



September 24, 2024

New Mexico Energy Minerals and Natural Resources Department

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

**Re: Closure Request
Remuda 100 Battery
Incident Number nAPP2418050972
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document site assessment, excavation, and soil sampling activities at the Remuda 100 Battery (Site). The purpose of the site assessment and soil sampling activities was to assess the presence or absence of impacts to soil following a release of produced water. 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 nAPP2418050972.

SITE DESCRIPTION AND RELEASE SUMMARY

The release was initially reported at the incorrect location but following a review of initial release records, internal documents, and personnel communications, it was confirmed the release is located on the Remuda 100 Battery facility pad. The Site is located in Unit E, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.276985°, -103.942892°) and is associated with oil and gas exploration and production operations on state land managed by the New Mexico State Land Office (SLO).

On June 26, 2024, a corrosion of a pipeline resulted in the release of approximately 7 barrels (bbls) of produced water onto the surface of the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 2 bbls of released fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on an Initial C-141 Application (C-141) and notification of release (NOR) on June 28, 2024. The release was assigned Incident Number nAPP2418050972.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to 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 soil boring drilled for determination of regional groundwater depth. In January 2021, a soil boring permitted by New Mexico Office of the State Engineer (C-04994) was completed approximately 0.32 miles southeast of the Site utilizing hollow stem auger method. Soil boring C-04994 was drilled to

a depth of 105 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 105 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record & Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 215 feet northeast of the Site based on the NMOCD Oil and Gas Map. Because the significant watercourse appeared in online databases to flow through the well pad and adjacent well pad (Figure 2), Ensolum personnel conducted a field investigation to confirm the presence or absence of a potentially significant watercourse for a previously approved *Deferral Request* at the same Site. The approved *Deferral Request* for Incident Number nAPP2226346738 documents the watercourse survey that was completed on November 22, 2022 to confirm the feature complies with the definition of a significant watercourse per Subsection P of 19.15.17.7 NMAC. Ensolum was able to confirm an intermittent dry wash with an established bed and bank located approximately 440 feet to the North of the Site, but not within 300 feet of the Site. More detailed results and photographic evidence are provided in Figure 2. Further details on the approval can be found on the OCD portal for Incident Number nAPP2226346738.

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 (medium potential karst designation area).

Based on the results of the Site Characterization, the following NMOCD Table 1 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

DELINEATION AND EXCAVATION ACTIVITIES

On July 9, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 3. On July 18 and 19, 2024, Ensolum personnel returned to the Site to oversee delineation and excavation activities. Five delineation soil samples (SS01 through SS05) were collected at a depth of 0.5 feet bgs outside the release extent to assess the lateral extent of the release. Three boreholes (BH01 through BH03) were advanced via hand auger 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 3 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. The delineation soil sample locations are depicted on

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Figure 3. Photographic documentation was collected, and a Photographic Log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following 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 using hand shovels. To direct excavation activities, Ensolum personnel field screened soil for VOCs and chlorides. The excavation occurred on the well pad near production equipment and XTO safety policy restricts soil disturbing activities within a 2-foot radius of any active production equipment. The surface surrounding the production equipment that was unsafe to excavate was scraped with hand shovels. 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. 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 FS07 were collected from the floor of the excavation at depth of 0.5 feet bgs. Excavation sidewall soil samples SW01 through SW07 were collected from the sidewalls of the excavation at depths ranging from ground surface to 0.5 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 on Figure 4.

The final excavation extent measured approximately 92 square feet. A total of approximately 2 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

Laboratory analytical results for assessment soil samples SS01 through SS05 collected at 0.5 feet bgs indicated the 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 BH01 through BH03 collected at 0.5 feet bgs indicated the COC concentrations were compliant with Site Closure Criteria but exceeded the strictest Table I Closure Criteria for chloride concentrations. Delineation soil sample BH02 at terminal depth of 1-foot bgs indicated all COCs were compliant with Site Closure Criteria but exceeded the strictest Table I Closure Criteria for chloride. Delineation soil sample BH03 at terminal depth of 3 feet bgs indicated all COCs were compliant with the Site Closure Criteria and the strictest Table 1 Closure Criteria, successfully defining the vertical extent of the release.

Laboratory analytical results for all excavation floor soil samples, FS01 through FS07, indicated all COC concentrations were compliant with Site Closure Criteria. Excavation sidewall soil samples SW01 and SW07 were in compliance with Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

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CLOSURE REQUEST

Delineation and excavation activities were conducted at the Site to address the June 26, 2024, release of produced water. 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. 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.

Laboratory analytical results indicate approximately 120 cubic yards of waste-containing soil, assuming a maximum depth of 3 feet bgs as indicated by BH03C remain immediately adjacent to and underneath active production equipment. Final reclamation of the remaining waste-containing soil exceeding the strictest Table I Closure Criteria in the top 4 feet will occur during the final abandonment of the well pad or major construction, whichever comes first.

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 nAPP2418050972.

