



November 4, 2024

New Mexico Energy Minerals and Natural Resources Department

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

**Re: Closure Request
Mis Amigos 108H
Incident Number nAPP2421864304
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities at the Mis Amigos 108H (Site). The purpose of the assessment and soil sampling activities was to assess the presence or absence of impacts to soil following a release of produced water and crude oil. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing delineation and excavation activities that have occurred and requesting no further action for Incident Number nAPP2421864304.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 31, Township 23 South, Range 33 East, in Lea County, New Mexico (32.25451°, -103.60455°) and is associated with oil and gas exploration and production operations on State Trust Land managed by the New Mexico State Land Office (SLO).

On August 5, 2024, corrosion of a pipeline resulted in the release of approximately 12 barrels (bbls) of produced water and 7 bbls of crude oil onto the surface of the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 3 bbls of produced water and 2 bbls of crude oil were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) on August 5, 2024, and subsequently an Initial C-141 Application (C-141) on August 12, 2024. The release was assigned Incident Number nAPP2421864304.

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 estimated to be greater than 100 feet below ground surface (bgs) based on a potash exploration well. In October 2012, an exploratory well permitted by New Mexico Office of the State Engineer (C-3565) was completed approximately 0.16 miles southwest of the Site. The exploration well was completed to a depth of 1,533 feet bgs and no water-bearing formations were noted

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on the well log. Due to C-3565 being drilled with mud and casing placed over potential water bearing formations, another nearby well, a soil boring drilled for determination of regional groundwater depth, was used in the confirmation of depth to groundwater at the Site. In July 2024, a soil boring permitted by New Mexico Office of the State Engineer (C-4551) was completed approximately 0.5 miles west of the Site utilizing hollow stem auger drilling method. Soil boring C-4551 was drilled to a depth of 108 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The temporary well 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 108 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record & Logs are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 7,700 feet southeast 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

CULTURAL PROPERTIES PROTECTION

Since the incident occurred on pad, the Site is exempt from the Cultural Properties Protection Rule (CPP). As such, no additional cultural resource surveys were completed in connection with this release.

BIOLOGICAL COMPLIANCE AND REPORTING

Ensolum personnel conducted a desktop review to establish if the Site is within an area of possible threatened, endangered, and sensitive wildlife and plant species, environmentally sensitive areas, surface waters, and sensitive soils.

- The Site is not located within an area of possible threatened, endangered, and sensitive wildlife and plant species.
- No environmentally sensitive receptors were located near the Site as mentioned in the Site Characterization.

- The soil type is classified as Pyote and Maljamar fine sands according to the Web Soil Survey. Pyote and Maljamar fine sands is considered a sensitive soil by the SLO definition. The release occurred on pad surface limiting contact with potential sensitive soils and was found to have occurred on the pad caliche.

DELINEATION AND EXCAVATION ACTIVITIES

On August 19, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations. Four delineation soil samples (SS01 through SS04) were collected at a depth of 0.5 feet bgs outside the release extent to assess the lateral extent of the release. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted in Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

Between October 29 and October 31, 2024, Ensolum personnel returned to the Site to oversee delineation and excavation activities. One pothole (PH01) was advanced via backhoe within the release extent to assess the vertical extent of the release. Delineation soil samples were collected at depths ranging from 0.5 feet bgs to 4 feet bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Field screening results and observations were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample location is depicted in Figure 2.

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

Impacted soil was then excavated from the release area as indicated by visible staining and field screening activities. Excavation activities were performed utilizing hydrovac truck, backhoe, and a transport vehicle. To direct excavation activities, Ensolum personnel field screened soil for VOCs and chlorides. Following removal of impacted soil to the maximum extent possible, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor of the excavation and release extent. 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. Excavation soil samples FS01 through FS09 were collected from the floor of the excavation at depths ranging from 3 feet bgs to 4 feet bgs. Confirmation soil samples FS10 through FS15 were collected from the release extent outside of the excavation extent at a depth of 0.5 feet bgs. Excavation sidewall soil samples SW01 through SW04 were collected from the sidewalls of the excavation at depths ranging from ground surface to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures described above at Cardinal in Hobbs, New Mexico. The excavation extent and excavation soil sample locations are depicted in Figure 3.

The final excavation extent measured approximately 1,500 square feet. A total of approximately 200 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico.

LABORATORY ANALYTICAL RESULTS

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Laboratory analytical results for assessment soil samples SS01 through SS04 collected at 0.5 feet bgs indicated all COC concentrations were compliant with Site Closure Criteria and the strictest Table I Closure Criteria, successfully defining the lateral extent of the release. Delineation soil samples PH01, collected at 0.5 feet bgs, indicated TPH concentrations exceeded Site Closure Criteria. Delineation soil sample PH01A collected at the terminal depth of 4 feet bgs indicated all COCs were compliant with Site Closure Criteria and the strictest Table I Closure Criteria, successfully defining the vertical extent of the release.

