



January 7, 2025

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

**Re: Remediation Work Plan
JRUI 124 Battery
Incident Number nAPP2428369219
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document site assessment and delineation activities completed to date and propose a work plan to address impacted soil identified at the JRUI 124 Battery (Site). The purpose of the site assessment and delineation activities was to delineate the lateral and vertical extent of impacted soil resulting from a release of crude oil and produced water at the Site. The following *Work Plan* proposes to excavate impacted soil within the top 4 feet of the release extent.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 17, Township 23 South, Range 31 East, in Eddy County, New Mexico (32.30496°, -103.80258°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On October 9, 2024, due to alarms status failure, tanks located within a lined containment overflowed, resulting in the release of 863 barrels (bbls) of produced water and 28 bbls of crude oil onto the facility pad and into the adjacent pasture. A vacuum truck was dispatched to recover free-standing fluids. Approximately 859 bbls of fluids were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) on October 9, 2024, and subsequently submitted an initial C-141 Application (C-141) on October 10, 2024. The release was assigned Incident Number nAPP2428369219.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below and potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. A United States Geological Survey (USGS) permitted well (321809103481801) located 0.26 miles southwest of the Site indicates a groundwater depth of 129 feet bgs, last measured on January 16, 2013. The total depth of the well is 354 feet bgs. The well location is depicted on Figure 1 and the Well Record is included in Appendix A.

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The closest continuously flowing or significant watercourse to the Site is a dry wash located approximately 8,298 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by stable geology (low potential karst designation area).

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

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

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

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On October 25, 2024, Ensolum personnel conducted a site assessment to evaluate the release extent based on information provided on the C-141 and visual observations. Ensolum personnel collected five discrete delineation soil samples (SS01 through SS05) within the release extent from a depth of 0.5 feet bgs to assess soil impacts caused by the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Between November 26 and December 31, 2024, Ensolum personnel returned to the Site to conduct delineation activities. Five boreholes (BH01 through BH05) were advanced in the vicinity of soil sample locations SS01 through SS05, respectively. The boreholes were advanced via hand auger up to a maximum depth of 8 feet bgs. Discrete soil samples were collected from each borehole at depths ranging from 1-foot bgs to 8-feet bgs. Field screening results and observations were logged on lithologic/soil sampling logs and are included in Appendix B. In order to confirm the lateral extent of the release, delineation soil samples SS06 through SS14 were collected just outside the release extent area to confirm the edge of the release. All delineation soil samples were field screened, handled, and analyzed for the same COCs as described above and submitted to Cardinal. The soil sample locations are depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix C.

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LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 through SS05 collected at 0.5 feet bgs indicated BTEX, TPH-GRO/TPH-DRO, TPH, and/or chloride concentrations exceed the Closure Criteria. All other delineation soil samples collected indicated all COC concentrations were below the Closure Criteria.

Soil samples collected at the terminal depths of each borehole, ranging from 4 feet to 8 feet bgs, indicated COC concentrations were compliant with the Closure Criteria and successfully defines the vertical extent of impacted soil. Laboratory analytical results for delineation soil samples SS06 through SS14 collected outside the release extent indicated COC concentrations were compliant with the Closure Criteria and successfully defines the lateral extent of the release. Laboratory Analytical Reports & Chain-of-Custody Documentation are presented in Appendix D.

PROPOSED REMEDIATION WORK PLAN

Site assessment and delineation activities were completed at the Site following a produced water and crude oil release from October 9, 2024. Delineation soil sampling results indicate impacted and waste-containing soil exists across an approximate 12,400 square foot area and extends to a maximum depth of 4 feet bgs. XTO proposes the following remediation activities:

