4071521-BS1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	181	10.0	mg/kg	200		90.5	66.4-123			
DRO >C10-C28	176	10.0	mg/kg	200		88.2	66.5-118			
Total TPH C6-C28	357	10.0	mg/kg	400		89.3	77.6-123			
Surrogate: 1-Chlorooctane	*55.5*		mg/kg	*50.0*		*111*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*61.5*		mg/kg	*50.0*		*123*	*49.1-148*			
LCS Dup (4071521-BSD1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	192	10.0	mg/kg	200		96.2	66.4-123	6.12	17.7	
DRO >C10-C28	198	10.0	mg/kg	200		99.0	66.5-118	11.5	21	
Total TPH C6-C28	390	10.0	mg/kg	400		97.6	77.6-123	8.82	18.5	
Surrogate: 1-Chlorooctane	*56.5*		mg/kg	*50.0*		*113*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*62.7*		mg/kg	*50.0*		*125*	*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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC
Project Manager: Ben Belill
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (989)854-0852 Fax #:
Project #: 03C1558452 Project Owner: *
Project Name: ~~Big Eddy Unit 34 Hackberry Battery Flowline~~ (Big Eddy Unit 25H)
Project Location: 32.162233 -103.85177
Sampler Name: Mariaha O'Dell

BILL TO
P.O. #:
Company: XTO Energy
Attn: Amy Ruth
Address: 3104 E. Greenest
City: Carlsbad
State: NM Zip: 88220
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX
#244185																		
1	SS01	0.5	G	1			X					X		7/12/24	9:35	X	X	X
2	SS02	0.5													9:40			
3	SS03	0.5													9:45			
4	SS04	0.5													9:50			
5	SS05	0.5													9:55			
6	SS06	0.5													10:00			

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 consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Date: 7/12/24 Time: 15:14 Received By: SRodriguez
Relinquished By: Date: Time: Received By:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 5.5 Corrected Temp. °C
Sample Condition: Cool Yes / Intact Yes
CHECKED BY: (Initials) SR

Verbal Result: ☐ Yes ☒ No Add'l Phone #:
All Results are emailed. Please provide Email address:
bbelill@ensolum.com, modell@ensolum.com
REMARKS: Incident #: nAPP2419336478
CC: 1140091001
*Customer requested Project Name change. to 7/23/24
Turnaround Time: Standard ☒ Rush ☐
Thermometer ID #113 #140
Correction Factor +0.5°C
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

July 23, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BIG EDDY UNIT 251H

Enclosed are the results of analyses for samples received by the laboratory on 07/12/24 15:14.

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

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS 07 0.5'	H244186-01	Soil	12-Jul-24 10:05	12-Jul-24 15:14
SS 08 0.5'	H244186-02	Soil	12-Jul-24 10:10	12-Jul-24 15:14

07/23/24 - Client changed the project name (see COC). This is the revised report and will replace the one sent on 07/18/24.

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

SS 07 0.5'

H244186-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**11400**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Ethylbenzene*	**0.059**		0.050	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total Xylenes*	**0.351**		0.150	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Total BTEX	**0.410**		0.300	mg/kg	50	4071505	JH	15-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*122 %*	*71.5-134*		*4071505*	JH	*15-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	**25.9**		10.0	mg/kg	1	4071521	MS	16-Jul-24	8015B	
DRO >C10-C28*	**148**		10.0	mg/kg	1	4071521	MS	16-Jul-24	8015B	
EXT DRO >C28-C36	**43.8**		10.0	mg/kg	1	4071521	MS	16-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*114 %*	*48.2-134*		*4071521*	MS	*16-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*134 %*	*49.1-148*		*4071521*	MS	*16-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

SS 08 0.5'