Laboratory analytical results for all excavation floor soil samples, FS01 through FS15, indicated all COC concentrations were compliant with Site Closure Criteria and the strictest Table I Closure Criteria. Excavation sidewall soil samples SW01 and SW04 were in compliance with Site Closure Criteria and the strictest Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Delineation and excavation activities were conducted at the Site to address the August 5, 2024, release of produced water and crude oil. Laboratory analytical results for the confirmation soil samples, collected from the final excavation extent, indicated that all COCs were compliant with the Site Closure Criteria and the strictest Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2421864304.

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

Sincerely,
Ensolum, LLC

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

Tracy Hillard
Project Engineer

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

Tacoma Morrissey, M.S.
Associate Principal

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
SLO

Appendices:

Figure 1 Site Receptor Map
Figure 2 Delineation Soil Sample Locations

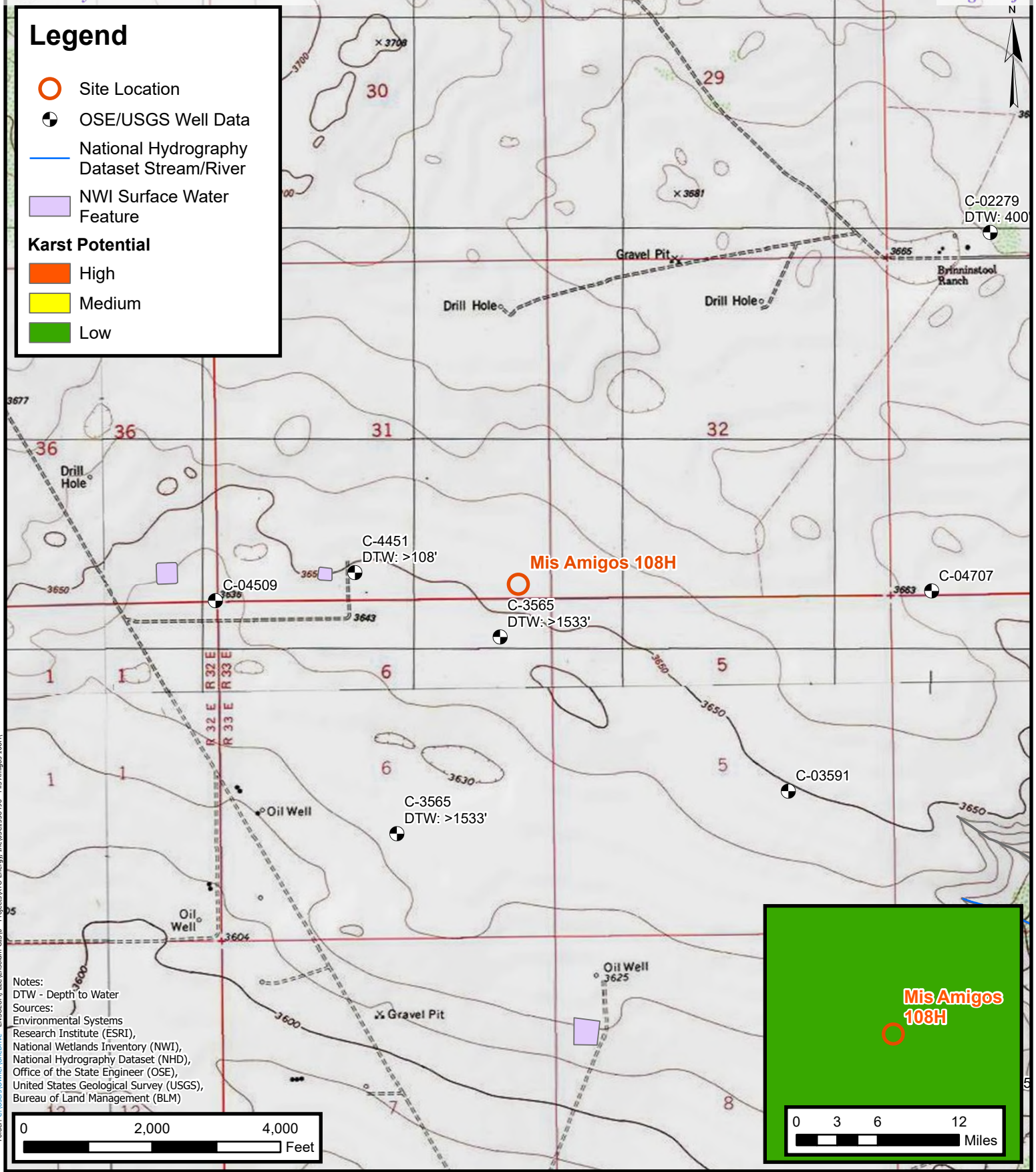
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Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES





ENSOLUM
Environmental, Engineering and
Hydrogeologic Consultants

Site Receptor Map

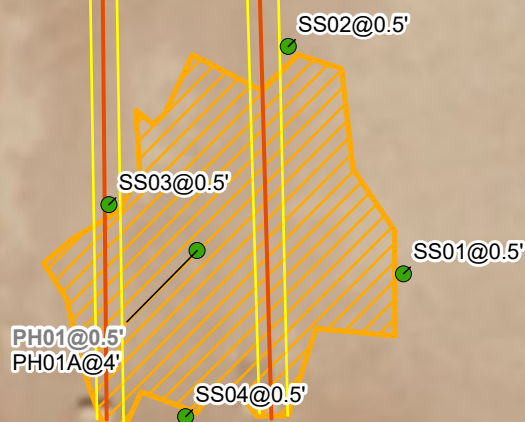
XTO Energy, Inc
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FIGURE

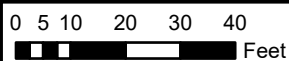
1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Electric Utility Line
- Oil and Gas Utility Line
- Release Extent

**Notes:**

Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable closure criteria.
 Grey text indicate soil sample was removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI)

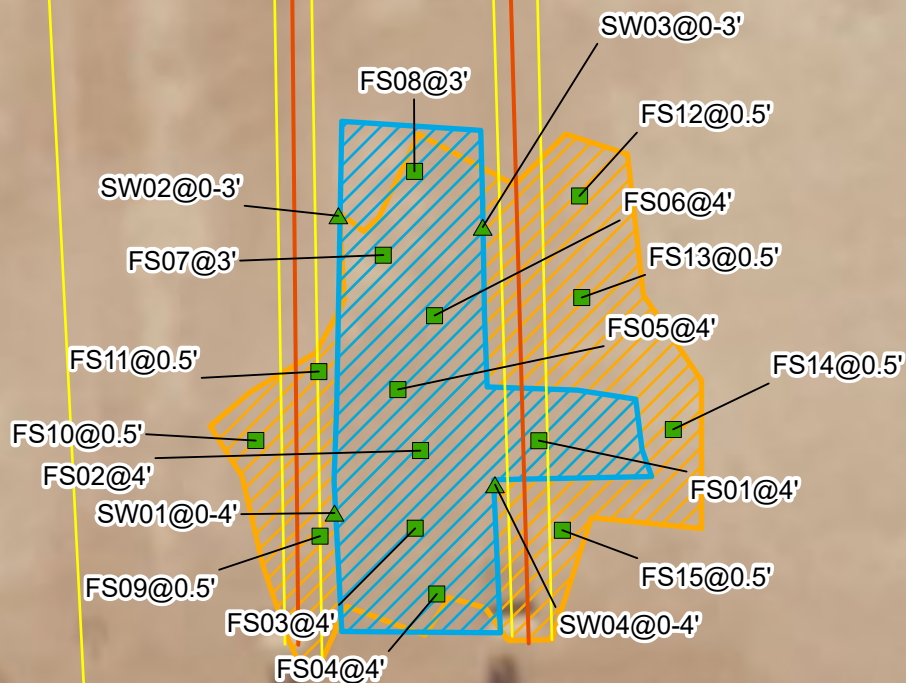
**Delineation Soil Sample Locations**

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FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Electric Utility Line
- Oil and Gas Utility Line
- ▨ Release Extent
- ▨ Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 5 10 20 30 40
Feet

Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

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FIGURE

3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
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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	08/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS02	08/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03	08/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS04	08/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
PH01	10/29/2024	4	1.35	207	2,540	5,140	578	7,680	8,258	32.0
PH01A	10/29/2024	4	<0.050	0.525	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
Confirmation Soil Samples										
FS01	10/30/2024	4	<0.050	<0.300	<10.0	35.5	<10.0	35.5	35.5	192
FS02	10/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS03	10/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS04	10/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS05	10/31/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS06	10/31/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS07	10/31/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS08	10/31/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS09	10/31/2024	0.5	<0.050	<0.300	<10.0	62.8	<10.0	62.8	62.8	176
FS10	10/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS11	10/31/2024	0.5	<0.050	<0.300	<10.0	19.4	<10.0	19.4	19.4	96.0
FS12	10/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS13	10/31/2024	0.5	<0.050	<0.300	<10.0	11.5	<10.0	11.5	11.5	400
FS14	10/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS15	10/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
SW01	10/31/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02	10/31/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW03	10/31/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW04	10/31/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