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
Staff Engineer

A handwritten signature in black ink, appearing to read "Ashley L. Ager".

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

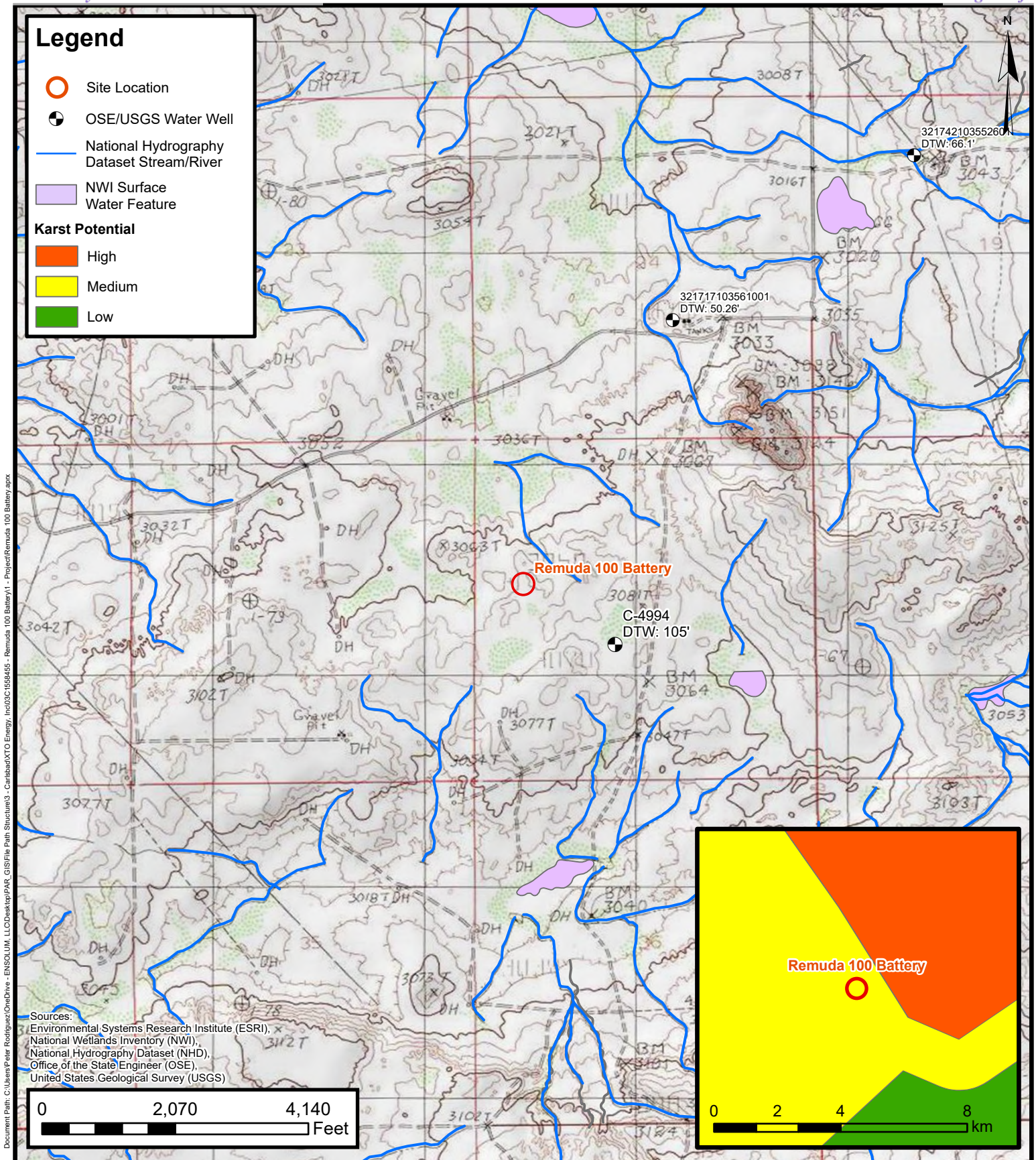
cc: Amy Ruth, XTO
Amanda Garcia, XTO
SLO

Appendices:

Figure 1	Site Receptor Map
Figure 2	Watercourse Survey
Figure 3	Delineation Soil Sample Locations
Figure 4	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



Site Receptor Map

XTO Energy, Inc
Remuda 100 Battery
Incident Number: NAPP2418050972
Unit E , Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
1

ENSOLUM
Environmental, Engineering and
Hydrogeologic Consultants



XTO Energy, Inc
Remuda 100 Battery
Incident Number: NAPP2418050972
Unit E , Sec 25, T23S, R29E
Eddy County, New Mexico