- A 48-hour advanced notice of a liner inspection will be submitted to the NMOCD and a liner integrity inspection will be conducted. The liner shall be cleaned of all debris and/or release staining and upon inspection, no rips, tears, holes, or damage are anticipated to be observed. If any such liner breach is identified during the inspection, then additional delineation activities within the lined containment will be conducted.
- Excavation of impacted soil to approximate depths ranging from 1-foot to 4 feet bgs. Analytical results for SS04/BH04 indicated COC concentrations are below reclamation requirement at 1-foot bgs. All other delineation soil sample laboratory analytical results indicated either impacted soil or waste-containing soil was present to a depth of 4 feet bgs. Excavation will proceed laterally until sidewall samples confirm that all COC concentrations are compliant with the Closure Criteria and reclamation requirement where applicable. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any active production equipment which may limit access to portions of impacted soil. The proposed excavation extent is depicted on Figure 3.
- Following excavation activities, 5-point composite soil samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Due to the estimated size of the excavation, XTO requests a variance for frequency of excavation confirmation samples. XTO proposes the five-point composite samples to be collected at a sampling frequency of 400 square feet along the excavation floor and sidewalls. The proposed sampling frequency would reduce the total amount of samples from approximately 62 samples (200 square feet) to approximately 31 samples. The soil samples will be handled as described above and analyzed for the same COCs described above.
- An estimated 1,800 cubic yards of impacted soil is estimated to be removed. The excavated soil will be transferred a New Mexico approved landfill facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing condition and the pasture area will be reseeded with a BLM-approved seed mixture.


XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such, XTO requests approval of this *Work Plan* by NMOCD. XTO will proceed with the excavation and soil

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sampling activities and will submit a Closure Report within 90 days of the date of approval of this *Work Plan* by the NMOCD.

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

Sincerely,
Ensolum, LLC



Jesse Dorman
Associate Geologist



Tacoma Morrissey, MS
Associate Principal

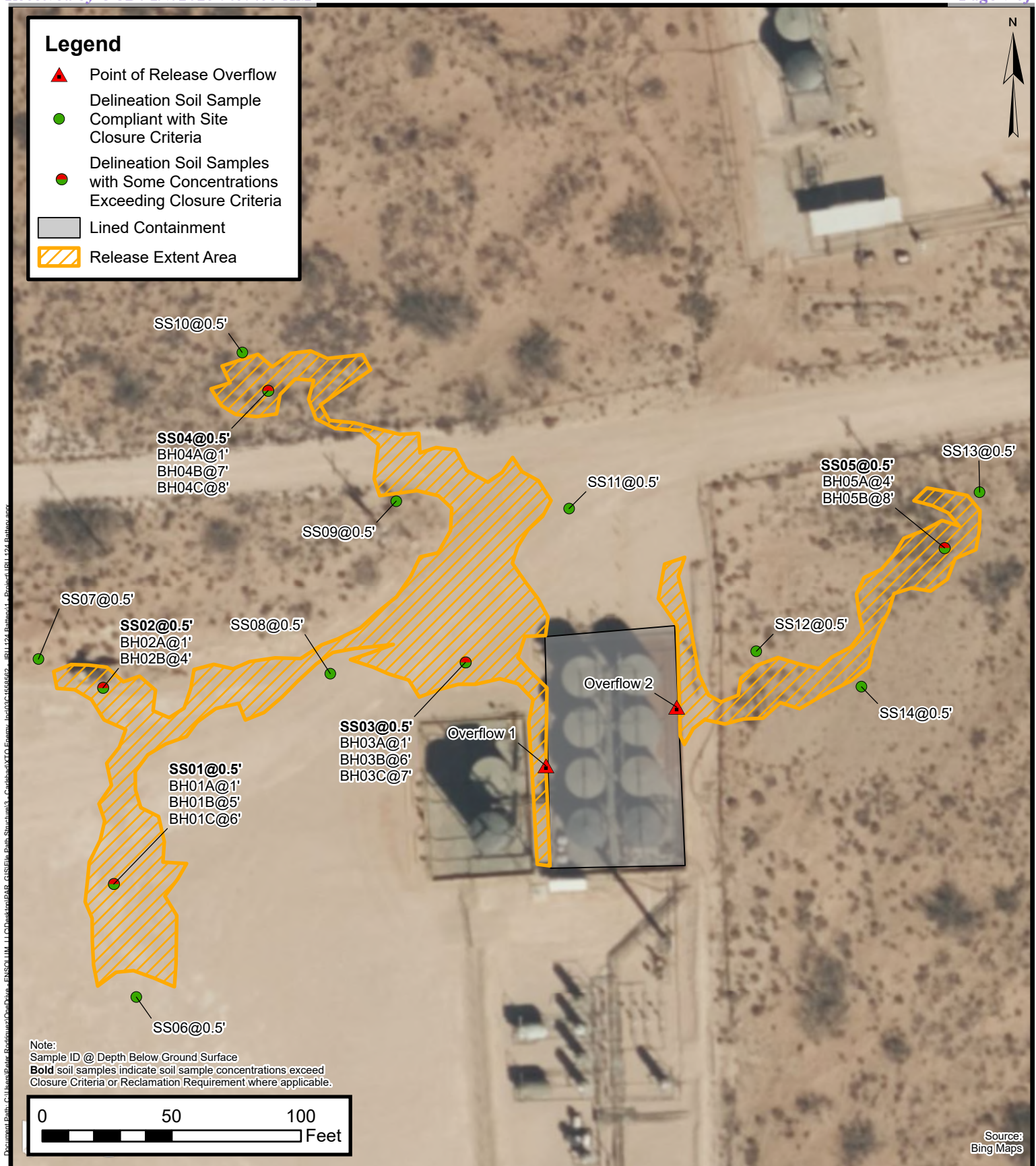
cc: Colton Brown, XTO
Kaylan Dirkx, XTO
BLM