H244186-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Chloride	**80.0**		16.0	mg/kg	4	4071619	AC	16-Jul-24	4500-Cl-B	
Volatile Organic Compounds by EPA Method 8021										
Benzene*	**102**		5.00	mg/kg	5000	4071505	JH	16-Jul-24	8021B	
Toluene*	**720**		5.00	mg/kg	5000	4071505	JH	16-Jul-24	8021B	
Ethylbenzene*	**372**		5.00	mg/kg	5000	4071505	JH	16-Jul-24	8021B	
Total Xylenes*	**699**		15.0	mg/kg	5000	4071505	JH	16-Jul-24	8021B	
Total BTEX	**1890**		30.0	mg/kg	5000	4071505	JH	16-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*124 %*	*71.5-134*		*4071505*	JH	*16-Jul-24*	*8021B*	
Petroleum Hydrocarbons by GC FID										**S-06**
GRO C6-C10*	**16100**		50.0	mg/kg	5	4071521	MS	16-Jul-24	8015B	
DRO >C10-C28*	**39900**		50.0	mg/kg	5	4071521	MS	16-Jul-24	8015B	
EXT DRO >C28-C36	**7410**		50.0	mg/kg	5	4071521	MS	16-Jul-24	8015B	
Surrogate: 1-Chlorooctane			*560 %*	*48.2-134*		*4071521*	MS	*16-Jul-24*	*8015B*	
Surrogate: 1-Chlorooctadecane			*648 %*	*49.1-148*		*4071521*	MS	*16-Jul-24*	*8015B*	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071619 - 1:4 DI Water										
Blank (4071619-BLK1)				Prepared & Analyzed: 16-Jul-24						
Chloride	ND	16.0	mg/kg							
LCS (4071619-BS1)				Prepared & Analyzed: 16-Jul-24						
Chloride	432	16.0	mg/kg	400		108	80-120			
LCS Dup (4071619-BSD1)				Prepared & Analyzed: 16-Jul-24						
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071505 - Volatiles										
Blank (4071505-BLK1)				Prepared & Analyzed: 15-Jul-24						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0552*		mg/kg	*0.0500*		*110*	*71.5-134*			
LCS (4071505-BS1)				Prepared & Analyzed: 15-Jul-24						
Benzene	2.10	0.050	mg/kg	2.00		105	82.8-130			
Toluene	2.28	0.050	mg/kg	2.00		114	86-128			
Ethylbenzene	2.35	0.050	mg/kg	2.00		118	85.9-128			
m,p-Xylene	4.95	0.100	mg/kg	4.00		124	89-129			
o-Xylene	2.34	0.050	mg/kg	2.00		117	86.1-125			
Total Xylenes	7.29	0.150	mg/kg	6.00		122	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0531*		mg/kg	*0.0500*		*106*	*71.5-134*			
LCS Dup (4071505-BSD1)				Prepared & Analyzed: 15-Jul-24						
Benzene	2.01	0.050	mg/kg	2.00		101	82.8-130	4.24	15.8	
Toluene	2.18	0.050	mg/kg	2.00		109	86-128	4.58	15.9	
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	85.9-128	5.47	16	
m,p-Xylene	4.74	0.100	mg/kg	4.00		118	89-129	4.35	16.2	
o-Xylene	2.23	0.050	mg/kg	2.00		111	86.1-125	5.09	16.7	
Total Xylenes	6.96	0.150	mg/kg	6.00		116	88.2-128	4.59	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0524*		mg/kg	*0.0500*		*105*	*71.5-134*			

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: BIG EDDY UNIT 251H Project Number: 03C1558452 Project Manager: BEN BELILL Fax To:	Reported: 23-Jul-24 15:34