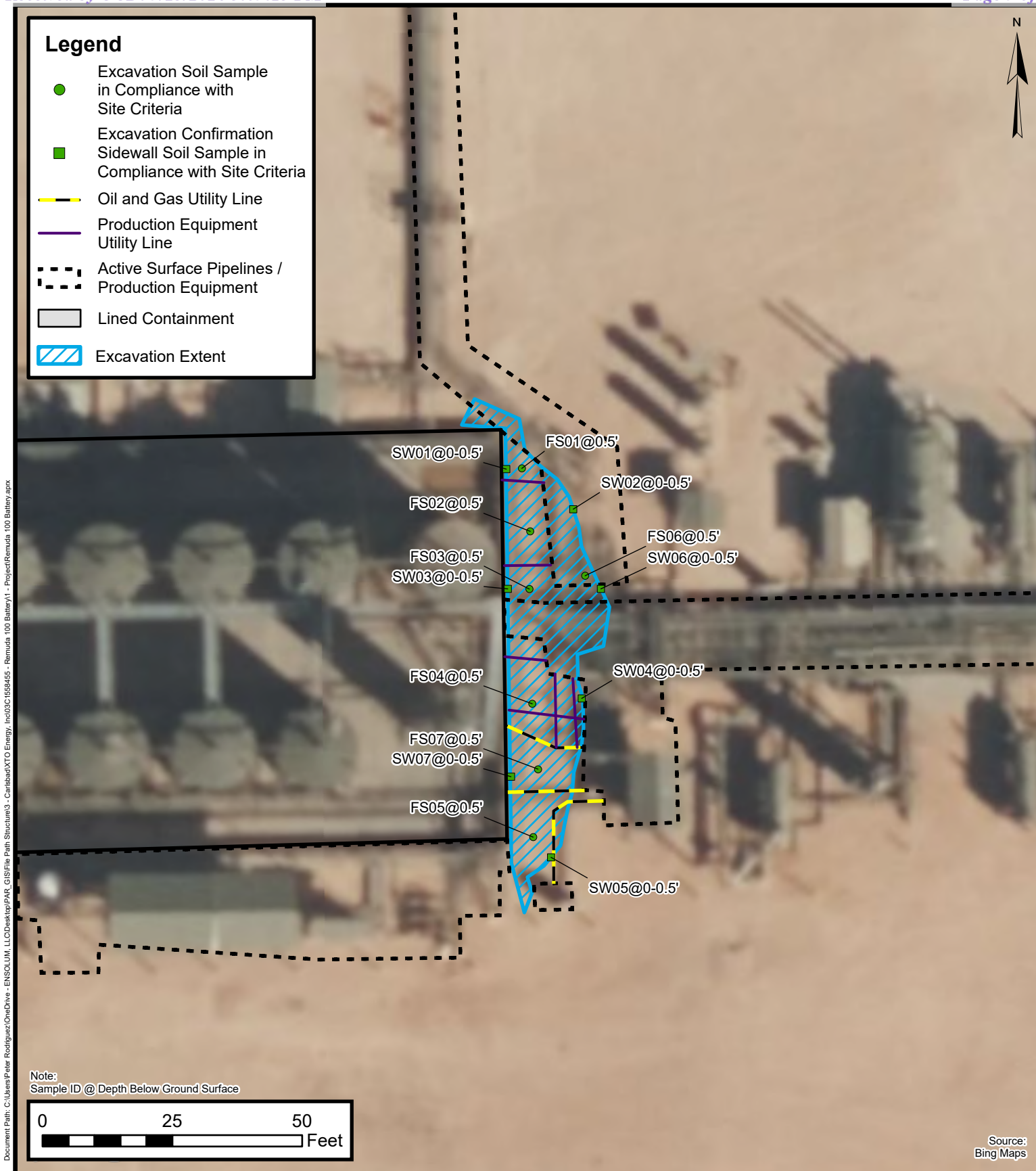
FIGURE
2



Delineation Soil Sample Locations

XTO Energy, Inc
Remuda 100 Battery
Incident Number: NAPP2418050972
Unit E , Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
3



Excavation Soil Sample Locations

XTO Energy, Inc
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Unit E , Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
4



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Remuda 100 Battery
 XTO Energy, Inc
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
SS01	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS02	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS03	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
SS04	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SS05	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
BH01	07/18/2024	0.5	<0.050	<0.300	<10.0	24.4	<10.0	24.4	24.4	11,800
BH02	07/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,600
BH02A	07/18/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
BH03	07/18/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,600
BH03C	07/18/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
Confirmation Soil Samples										
FS01	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,600
FS02	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,200
FS03	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,200
FS04	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,930
FS05	07/19/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
FS06	07/19/2024	0.5	<0.050	<0.300	<10.0	19.8	<10.0	19.8	19.8	704
FS07	08/09/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,120
SW01	08/09/2024	0-0.5	<0.050	<0.300	<10.0	10.7	<10.0	10.7	10.7	15,800
SW02	08/09/2024	0-0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,000
SW03	08/09/2024	0-0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,200



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Remuda 100 Battery
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
SW04	08/09/2024	0-0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,200
SW05	08/09/2024	0-0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,410
SW06	08/09/2024	0-0.5	<0.050	<0.300	<10.0	354	106	354	460	544
SW07	08/09/2024	0-0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,800