USE DTI AUG 17 2021 4:03


1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4551			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 15	SECONDS 18.36 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 103	36	46.04 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE SW Sec. 31T23S R33E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/20/2021		DRILLING ENDED 07/20/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 108	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		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)
	FROM	TO						
	0	108	±6.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4551	POD NO. 1	TRN NO. 699428
LOCATION 135-33E-31 443	WELL TAG ID NO.	PAGE 1 OF 2

DSE DTT AUG 17 2021 PM3:09

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		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)
	FROM	TO				
	0	15	15	Sand, fine grain, poorly graded, moist, Reddish Brown	Y ✓ N	
	15	40	25	Caliche, poorly consolidated, Tan-Off White	Y ✓ N	
	40	45	5	Sand, medium-fine grain, poorly graded, trace caliche, Light Brown	Y ✓ N	
	45	50	5	Clayey Sand, fine- medium grain , poorly graded, cohesive, Reddish Brown	Y ✓ N	
	50	55	5	Sandy Clay, fine- medium grain , poorly graded, cohesive, Reddish Brown	Y ✓ N	
	55	70	15	Claystone, poorly cemented, cohesive, Reddish brown,	Y ✓ N	
	70	75	5	Clayey Sand, medium grain , poorly graded, cohesive, Light Brown	Y ✓ N	
	75	80	5	Silty Sand, fine- very finegrain , poorly graded, cohesive, Light Brown	Y ✓ N	
	80	85	5	Clayey Sand, fine- medium grain , poorly graded, cohesive, Light Brown	Y ✓ N	
	85	100	15	Sandy Clay, poorly graded, cohesive, Reddish Brown	Y ✓ N	
	100	105	5	Clay, low plasticity, cohesive, Brown-Blueish Gray, Dry	Y ✓ N	
	105	108	3	Claystone, poorly cemented, cohesive, Reddish brown, dry	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:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:						
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, Carmelo Trevino, Cameron Pruitt					
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:					
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME			Jackie D. Atkins DATE		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4551	POD NO. 1	TRN NO. 699428
LOCATION 23S-33E-31 443	WELL TAG ID NO.	PAGE 2 OF 2



APPENDIX B

Photographic Log

**Photographic Log**

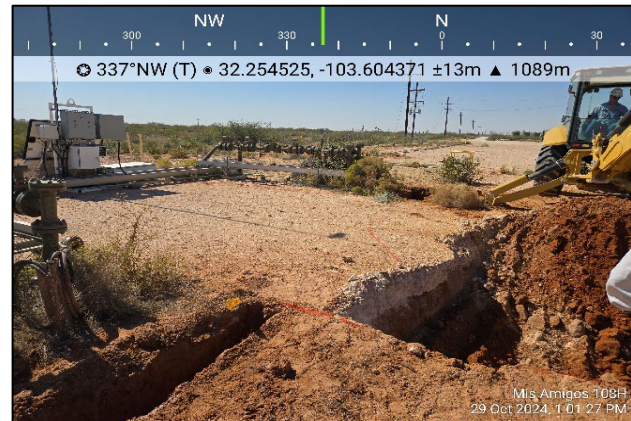
XTO Energy, Inc

Mis Amigos 108H

nAPP2421864304



Photograph: 1 Date: 8/19/2024
Description: Soil staining in release footprint
View: Northwest



Photograph: 2 Date: 10/29/2024
Description: Delineation activities
View: North



Photograph: 3 Date: 10/29/2024
Description: Excavation activities
View: Southwest




Photograph: 4 Date: 10/31/2024
Description: Sampling activities
View: South



APPENDIX C

Lithologic Soil Sampling Logs

 ENSOLUM		Sample Name: PH01		Date: 10/29/2024				
		Site Name: Mis Amigos 108H						
		Incident Number: nAPP2421864304						
		Job Number: 03C1558496						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.254563, -103.604405			Logged By: JD		Method: Backhoe			
			Hole Diameter: 36"		Total Depth: 4'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	(0-1') CALICHE, white, fine grained, slight odor
D	<162	-	N	PH01	0.5			
D	<162	-	N		1	1	SP	(1-4') SAND, red-brown, very fine grained, poorly graded, slight odor
D	<162	-	N		2	2		
D	<162	-	N		3	3		
D	<162	-	N	PH01A	4	4		(@4') no odor
						Total Depth @ 4 feet bgs		