Appendices:

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



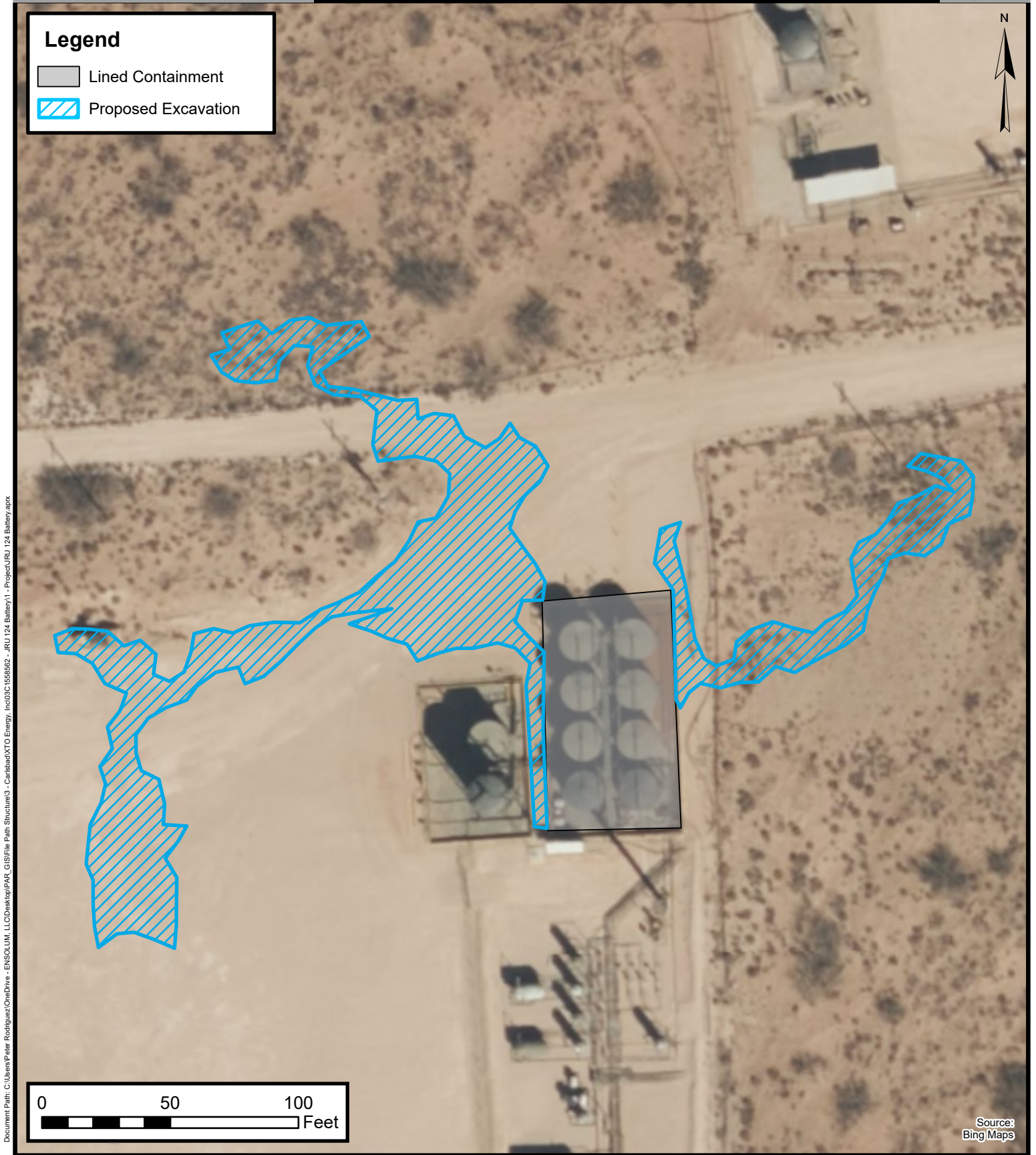
FIGURES



Delineation Soil Sample Locations

XTO Energy, Inc
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Unit F, Section 17, T 23S, R 31E
Eddy County, New Mexico

FIGURE
2



Proposed Excavation Extent

XTO Energy, Inc
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Incident Number: nAPP2428369219
Unit F, Section 17, T 23S, R 31E
Eddy County, New Mexico

FIGURE
3



TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
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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	10/25/2024	0.5	0.331	62.0	755	4,210	778	4,965	5,743	13,800
BH01A	11/26/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,760
BH01B	11/26/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH01C	11/26/2024	6	<0.050	<0.300	<10.0	68.2	<10.0	68.2	68.2	80.0
SS02	10/25/2024	0.5	0.123	40.1	1,070	5,780	1,030	6,850	7,880	10,000
BH02A	11/26/2024	1	<0.050	<0.300	<10.0	109	<10.0	109	109	944
BH02B	11/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,280
SS03	10/25/2024	0.5	0.121	52.3	1,640	15,900	3,300	17,540	20,840	5,280
BH03A	11/26/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
BH03B	11/26/2024	6	<0.050	<0.300	<10.0	43.8	<10.0	43.8	43.8	704
BH03C	11/26/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624
SS04	10/25/2024	0.5	<0.050	3.39	66.4	2,110	472	2,176	2,648	7,200
BH04A	11/26/2024	1	<0.050	<0.300	<10.0	16.0	<10.0	16.0	16.0	80.0
BH04B	11/26/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
BH04C	11/26/2024	8	<0.050	<0.300	<10.0	166	16.7	166	182.7	512
SS05	10/25/2024	0.5	<0.200	95.1	2,290	11,500	2,080	13,790	15,870	21,200
BH05A	11/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,410
BH05B	11/26/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
SS06	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS07	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS08	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SS09	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS10	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS11	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304
SS12	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0



TABLE 1
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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
SS13	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SS14	12/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0

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



National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hideNews Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.