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4071521 - General Prep - Organics										
Blank (4071521-BLK1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*51.2*		mg/kg	*50.0*		*102*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*57.9*		mg/kg	*50.0*		*116*	*49.1-148*			
LCS (4071521-BS1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	181	10.0	mg/kg	200		90.5	66.4-123			
DRO >C10-C28	176	10.0	mg/kg	200		88.2	66.5-118			
Total TPH C6-C28	357	10.0	mg/kg	400		89.3	77.6-123			
Surrogate: 1-Chlorooctane	*55.5*		mg/kg	*50.0*		*111*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*61.5*		mg/kg	*50.0*		*123*	*49.1-148*			
LCS Dup (4071521-BSD1)				Prepared & Analyzed: 15-Jul-24						
GRO C6-C10	192	10.0	mg/kg	200		96.2	66.4-123	6.12	17.7	
DRO >C10-C28	198	10.0	mg/kg	200		99.0	66.5-118	11.5	21	
Total TPH C6-C28	390	10.0	mg/kg	400		97.6	77.6-123	8.82	18.5	
Surrogate: 1-Chlorooctane	*56.5*		mg/kg	*50.0*		*113*	*48.2-134*			
Surrogate: 1-Chlorooctadecane	*62.7*		mg/kg	*50.0*		*125*	*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

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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
Project Manager: Ben Belill
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (989) 854-0852 Fax #:
Project #: 03C15558452 Project Owner: *
Project Name: ~~Big Eddy Unit 34 Hackberry Battery Flowline~~ (Big Eddy Unit 25 TB)
Project Location: 32.18233 -103.85177
Sampler Name: Mariaha O'Dell

BILL TO
P.O. #:
Company: XTO Energy
Attn: Amy Ruth
Address: 3104 E. Greene St
City: Carlsbad
State: NM Zip: 88220
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX
#244180																		
1	SS07	0.5'	G	1			X					X		7/12/24	10:05	X	X	X
2	SS08	0.5'	G	1			X					X		↓	10:10	X	X	X

TMD

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 consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Date: 7/12/24 Time: 15:14 Received By: S Rodriguez
Relinquished By: Date: Time: Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 5.5 Corrected Temp. °C
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials) SR

Verbal Result: ☐ Yes ☒ No Add'l Phone #:
All Results are emailed. Please provide Email address: bbelill@ensolum.com, mbodell@ensolum.com
REMARKS: Incident #: nAPP2419336478
CC: 1140091001
*Customer requested Project Name change. TB. 7/23/24
Turnaround Time: Standard ☒ Rush ☐
Thermometer ID: ~~#113~~ #140
Correction Factor: ~~-0.5°C~~
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

August 14, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BIG EDDY UNIT 251H

Enclosed are the results of analyses for samples received by the laboratory on 08/08/24 13:45.

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

Cardinal Laboratories is 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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 01 1' (H244786-01)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	**0.063**	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1060**	16.0	08/09/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2024	ND	198	99.0	200	7.92	
DRO >C10-C28*	**198**	10.0	08/09/2024	ND	194	97.0	200	8.94	
EXT DRO >C28-C36	**56.6**	10.0	08/09/2024	ND					

Surrogate: 1-Chlorooctane *81.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.2 %* *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:	08/08/2024	Sampling Date:	08/06/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 02 2' (H244786-02)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4040**	16.0	08/09/2024	ND	416	104	400	0.00	QM-07

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2024	ND	198	99.0	200	7.92	
DRO >C10-C28*	**66.6**	10.0	08/09/2024	ND	194	97.0	200	8.94	
EXT DRO >C28-C36	**11.0**	10.0	08/09/2024	ND					

Surrogate: 1-Chlorooctane *89.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 03 1' (H244786-03)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	**0.088**	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1950**	16.0	08/09/2024	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*	**11.3**	10.0	08/09/2024	ND	198	99.0	200	7.92	
DRO >C10-C28*	**269**	10.0	08/09/2024	ND	194	97.0	200	8.94	
EXT DRO >C28-C36	**60.1**	10.0	08/09/2024	ND					

Surrogate: 1-Chlorooctane *79.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.7 %* *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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	08/08/2024	Sampling Date:	08/06/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 04 1' (H244786-04)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3400**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	<10.0	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *75.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.1 %* *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:	08/08/2024	Sampling Date:	08/06/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 05 1' (H244786-05)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**36.6**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	**12.0**	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *75.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.4 %* *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:	08/08/2024	Sampling Date:	08/06/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: FS 06 2' (H244786-06)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**16.8**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *85.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SW 01 0-2' (H244786-07)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**14.0**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *85.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SW 02 0-1' (H244786-08)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**20.2**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *86.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