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

August 23, 2024

TRACY HILLARD

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MIS AMIGOS 108H

Enclosed are the results of analyses for samples received by the laboratory on 08/19/24 16:34.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/19/2024
 Reported: 08/23/2024
 Project Name: MIS AMIGOS 108H
 Project Number: 03C1558496
 Project Location: 32.25451, -103.60455

Sampling Date: 08/19/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 01 0.5' (H245029-01)

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	08/21/2024	ND	1.98	99.1	2.00	0.607	
Toluene*	<0.050	0.050	08/21/2024	ND	1.92	95.8	2.00	0.185	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	1.93	96.5	2.00	0.00306	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	5.77	96.1	6.00	0.176	
Total BTEX	<0.300	0.300	08/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/21/2024	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	08/21/2024	ND	206	103	200	3.53	
DRO >C10-C28*	<10.0	10.0	08/21/2024	ND	211	106	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	08/21/2024	ND					

Surrogate: 1-Chlorooctane 90.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/19/2024
 Reported: 08/23/2024
 Project Name: MIS AMIGOS 108H
 Project Number: 03C1558496
 Project Location: 32.25451, -103.60455

Sampling Date: 08/19/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 02 0.5' (H245029-02)

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	08/21/2024	ND	1.98	99.1	2.00	0.607	
Toluene*	<0.050	0.050	08/21/2024	ND	1.92	95.8	2.00	0.185	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	1.93	96.5	2.00	0.00306	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	5.77	96.1	6.00	0.176	
Total BTEX	<0.300	0.300	08/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/21/2024	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	08/21/2024	ND	214	107	200	1.72	
DRO >C10-C28*	<10.0	10.0	08/21/2024	ND	209	105	200	2.31	
EXT DRO >C28-C36	<10.0	10.0	08/21/2024	ND					

Surrogate: 1-Chlorooctane 94.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/19/2024
 Reported: 08/23/2024
 Project Name: MIS AMIGOS 108H
 Project Number: 03C1558496
 Project Location: 32.25451, -103.60455

Sampling Date: 08/19/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 03 0.5' (H245029-03)

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	08/21/2024	ND	2.16	108	2.00	7.02	
Toluene*	<0.050	0.050	08/21/2024	ND	2.27	114	2.00	8.26	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	2.32	116	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	6.93	115	6.00	8.39	
Total BTEX	<0.300	0.300	08/21/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/21/2024	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	08/21/2024	ND	214	107	200	1.72	
DRO >C10-C28*	<10.0	10.0	08/21/2024	ND	209	105	200	2.31	
EXT DRO >C28-C36	<10.0	10.0	08/21/2024	ND					

Surrogate: 1-Chlorooctane 86.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/19/2024
 Reported: 08/23/2024
 Project Name: MIS AMIGOS 108H
 Project Number: 03C1558496
 Project Location: 32.25451, -103.60455

Sampling Date: 08/19/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 04 0.5' (H245029-04)

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	08/21/2024	ND	2.16	108	2.00	7.02	
Toluene*	0.059	0.050	08/21/2024	ND	2.27	114	2.00	8.26	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	2.32	116	2.00	8.21	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	6.93	115	6.00	8.39	
Total BTEX	<0.300	0.300	08/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/21/2024	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	08/21/2024	ND	214	107	200	1.72	
DRO >C10-C28*	<10.0	10.0	08/21/2024	ND	209	105	200	2.31	
EXT DRO >C28-C36	<10.0	10.0	08/21/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC							BILL TO							ANALYSIS REQUEST									
Project Manager: Tracy Hillard							P.O. #:																
Address: 601 N. Marfield St. STE 400							Company: XTO Energy																
City: Midland							Attn: Amy Ruth																
State: TX Zip: 79701							Address: 3704 E. Green St																
Phone #: 575-937-3900 Fax #:							City: Combad																
Project #: 03C155B490 Project Owner:							State: NM Zip: 88220																
Project Location: 32.25451, -103.60455							Phone #:																
Sample Name: M. O'Dell							Fax #:																
<small>FOR LAB USE ONLY</small>																							
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING												
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH	BTEX					
H45029		0.5'	G1	X	X	X	X	X	X	X	X	X	X	8/19/24	14:25	X	X	X					
1	SS01			X											14:30	X	X	X					
2	SS02			X											14:35	X	X	X					
3	SS03			X											14:40	X	X	X					
4	SS04			X																			
NO																							

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Relinquished By:				Date: 8/19/24				Received By:				Date: 8/19/24			
Time: 10:34								Time:							
Relinquished By:								Received By:							
Time:								Time:							