Groundwater levels for the Nation

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

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 321809103481801

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

USGS 321809103481801 23S.31E.17.31141

Eddy County, New Mexico
Latitude 32°18'11.3", Longitude 103°48'23.4" NAD83
Land-surface elevation 3,326.00 feet above NGVD29
The depth of the well is 354 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1959-02-04			D 62610		3215.16	NGVD29	P		Z	
1959-02-04			D 62611		3216.80	NAVD88	P		Z	
1959-02-04			D 72019	110.84			P		Z	
1987-10-15			D 62610		3214.80	NGVD29	1		Z	
1987-10-15			D 62611		3216.44	NAVD88	1		Z	
1987-10-15			D 72019	111.20			1		Z	
1992-11-04			D 62610		3216.32	NGVD29	1		S	
1992-11-04			D 62611		3217.96	NAVD88	1		S	
1992-11-04			D 72019	109.68			1		S	
2013-01-16	23:30 UTC		m 62610		3197.36	NGVD29	P		S	USGS
2013-01-16	23:30 UTC		m 62611		3199.00	NAVD88	P		S	USGS
2013-01-16	23:30 UTC		m 72019	128.64			P		S	USGS

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day

Section	Code	Description
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions or Comments](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[Accessibility](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)


Page Last Modified: 2024-11-19 12:04:39 EST


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APPENDIX B


Lithologic Soil Sampling Logs

								Sample Name: SS01/BH01		Date: 11/26/2024	
								Site Name: JRU 124 Battery			
								Incident Number: nAPP2428369219			
								Job Number: 03C1558562			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JDB		Method: hand auger	
Coordinates: 32.305247, -103.803235								Hole Diameter: 4"		Total Depth: 6'	
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. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	13,297	890	Y	SS01	0.5	0	CCHE (fill)	(0-1'), CALICHE, well graded, tan, medium grain to gravel size, strong TPH odor, fill.			
D	<162.4	95.7	Y	BH01A	1	1	SP	(1-4') SAND, Fine to medium grained, Poorly Graded, poorly consolidated, Reddish Brown.			
D	<162.4	23.2	N			2					
D	<162.4	26.3	N			3					
D	<162.4	67.1	N			4	CCHE	(4-5'), CALICHE, well graded, tan, medium grained to gravel, no odor, well consolidated.			
D	<162.4	2.4	N	BH01B	5	5	SP-S	(5-6'), SANDSTONE, reddish brown, Fine to medium grained, moderately consolidated, no odor.			
D	<162.4	85	N	BH01C	6	6		Refusal @ 6'			
Total Depth @ 6' BGS											

								Sample Name: SS02/BH02		Date: 11/26/2024	
								Site Name: JRU 124 Battery			
								Incident Number: nAPP2428369219			
								Job Number: 03C1558562			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JDB		Method: hand auger	
Coordinates: 32.305453, -103.803249								Hole Diameter: 4"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. NS=Not Screened.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	19,409	1288	Y	SS02	0.5	0	CCHE (fill)	(0-1'), CALICHE, well graded, tan, medium grain to gravel size, strong TPH odor, fill.			
D	1366	60.9	N	BH02A	1	1	SP	(1-4') SAND, Fine to medium grained, Poorly Graded, poorly consolidated, Redish Brown, no odor.			
D	NS	NS	N			2					
D	NS	15	N			3					
D	NS	14.5	N	BH02B	4	4					
Total Depth @ 4' BGS											

								Sample Name: SS03/BH03		Date: 11/26/2024	
								Site Name: JRU 124 Battery			
								Incident Number: nAPP2428369219			
								Job Number: 03C1558562			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JDB		Method: hand auger	
Coordinates: 32.305478, -103.802795								Hole Diameter: 4"		Total Depth: 7'	
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. 40% correction factor included. NS=Not Screened.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	11,743	644	Y	SS03	0.5	0	CCHE (fill)	(0-1'), CALICHE, well graded, tan, medium grain to gravel size, faint TPH odor, fill.			
D	NS	15.1	Y	BH03A	1	1	SP	(1-4') SAND, Fine to medium grained, Poorly Graded, poorly consolidated, Redish Brown, strong TPH odor			
D	NS	10.2	Y			2		(2'-5') no odor.			
D	NS	8.6	N			3					
D	NS	12.4	N			4					
D	1265	6.5	N			5					
D	1081	143	N	BH03B	6	6		trace H/C odor @ 6'.			
D	840	15.8	N	BH03C	7	7		Refusal @7', no odor.			
Total Bepth @ 7' BGS											