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

 <div>WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220</div>		BH or PH Name:		Date:				
		BH01 (C-04494)		11/18/2020, 12/02/20, 01/05/2021				
		Site Name:		Remuda North 25 Observation Well				
		RP or Incident Numbe						
		LTE Job Number:		TE012919039				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By BB, LAD, FS		Method: Hollow Stem Auger, sonic		
Lat/Long:		Field Screening:		Hole Diameter:		Total Depth:		
				6.25", 4.25"		105'		
Comments: Lithology remarks only. No field screenings: Dry hole								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			1	SP-SC	
						2		0-1' : SAND, dry, brown, poorly graded, fine grain, Clay (10% clay), some roots, no stain, no odor
						3		
D			N			4	CCHE	1-4' : SAND, dry, reddish-light brown, poorly graded, very fine - fine grain, some rounded caliche pebbles, no stain, no odor
						5		
						6		4-9' : CALICHE, dry, light brown-tan, poorly consolidated, sub-rounded caliche pebbles and gravel, very silty, gradational
						7		
						8		9-14' : Abundent sub-round caliche gravel
						9		14-19' : Some sub-angular caliche gravel and pebbles
						10		19-24' : Abundant sub-angular caliche gravel and pebbles, moderately consolidated
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		
						21		
						22		
						23		
D			N			24	CL	
						25		

<div><div><div><div>WSP USA</div><div>508 West Stevens Street Carlsbad, New Mexico 88220</div></div></div></div>								BH or PH Name: BH01 (C-04494)		Date: 11/18/2020, 12/02/20, 01/05/2021	
Site Name: Remuda North 25 Observation Well											
RP or Incident Numbe											
LTE Job Number: TE012919039											
LITHOLOGIC / SOIL SAMPLING LOG											
Lat/Long:				Field Screening:		Hole Diameter: 6.25", 4.25"		Total Depth: 105'			
Comments: Lithology remarks only. No field screenings: Dry hole											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
D			N			26	CL	24-39' : MUDSTONE, dry, reddish-brown, low plasticity, well consolidated, cohesive, trace caliche sub-angular pebbles, no tain, no odor, sharp transition 34-39' : Sub-angular calcium carbonate gravel with dissolution features (1-3mm), tan-light brown At 39' : Begin air rotary (4.25") 39-42' : DOLOMETIC LIMESTONE, tan-light brown, dry, well consolidated, with dissolution features (1-3mm), sharp, no stain, no odor, light to moderate reaction with HCl 42-45' : Some light gray dolomite with trace dissolution features (>1mm) At 48' : Stop due to air rotary refusal (11/18/20)			
						27					
						28					
						29					
						30					
						31					
						32					
						33					
						34					
						35					
						36					
						37					
						38					
						39					
D			N			40	DOL	48-56' : Advance borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray-black banding, no stain , no odor			
						41					
						42					
						43					
						44					
						45					
						46					
						47					
						48					
						49					
						50		Refusal on 11/18/20 Restart borehole on 12/02/20			

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH or PH Name:		Date:				
		BH01 (C-04494)		11/18/2020, 12/02/2020, 1/5/2021				
		Site Name:		Remuda North 25 Observation Well				
		RP or Incident Number:						
		LTE Job Number: TE012919039						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic			
Lat/Long:		Field Screening:		Hole Diameter:	Total Depth:			
				6.25", 4.25"	105'			
Comments: Lithologic log only, no field screenings								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N		51	51	DOL	48-56' : Advanced borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray- banding, no stain no odor
					52	52		
					53	53		
					54	54		
					55	55		
					56	56		
					57	57		
					58	58		
					59	59		
					60	60		
D			N		61	61	CH-S	At 56' : Restarted borehole on 1/5/2021 with sonic rig 56-65' : DOLOMITE, dry, light gray-gray, well consolidated, some calcium crystalline veins (<1mm), some dissolution features (2mm) with fine calcite crystalline, trace orange oxidation staining within dissolution features, no stain, no odor 62' : Brown-pale yellow coarse crystalline dolomitic limestone stringer (2cm) 63-65' : Abundant calcite crystalline veins (<1mm), pale green-gray, poorly consolidated 65-69' : MUDSTONE, moist, reddish brown, poorly consolidated, high plasticity, cohesive, abundant coarse crystalline gypsum, few pale green-gray mottling, no stain, no odor 69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, fine crystalline, 20% anhydrite, no stain, no odor
					62	62		
					63	63		
					64	64		
					65	65		
					66	66		
					67	67		
					68	68		
					69	69		
					70	70		
					71	71		
					72	72		
					73	73		
					74	74		
					75	75		
							GYP	