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

1 of 1

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: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.
City: ~~Midland~~ Carlsbad State: ~~TX~~ NM Zip: 88220	Attn: Amy Ruth
Phone #: 989 854 0852 Fax #:	Address: 3104 E Green St
Project #: 03C1558 452 Project Owner: XTO	City: Carlsbad
Project Name: Big Eddy Unit 251H	State: NM Zip: 88220
Project Location: 32.62233, -103.85177	Phone #:
Sampler Name: Joshua Baxley	Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	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: Chloride	TPH	BTEX
H244786																		
1	FS01	1'	C	1			X					X		8/1/24	1315	X	X	X
2	FS02	2'												8/6/24	1120			
3	FS03	1'												8/7/24	1320			
4	FS04	1'												8/6/24	1130			
5	FS05	1'												8/6/24	0855			
6	FS06	2'												8/6/24	0845			
7	SW01	0-2'												8/7/24	1330			
8	SW02	0-1'	C	1			X					X		8/1/24	1340	X	X	X

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: 8-8-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1345		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS: Incident nAPP2419336478 API 30-015-40199
	Time:		Cost center: 1141009100

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

Observed Temp. °C -0.3 Corrected Temp. °C 0.9

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

CHECKED BY: (Initials) TO

Turnaround Time: 5 day ~~#140~~ Standard ☒ Rush ☐

Thermometer ID ~~#113~~ #140 Correction Factor ~~-0.5°C~~ -0.6°C

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

August 14, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BIG EDDY UNIT 251H

Enclosed are the results of analyses for samples received by the laboratory on 08/08/24 13:45.

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

Cardinal Laboratories is 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

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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SS 07 A 4' (H244787-01)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1150**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**11.4**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *88.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *111 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SS 08 A 4' (H244787-02)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	**0.050**	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	**0.066**	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	**0.206**	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	**0.322**	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	**213**	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	**35.9**	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *80.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *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: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.
City: ~~Midland~~ Carlsbad State: ~~TX~~ NM Zip: 88220	Attn: Amy Ruth
Phone #: 989 854 0852 Fax #:	Address: 3104 E Greene St
Project #: 03C1558 452 Project Owner: XTO	City: Carlsbad
Project Name: Big Eddy Unit 251H	State: NM Zip: 88220
Project Location: 32.62233, -103.85177	Phone #:
Sampler Name: Joshua Boxley	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chloride	TPH	BTEX	
H244787	FS		C	1			X					X		8/1/24		X	X	X	0913
1	SS07A	4'	G	1			X					X		8/1/24	0945	X	X	X	
2	SS08A	4'	G	1			X					X		8/1/24	0840	X	X	X	0923

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 consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 8-8-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1345		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS: Incident nAPP2419336478 API 30-015-40199
	Time:		Cost center: 1140091001
Delivered By: (Circle One)	Observed Temp. °C -0.3	Sample Condition: Cool ☐ Yes ☑ Yes Intact ☐ No ☐ No	CHECKED BY: (Initials) TS
Sampler - UPS - Bus - Other:	Corrected Temp. °C -0.9		Turnaround Time: 5 day #140 Standard ☒ Rush ☐
			Thermometer ID #113 Correction Factor ~~0.5~~ -0.6
			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

August 14, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: BIG EDDY UNIT 251H

Enclosed are the results of analyses for samples received by the laboratory on 08/08/24 13:45.