Delivered By: (Circle One)				Observed Temp.: °C				Sample Condition				CHECKED BY: (Initials)			
Sampler - UPS - Bus - Other:				Corrected Temp. °C				Cool Intact Yes No				Turnaround Time: Standard Rush			
				1.6				Yes No				Thermometer ID: 444			
				1.0				No No				Correction Factor: 445C-0.04C			

REMARKS: Incident #: H450291804304
Cost Center: 14509 61211

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

All Results are emailed. Please provide Email address:
 -Brennings@ensolum.com Emailing @ ensolum.com
 -Hillard@ensolum.com brennings@ensolum.com
 -brennings@ensolum.com brennings@ensolum.com



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

November 01, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MIS AMIGOS 108H

Enclosed are the results of analyses for samples received by the laboratory on 10/31/24 13:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/29/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: PH 01 1 (H246643-01)

BTEx 8021B		mg/kg	Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.35	0.500	11/01/2024	ND	2.05	102	2.00	2.21	
Toluene*	43.6	0.500	11/01/2024	ND	2.12	106	2.00	3.15	
Ethylbenzene*	15.3	0.500	11/01/2024	ND	2.06	103	2.00	3.56	
Total Xylenes*	147	1.50	11/01/2024	ND	6.51	108	6.00	2.68	
Total BTEX	207	3.00	11/01/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 148 % 71.5-134

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/01/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2540	10.0	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	5140	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	578	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 148 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/29/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: PH 01A 4 (H246643-02)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/31/2024	ND	2.05	102	2.00	2.21	
Toluene*	0.218	0.050	10/31/2024	ND	2.12	106	2.00	3.15	
Ethylbenzene*	<0.050	0.050	10/31/2024	ND	2.06	103	2.00	3.56	
Total Xylenes*	0.307	0.150	10/31/2024	ND	6.51	108	6.00	2.68	
Total BTEX	0.525	0.300	10/31/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/01/2024	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	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/30/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 01 4' (H246643-03)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/31/2024	ND	2.05	102	2.00	2.21	
Toluene*	<0.050	0.050	10/31/2024	ND	2.12	106	2.00	3.15	
Ethylbenzene*	<0.050	0.050	10/31/2024	ND	2.06	103	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/31/2024	ND	6.51	108	6.00	2.68	
Total BTX	<0.300	0.300	10/31/2024	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	192	16.0	11/01/2024	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	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	35.5	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/30/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 02 4' (H246643-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/31/2024	ND	2.05	102	2.00	2.21		
Toluene*	<0.050	0.050	10/31/2024	ND	2.12	106	2.00	3.15		
Ethylbenzene*	<0.050	0.050	10/31/2024	ND	2.06	103	2.00	3.56		
Total Xylenes*	<0.150	0.150	10/31/2024	ND	6.51	108	6.00	2.68		
Total BTEX	<0.300	0.300	10/31/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/01/2024	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	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/30/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 03 4' (H246643-05)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/31/2024	ND	2.05	102	2.00	2.21	
Toluene*	<0.050	0.050	10/31/2024	ND	2.12	106	2.00	3.15	
Ethylbenzene*	<0.050	0.050	10/31/2024	ND	2.06	103	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/31/2024	ND	6.51	108	6.00	2.68	
Total BTEX	<0.300	0.300	10/31/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/01/2024	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	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/30/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: FS 04 4' (H246643-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/31/2024	ND	2.05	102	2.00	2.21	
Toluene*	<0.050	0.050	10/31/2024	ND	2.12	106	2.00	3.15	
Ethylbenzene*	<0.050	0.050	10/31/2024	ND	2.06	103	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/31/2024	ND	6.51	108	6.00	2.68	
Total BTEX	<0.300	0.300	10/31/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/01/2024	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	10/31/2024	ND	190	95.0	200	3.24	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	188	93.9	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum LLC		BILL TO		ANALYSIS REQUEST															
Project Manager: Tracy Hillard		P.O. #:																	
Address: 3122 National Parks Hwy		Company: XTO Energy Inc.																	
City: Carlsbad	State: NM Zip: 88220	Attn: Colton Brown																	
Phone #: 575-937-3906	Fax #:	Address: 3104 E. Green St.																	
Project #: 03C1558496	Project Owner: XTO	City: Carlsbad																	
Project Name: Mis Amigos 108H	State: NM Zip: 88220	Phone #:																	
Project Location: 32.25451, -103.60455	Sample Name: Jesse Dorman	Fax #:																	
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	BTEX	TPH	CHLORIDE							
H2410443	Pho1A	1'	Gt	1	GROUNDWATER			10/12/24	1200	/	/	/							
33	Pho1A	4'	C	1	WASTEWATER			10/30/24	1120	/	/	/							
4	Pho1A	4'	C	1	SOIL			11/17	1305	/	/	/							
5	Pho1A	4'	C	1	OIL			1305	1307	/	/	/							
6	Pho1A	4'	C	1	SLUDGE					/	/	/							
<p>PLEASE NOTE: Liability and Damages. Cardinal's liability and clients exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the services. 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 remedies or otherwise.</p>																			
Relinquished By:		Date: 10-31-24	Received By:																
Relinquished By:		Time: 1335	Received By:																
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp.: °C Corrected Temp.: °C	Sample Condition: Cool Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: (Initials)															
REMARKS:					Turnaround Time: #140 Standard Rush <input type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Yes <input type="checkbox"/> No <input type="checkbox"/> Thermometer ID: #145 Correction Factor: 0.5°C Corrected Temp.: °C Cost Center: 1650961211 Incident ID: nAPP2421864304 Email Results are emailed. Please provide Email address: TMorrissey@ensolum.com, kmomasor@ensolum.com														