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH or PH Name:		Date:				
		BH01 (C-04494)		11/18/2020, 12/02/2020, 1/5/2021				
		Site Name:		Remuda North 25 Observation Well				
		RP or Incident Number:						
		LTE Job Number: TE012919039						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By BB, LAD, FS Method: Hollow Stem Auger, sonic				
Lat/Long:		Field Screening:		Hole Diameter: 6.25", 4.25"				
				Total Depth: 105'				
Comments: Lithologic log only, no field screenings								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			76	GYP	69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, fine crystalline, 20% anhydrite, no stain, no odor
						77		
						78		
						79		
						80		
						81	CH-S	81-98' : MUDSTONE, moist, dark reddish brown, moderately consolidated, high plasticity, cohesive, trace coarse crystalline gypsum inclusions, no stain, no odor 85-86.5' : greenish-gray well consolidated coarse crystalline gypsum/anhydrite stringer 90-98' : Some fine grain brown sand At 97' : dark gray-gray gypsum stringer (4cm) 98-99.5' : GYPSUM, dark gray-gray, some brown, dry, well consolidated, fine-coarse crystalline, no stain, no odor 99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor
						82		
						83		
						84		
						85		
						86		
						87		
						88		
						89		
						90		
						91		
						92		
						93		
94								
95								
96								
97								
D			N			98	GYP	
99								
D			N			100	ML-S	

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name:		Date:	
					BH01 (C-04494)		11/18/2020, 12/02/2020, 1/5/2021	
					Site Name:		Remuda North 25 Observation Well	
					RP or Incident Number:			
					LTE Job Number: TE012919039			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By BB, LAD, FS		Method: Hollow Stem Auger, sonic	
Lat/Long:			Field Screening:		Hole Diameter:		Total Depth:	
					6.25", 4.25"		105'	
Comments: Lithologic log only, no field screenings								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			101	ML-S	99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor
						102		
						103		
						104		
						105		
						106		TD @ 105' bgs (1/5/2021)
						107		
						108		
						109		
						110		
						111		
						112		
						113		
						114		
						115		
						116		
						117		
						118		
						119		
						120		
						121		
						122		
						123		
						124		
						125		



APPENDIX B

Photographic Log



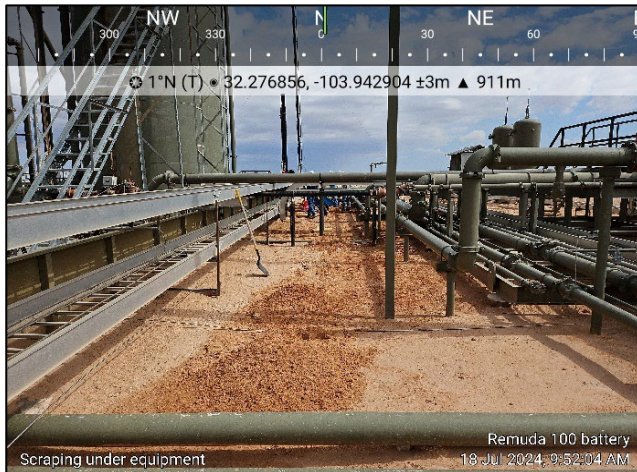
Photographic Log
XTO Energy, Inc
Remuda 100 Battery
NAPP2418050972



Photograph: 1 Date: 7/09/2024
Description: Initial soil staining
View: North



Photograph: 2 Date: 7/9/2024
Description: Initial soil staining
View: Northwest



Photograph: 3 Date: 7/18/2024
Description: Final excavation extent
View: North





Photograph: 4 Date: 8/9/2024
Description: Final excavation extent
View: Northwest



APPENDIX C

Lithologic Soil Sampling Logs

								Sample Name: BH02		Date: 7/18/2024	
LITHOLOGIC / SOIL SAMPLING LOG								Site Name: Remuda 100 Battery			
								Incident Number: nAPP2418050972			
								Job Number: 03C1558455			
Coordinates: 32.276968, -103.942894								Logged By: US		Method: Hand Auger	
Hole Diameter: 4"								Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	CCHE	(0-0.5') CALICHE, white			
M	12,762	0.0		BH02	0.5		SP	(0.5-1') SAND, brown, well sorted, with silt, trace clay, no odor			
M	9,240	0.0		BH02A	1	1					
Total Depth @ 1 feet bgs - Hand Auger Refusal											

								Sample Name: BH03		Date: 7/18/2024	
LITHOLOGIC / SOIL SAMPLING LOG								Site Name: Remuda 100 Battery			
								Incident Number: nAPP2418050972			
								Job Number: 03C1558455			
Coordinates: 32.276841, -103.942895								Logged By: US		Method: Hand Auger	
Hole Diameter: 4"								Total Depth: 3'			
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	(0-0.5') CALICHE, white			
M	7,884	0.0	N	BH03	0.5		SP	(0.5-3') SAND, brown, well sorted, with silt, trace clay, no odor			
M	694	0.0	N		1	1					
D	1,002	0.0	N		2	2		(@2') some clay			
D	235	0.0	N	BH03C	3	3					
Total Depth @ 3 feet bgs											