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

Cardinal Laboratories is 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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SS 07 B 9' (H244788-01)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	<10.0	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *81.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *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:	08/08/2024	Sampling Date:	08/07/2024
Reported:	08/14/2024	Sampling Type:	Soil
Project Name:	BIG EDDY UNIT 251H	Sampling Condition:	Cool & Intact
Project Number:	03C1558452	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.62233-103.85177		

Sample ID: SS 08 B 8' (H244788-02)

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	08/09/2024	ND	2.13	107	2.00	1.13	
Toluene*	<0.050	0.050	08/09/2024	ND	2.12	106	2.00	0.466	
Ethylbenzene*	<0.050	0.050	08/09/2024	ND	2.14	107	2.00	0.578	
Total Xylenes*	<0.150	0.150	08/09/2024	ND	6.38	106	6.00	0.0268	
Total BTEX	<0.300	0.300	08/09/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**592**	16.0	08/09/2024	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	08/08/2024	ND	208	104	200	4.84	
DRO >C10-C28*	<10.0	10.0	08/08/2024	ND	210	105	200	3.51	
EXT DRO >C28-C36	<10.0	10.0	08/08/2024	ND					

Surrogate: 1-Chlorooctane *80.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

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

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: Ben Belill	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.
City: ~~Midland~~ Carlsbad State: ~~TX~~ NM Zip: 88220	Attn: Amy Ruth
Phone #: 989 854 0852 Fax #:	Address: 3104 E Green St
Project #: 03C1558 452 Project Owner: XTO	City: Carlsbad
Project Name: Big Eddy Unit 251H	State: NM Zip: 88220
Project Location: 32.62233, -103.85177	Phone #:
Sampler Name: Joshua Bexley	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chloride	TPH	BTEX
H244788	FS		C	1			X	~~X~~ 503				X		8/6/24		X	X	X
1	SS07 B	9'	G	1			X					X		8/1/24	1040	X	X	X
2	SS08 B	8'	G	1			X					X		8/1/24	0915	X	X	X

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: 8-8-24 Time: 1345	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS: Incident nAPP2419336478 API 30-015-40499 Cost center: 1140091001
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C -0.3 Corrected Temp. °C -0.9	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

Turnaround Time: Standard ☒ Rush ☐ 5 day #140
Thermometer ID ~~#113~~
Correction Factor ~~0.5°C~~ -0.6°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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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 387113

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2419336478**
Incident Name	**NAPP2419336478 BIG EDDY UNIT 251H @ 0**
Incident Type	**Release Other**
Incident Status	**Remediation Plan Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	BIG EDDY UNIT 251H
Date Release Discovered	06/28/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Flow Line - Production | Crude Oil | Released: 9 BBL | Recovered: 4 BBL | Lost: 5 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion | Flow Line - Production | Produced Water | Released: 2 BBL | Recovered: 1 BBL | Lost: 1 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 09/26/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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811 S. First St., Artesia, NM 88210
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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
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)	4040
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	340
GRO+DRO	(EPA SW-846 Method 8015M)	280
BTEX	(EPA SW-846 Method 8021B or 8260B)	1.1
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		07/12/2024
On what date will (or did) the final sampling or liner inspection occur		10/26/2024
On what date will (or was) the remediation complete(d)		10/26/2024
What is the estimated surface area (in square feet) that will be reclaimed		1090
What is the estimated volume (in cubic yards) that will be reclaimed		125
What is the estimated surface area (in square feet) that will be remediated		1090
What is the estimated volume (in cubic yards) that will be remediated		125
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.		

District I
1625 N. French Dr., Hobbs, NM 88240
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1000 Rio Brazos Rd., Aztec, NM 87410
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1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 09/26/2024
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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1220 S. St Francis Dr., Santa Fe, NM 87505
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Santa Fe, NM 87505

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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811 S. First St., Artesia, NM 88210
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1000 Rio Brazos Rd., Aztec, NM 87410
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Phone:(505) 476-3470 Fax:(505) 476-3462

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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: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**383136**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**09/20/2024**
What was the (estimated) number of samples that were to be gathered	**6**
What was the sampling surface area in square feet	**1200**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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

CONDITIONS

Action 387113

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 387113
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the work plan has been reviewed.	10/4/2024