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

November 01, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MIS AMIGOS 108H

Enclosed are the results of analyses for samples received by the laboratory on 10/31/24 16:33.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 01 0-4' (H246664-01)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/01/2024	ND	432	108	400	0.00	

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 02 0-3' (H246664-02)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/01/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 03 0-3' (H246664-03)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/01/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 04 0-4' (H246664-04)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/01/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 05 4' (H246664-05)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101		
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843		
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933		
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36		
Total BTEX	<0.300	0.300	11/01/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/01/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 06 4' (H246664-06)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/01/2024	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	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 07 3' (H246664-07)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/01/2024	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	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 08 3' (H246664-08)

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	11/01/2024	ND	1.90	95.0	2.00	0.0101	
Toluene*	<0.050	0.050	11/01/2024	ND	1.95	97.5	2.00	0.843	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	1.96	97.8	2.00	0.933	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	5.81	96.8	6.00	1.36	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/01/2024	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	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 10 0.5' (H246664-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/01/2024	ND	2.10	105	2.00	6.54		
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68		
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77		
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51		
Total BTEX	<0.300	0.300	11/01/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/01/2024	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	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.3 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 11 0.5' (H246664-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2024	ND	2.10	105	2.00	6.54	
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/01/2024	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	11/01/2024	ND	208	104	200	3.32	
DRO >C10-C28*	19.4	10.0	11/01/2024	ND	211	105	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.9 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 12 0.5' (H246664-11)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/01/2024	ND	2.10	105	2.00	6.54	
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	11/01/2024	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	11/01/2024	ND	187	93.5	200	2.74	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	183	91.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 98.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 14 0.5' (H246664-12)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/01/2024	ND	2.10	105	2.00	6.54		
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68		
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77		
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51		
Total BTEX	<0.300	0.300	11/01/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	11/01/2024	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	11/01/2024	ND	187	93.5	200	2.74	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	183	91.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.0 % 49.1-148

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Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 15 0.5' (H246664-13)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/01/2024	ND	2.10	105	2.00	6.54		
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68		
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77		
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51		
Total BTEX	<0.300	0.300	11/01/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	11/01/2024	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	11/01/2024	ND	187	93.5	200	2.74	
DRO >C10-C28*	<10.0	10.0	11/01/2024	ND	183	91.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Tracy H. Hall

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 575-437-3906

Fax #:

Project #: 0361558496

Project Owner:

Project Name: MTS Amigos 108TH

Project Location: 32.85451, -103.60455

Sampler Name: Marie Salas

P.O. #: Company: XTO Energy
Attn: Colton Brown
Address: 3104 E. Green St.
City: Carlsbad
State: NM Zip: 88220
Phone #: 575-488-3596
Fax #:

ANALYSIS REQUEST

Project Manager: Tracy Hillard										P.O. #:	
Address: 3122 National Parks Hwy										Company: XTO Energy	
City: Carlsbad										Attn: Colton Brown	
State: NM										Address: 3104 E. Green St.	
Zip: 88220										City: Carlsbad	
Phone #: 575-937-3906										State: NM	
Fax #: 575-937-3906										Zip: 88220	
Project #: 0361558496										Project Owner:	
Project Name: MTS AM-905 10814										Phone #: 575-937-3906	
Project Location: 32.85451, -103.60455										Fax #:	
Sampler Name: Marcie Smith											
FOR LAB USE ONLY											
Lab I.D.										Sample I.D.	
Depth (feet)										(G)RAB OR (C)OMP.	
# CONTAINERS										GROUNDWATER	
WASTEWATER										SOIL	
OIL										SLUDGE	
OTHER :										ACID/BASE:	
ICE / COOL										OTHER :	
DATE										TIME	
BTEX											
TPH											
Chlorides											