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

July 26, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA 100 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 07/23/24 12:50.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS01 0.5' (H244372-01)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	12600	16.0	07/24/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	212	106	200	2.44	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	180	90.2	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS02 0.5' (H244372-02)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	10200	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	212	106	200	2.44	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	180	90.2	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS03 0.5' (H244372-03)

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	07/24/2024	ND	1.99	99.5	2.00	4.09		
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00		
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19		
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87		
Total BTEx	<0.300	0.300	07/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10200	16.0	07/24/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	212	106	200	2.44	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	180	90.2	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS04 0.5' (H244372-04)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 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	6930	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	212	106	200	2.44	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	180	90.2	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS05 0.5' (H244372-05)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	576	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	212	106	200	2.44	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	180	90.2	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: FS06 0.5' (H244372-06)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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	704	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	19.8	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/18/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BH01 0.5' (H244372-07)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	11800	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	24.4	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/18/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BH02 0.5' (H244372-08)

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	07/24/2024	ND	1.99	99.5	2.00	4.09	
Toluene*	<0.050	0.050	07/24/2024	ND	1.96	97.9	2.00	4.00	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	1.98	99.2	2.00	4.19	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.87	97.9	6.00	3.87	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 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	13600	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/18/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BH02A 1' (H244372-09)

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	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 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	9600	16.0	07/24/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36		
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65		
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND						

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene

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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/18/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BH03 0.5' (H244372-10)

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	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 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	8600	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: BH03C 3' (H244372-11)

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	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS01 0.5' (H244372-12)

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	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Analytical Results For:

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

Received: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS02 0.5' (H244372-13)

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	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Analytical Results For:

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

Received: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS03 0.5' (H244372-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/24/2024	ND	1.98	99.1	2.00	3.35		
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97		
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89		
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96		
Total BTEX	<0.300	0.300	07/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	07/24/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS04 0.5' (H244372-15)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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: 07/23/2024
Reported: 07/26/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 07/19/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS05 0.5' (H244372-16)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2024	ND	1.98	99.1	2.00	3.35	
Toluene*	<0.050	0.050	07/24/2024	ND	1.94	96.8	2.00	2.97	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.03	101	2.00	2.89	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	5.95	99.2	6.00	2.96	
Total BTEX	<0.300	0.300	07/24/2024	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	192	16.0	07/24/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2024	ND	187	93.5	200	1.36	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	186	93.1	200	2.65	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 3

Send PDF to email provided

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST																				
Project Manager: Tracy Hillard		P.O. #:																						
Address: 3122 National Parks Hwy		Company: XTO Energy																						
City: Carlsbad		Attn: Amy Ruth																						
Phone #: 575-937-3906		Address: 3104 E Green st																						
Fax #: 575-937-3906		City: Carlsbad																						
Project #: 03C1558455		State: NM Zip: 88220																						
Project Name: Remuda 100 battery		Phone #:																						
Project Location: 32.276952, -103.942877		Fax #:																						
Sampler Name: Uriel Santillana																								
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.	SAMPLING															
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH	BTEX						
1	FS01	0.5'	C	1			X							7/19/24	1515	X	X	X						
2	FS02														1520									
3	FS03														1525									
4	FS04														1513									
5	FS05														1515									
6	FS06														1545									
																				45				

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Relinquished By:	Date: 7/23/24	Time: 1:50	Received By: Speciation	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
All Results are emailed. Please provide Email address: thillard@ensolum.com					
Relinquished By:	REMARKS: Incident #: NAPP2418050972				
Relinquished By:	Cost Center: 1067601001				

Delivered By: (Circle One)	Observed Temp.: °C	Sample Condition	CHECKED BY: (initials)	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) <input type="checkbox"/>	Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp.: °C	Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Thermometer ID #113-#140	Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	Observed Temp.: °C
				Correction Factor: -0.5°C		Corrected Temp.: °C

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 3

Company Name: Ensolum, LLC

Project Manager: Tracy Hillard

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 575-937-3906

Project #: 03C1558455

Project Name: Remuda 100 battery

Project Location: 32.276952, -103.942877

Sampler Name: Uriel Santillana

BILL TO

P.O. #:

Company: XTO Energy

Attn: Amy Ruth

Address: 3104 E Green st

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST						
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			ACID/BASE:	ICE / COOL	OTHER :	Chloride	BTEX	TPH	
1344372	SS01	0.5'	G	1			X												
13	SS02						X												
14	SS03						X												
15	SS04						X												
16	SS05						X												

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Relinquished By:

Date: 9-23-24

Received By:

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

Relinquished By:

Date: 9-23-24

Received By:

REMARKS: Cost Center: 1067601001

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp.: -0.2°C

Sample Condition Cool Intact ☒ Yes ☐ No

CHECKED BY: (Signature)

Turnaround Time: Standard ☒ Rush ☐

Thermometer ID #113

Bacteria (only) ☐ Cool Intact ☐ Yes ☐ No

Sample Condition Observed Temp.: °C Corrected Temp.: °C

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

August 21, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA 100 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 08/15/24 13:05.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: FS 07 0.5' (H244952-01)

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	08/16/2024	ND	2.33	116	2.00	1.45	
Toluene*	<0.050	0.050	08/16/2024	ND	2.14	107	2.00	5.47	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.11	106	2.00	8.58	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.42	107	6.00	9.24	
Total BTEX	<0.300	0.300	08/16/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	08/19/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 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: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 07 0-0.5' (H244952-02)

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	08/16/2024	ND	2.33	116	2.00	1.45		
Toluene*	<0.050	0.050	08/16/2024	ND	2.14	107	2.00	5.47		
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.11	106	2.00	8.58		
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.42	107	6.00	9.24		
Total BTEx	<0.300	0.300	08/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	18800	16.0	08/19/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 05 0-0.5' (H244952-03)

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	08/16/2024	ND	2.33	116	2.00	1.45	
Toluene*	<0.050	0.050	08/16/2024	ND	2.14	107	2.00	5.47	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.11	106	2.00	8.58	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.42	107	6.00	9.24	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 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	1410	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 04 0-0.5' (H244952-04)

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	08/17/2024	ND	2.07	104	2.00	2.84	
Toluene*	<0.050	0.050	08/17/2024	ND	1.98	99.1	2.00	2.26	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	1.97	98.5	2.00	1.54	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	5.84	97.3	6.00	1.46	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 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	9200	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 01 0-0.5' (H244952-05)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2024	ND	2.07	104	2.00	2.84	
Toluene*	<0.050	0.050	08/17/2024	ND	1.98	99.1	2.00	2.26	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	1.97	98.5	2.00	1.54	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	5.84	97.3	6.00	1.46	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15800	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	10.7	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 02 0-0.5' (H244952-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2024	ND	2.07	104	2.00	2.84	
Toluene*	<0.050	0.050	08/17/2024	ND	1.98	99.1	2.00	2.26	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	1.97	98.5	2.00	1.54	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	5.84	97.3	6.00	1.46	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 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	18000	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 03 0-0.5' (H244952-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2024	ND	2.07	104	2.00	2.84	
Toluene*	<0.050	0.050	08/17/2024	ND	1.98	99.1	2.00	2.26	
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	1.97	98.5	2.00	1.54	
Total Xylenes*	<0.150	0.150	08/17/2024	ND	5.84	97.3	6.00	1.46	
Total BTEX	<0.300	0.300	08/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 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	12200	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

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

Received: 08/15/2024
Reported: 08/21/2024
Project Name: REMUDA 100 BATTERY
Project Number: 03C1558455
Project Location: XTO 32.276952-103.942877

Sampling Date: 08/09/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SW 06 0-0.5' (H244952-08)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/17/2024	ND	2.07	104	2.00	2.84		
Toluene*	<0.050	0.050	08/17/2024	ND	1.98	99.1	2.00	2.26		
Ethylbenzene*	<0.050	0.050	08/17/2024	ND	1.97	98.5	2.00	1.54		
Total Xylenes*	<0.150	0.150	08/17/2024	ND	5.84	97.3	6.00	1.46		
Total BTEX	<0.300	0.300	08/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 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	544	16.0	08/19/2024	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	08/16/2024	ND	194	96.9	200	2.66	
DRO >C10-C28*	354	10.0	08/16/2024	ND	192	95.8	200	5.07	
EXT DRO >C28-C36	106	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Notes and Definitions

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

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

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

Project Manager: Tracy Hillard

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 575-937-3906

Fax #:

Project #: 03C1558455

Project Owner: XTO

Project Name: Rinvda 100 Battery

Project Location:

Sampler Name: Connor Whelan

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Depth (feet)

H44455

1

F507

0.5

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

8-9-24

915

920

925

930

935

1000

1005

1010

CL

BTEX

TPH

Chloride

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Relinquished By: CTH

Date: 8/15/24

Time: 1305

Received By: CTH

Date: 8/15/24

Time: 1305

Received By: CTH

Date: 8/15/24

Time: 1305

Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Received By:

Date:

Time:

Delivered By: (Circle One)

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

Yes

No

Checked By: (Initials)

Turnaround Time:

Standard

Rush

Bacteria (only)

Cool Intact

Yes

No

Sample Condition

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

FORM-006 R 3.2 10/01/21

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

From: [Tacoma Morrissey](#)
To: [Wells, Shelly, EMNRD](#)
Subject: [EXTERNAL] RE: NAPP2418050972 REMUDA 100 BATTERY
Date: Tuesday, October 8, 2024 7:51:40 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[Photolog- Remuda 100 Battery- Incident Number NAPP2418050972.pdf](#)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hi Shelly,

Apologies for my delay I am at the NMOGA conference, will you be at the joint committee meeting today? It would be so nice to meet you in person!

I reviewed the report and photolog, and yes, photograph 3 should have had the description of "excavation activities" not final excavation extent. The photo was taken around 10am on July 18, 2024, so this was not the final extent. I've attached an updated photolog. Is there any additional information I can provide?