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Relinquished By:

Date: 10/31/24

Time:

Relinquished By:

Date:

Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
thirteen@ensolum.com / kthompson@ensolum.com
REMARKS: Incident: NAPP241864304
Lost center: 1650461211

Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	AP
	2.8	Yes <input type="checkbox"/> No <input type="checkbox"/>	

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



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

November 01, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MIS AMIGOS 108H

Enclosed are the results of analyses for samples received by the laboratory on 10/31/24 16:33.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 09 0.5' (H246665-01)

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	11/01/2024	ND	2.10	105	2.00	6.54	
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51	
Total BTEX	<0.300	0.300	11/01/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/01/2024	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	11/01/2024	ND	187	93.5	200	2.74	
DRO >C10-C28*	62.8	10.0	11/01/2024	ND	183	91.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.0 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/31/2024
Reported: 11/01/2024
Project Name: MIS AMIGOS 108H
Project Number: 03C1558496
Project Location: XTO 32.25451, -103.60455

Sampling Date: 10/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 13 0.5' (H246665-02)

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	11/01/2024	ND	2.10	105	2.00	6.54		
Toluene*	<0.050	0.050	11/01/2024	ND	2.17	109	2.00	5.68		
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.11	106	2.00	5.77		
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.67	111	6.00	5.51		
Total BTEX	<0.300	0.300	11/01/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	11/01/2024	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	11/01/2024	ND	187	93.5	200	2.74	
DRO >C10-C28*	11.5	10.0	11/01/2024	ND	183	91.3	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	11/01/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.5 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Tracy Hillard

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 575-437-3906 Fax #:

Project #: 03C1558446 Project Owner:

Project Name: M15 Amigos 1081T

Project Location: 32.25951, -103.6455

Sample Name: M15.0 S&N6.5

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: XTO Energy

Attn: Lofon Brown

Address: 3104 E. Green St

City: Carlsbad

State: NM Zip: 88220

Phone #: 575-488-3390

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Depth (feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

BTEX

TPH

Chlorides

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Relinquished By:

Date:

Received By:

Time:

Relinquished By:

Date:

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition

CHECKED BY: (Initials)

Turnaround Time:

Standard

Correction Factor

Bacteria (only)

Cool Intact

Observed Temp. °C

Corrected Temp. °C

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

QUESTIONS

Action 399202

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 399202
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2421864304
Incident Name	NAPP2421864304 MIS AMIGOS STATE #108H @ 0
Incident Type	Other
Incident Status	Remediation Closure Report Received
Incident Facility	[fRM1926040459] MIS AMIGOS STATE #108H

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MIS AMIGOS STATE #108H
Date Release Discovered	08/05/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion Flow Line - Production Crude Oil Released: 7 BBL Recovered: 2 BBL Lost: 5 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion Flow Line - Production Produced Water Released: 12 BBL Recovered: 3 BBL Lost: 9 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 2

Action 399202

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 399202
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 11/04/2024
--	--

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS, Page 3

Action 399202

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	399202
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Site Characterization	
<i>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.</i>	
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	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	400
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	8258
GRO+DRO (EPA SW-846 Method 8015M)	7680
BTEX (EPA SW-846 Method 8021B or 8260B)	207
Benzene (EPA SW-846 Method 8021B or 8260B)	1.3
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	08/19/2024
On what date will (or did) the final sampling or liner inspection occur	10/31/2024
On what date will (or was) the remediation complete(d)	10/31/2024
What is the estimated surface area (in square feet) that will be reclaimed	1500
What is the estimated volume (in cubic yards) that will be reclaimed	200
What is the estimated surface area (in square feet) that will be remediated	1500
What is the estimated volume (in cubic yards) that will be remediated	200
<i>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.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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General Information
Phone: (505) 629-6116

Online Phone Directory
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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 4

Action 399202

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 399202
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	R360 ARTESIA LLC LANDFARM [FEEM0112340644]
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.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 11/04/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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Action 399202

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 399202
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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Action 399202

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 399202
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	395259
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/31/2024
What was the (estimated) number of samples that were to be gathered	25
What was the sampling surface area in square feet	2850

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	1500
What was the total volume (cubic yards) remediated	200
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1500
What was the total volume (in cubic yards) reclaimed	200
Summarize any additional remediation activities not included by answers (above)	Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater.
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 11/04/2024

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Action 399202

QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 399202

CONDITIONS

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	All areas will need to be reseeded and revegetated as per 19.15.29.13 NMAC once operations have ceased and have been deconstructed.	3/7/2025