Thank you for reaching out to clarify!



Tacoma Morrissey

Associate Principal

337-257-8307

Ensolum, LLC

in f X

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Monday, October 7, 2024 8:11 AM
To: Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: NAPP2418050972 REMUDA 100 BATTERY

[**EXTERNAL EMAIL**]

Hi Tacoma,

I am reviewing the submitted remediation closure report for the following release NAPP2418050972 REMUDA 100 BATTERY and have a question regarding the photos submitted. Photograph 3 in the report says final excavation extent but shows a patch of stained soil. Did the stained soil get removed?

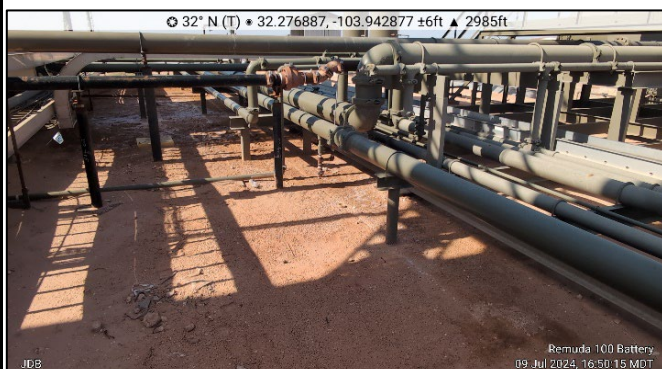
Kind regards,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>



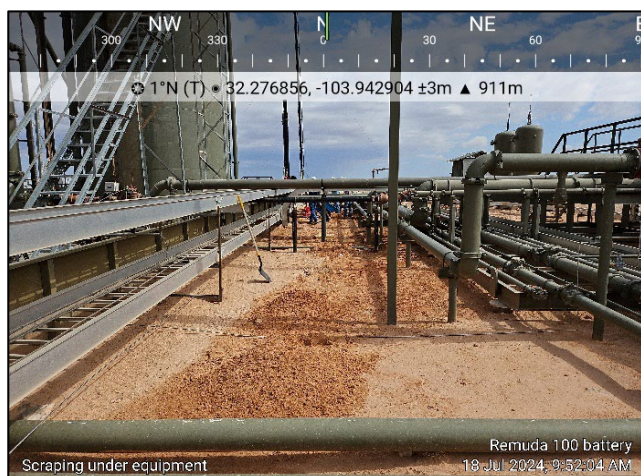
Photographic Log
XTO Energy, Inc
Remuda 100 Battery
NAPP2418050972



Photograph: 1 Date: 7/09/2024
Description: Initial soil staining
View: North



Photograph: 2 Date: 7/9/2024
Description: Initial soil staining
View: Northwest



Photograph: 3 Date: 7/18/2024
Description: Excavation Activities
View: North



Photograph: 4 Date: 8/9/2024
Description: Final excavation extent
View: Northwest

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 385951

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 385951
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2418050972
Incident Name	NAPP2418050972 REMUDA 100 BATTERY @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	REMUDA 100 BATTERY
Date Release Discovered	06/26/2024
Surface Owner	State

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Pipeline (Any) Produced Water Released: 7 BBL Recovered: 2 BBL Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	385951
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 09/23/2024
--	--

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QUESTIONS, Page 3

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	385951
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
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 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between ½ and 1 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

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

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

Chloride	(EPA 300.0 or SM4500 Cl B)	18800
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	460
GRO+DRO	(EPA SW-846 Method 8015M)	354
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	07/18/2024
On what date will (or did) the final sampling or liner inspection occur	08/09/2024
On what date will (or was) the remediation complete(d)	08/09/2024
What is the estimated surface area (in square feet) that will be reclaimed	92
What is the estimated volume (in cubic yards) that will be reclaimed	2
What is the estimated surface area (in square feet) that will be remediated	92
What is the estimated volume (in cubic yards) that will be remediated	2

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

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

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QUESTIONS, Page 4

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 385951
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	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: 09/23/2024
<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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District II
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 5

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 385951
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS, Page 6

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	385951
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	370735
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	08/09/2024
What was the (estimated) number of samples that were to be gathered	10
What was the sampling surface area in square feet	2000

Remediation Closure Request

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

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	92
What was the total volume (cubic yards) remediated	2
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	92
What was the total volume (in cubic yards) reclaimed	2
Summarize any additional remediation activities not included by answers (above)	Delineation and excavation activities were conducted at the Site to address the June 26, 2024, release of produced water. 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. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions. Final reclamation of the remaining impacted soil that met Site Closure Criteria but exceeds the strictest Table 1 Closure Criteria will occur during the final reclamation of the well pad or major construction, whichever comes first.

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 09/23/2024
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QUESTIONS, Page 7

Action 385951

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 385951
	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 385951

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 385951
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation closure approved. OCD concurs that a defined bed and bank of a watercourse is not located within 300 feet of any part of this release.	10/8/2024