								Sample Name: SS04/BH04		Date: 11/26/2024			
								Site Name: JRU 124 Battery					
								Incident Number: nAPP2428369219					
								Job Number: 03C1558562					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JDB		Method: hand auger			
Coordinates: 32.305768, -103.803036								Hole Diameter: 4"		Total Depth: 8'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. NS=Not Screened.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	9,273	105	Y	SS04	0.5	0	SP	(0-8') Sand, Reddish Brown, fine to medium grained, silty, trace H/C odor, poorly graded, poorly consolidated.					
D	<162.4	23	v	BH04A	1	1							
D	1478	11.0	Y			2		no odor @ 2'.					
D	NS	26	N			3							
D	11743	11	N			4		no odor @ 4'.					
D	NS	31.8	N			5							
D	NS	15.4	N			6							
D	<162.4	7.4	N	BH04B	7	7							
D	767.2	60.4	N	BH04C	8	8	CCHE	(@8') ,CALICHE, well graded, tan, medium grain to gravel size, no odor, well consolidated, auger refusal.					
						9							
Total Depth @ 8 BGS													

								Sample Name: SS05/BH05		Date: 11/26/2024	
								Site Name: JRU 124 Battery			
								Incident Number: nAPP2428369219			
								Job Number: 03C1558562			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: JDB		Method: hand auger	
Coordinates: 32.305593, -103.802191								Hole Diameter: 4"		Total Depth: 8'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. NS=Not Screened.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	26,073	875	Y	SS05	0.5	0	SP	(0-3') Sand, Redish Brown, fine to medium grained, silty, Strong TPH odor, poorly graded, poorly consolidated.			
D	NS	78	v			1					
D	NS	57.7	N			2					
D	NS	21.1	N			3					
D	NS	18.7	N	BH05A	4	4	CCHE	(3-8') CALICHE, well graded, tan, medium grain to gravel size, faint TPH odor, well consolidated			
D	NS	89.2	N			5					
D	NS	57.4	N			6					
D	NS	109.8	N			7					
D	464	13.0	N	BH05B	8	8		(@ 8') Refusal, no odor			
Total Depth @ 8' BGS											



APPENDIX C

Photographic Log

**Photographic Log**

XTO Energy, Inc.

JRU 124 Battery

Incident Number nAPP2428369219



Photograph: 1 Date: 10/10/2024
Description: Release extent area near pad entrance.
View: Southwest



Photograph: 2 Date: 10/10/2024
Description: Release extent area on pad.
View: South



Photograph: 3 Date: 10/10/2024
Description: Release extent area in pasture.
View: Southwest



Photograph: 4 Date: 11/26/2024
Description: Delineation activities, SS04/BH04.
View: Northwest



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

October 31, 2024

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JRU 124 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/29/24 13:30.

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

Received: 10/29/2024
Reported: 10/31/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO

Sampling Date: 10/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SS 01 0.5 (H246568-01)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.331	0.200	10/31/2024	ND	2.00	100	2.00	4.73	GC-NC1
Toluene*	7.67	0.200	10/31/2024	ND	2.12	106	2.00	5.86	QM-07
Ethylbenzene*	9.86	0.200	10/31/2024	ND	2.23	112	2.00	7.05	QM-07
Total Xylenes*	44.1	0.600	10/31/2024	ND	6.71	112	6.00	7.38	QM-07
Total BTEx	62.0	1.20	10/31/2024	ND					GC-NC1

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13800	16.0	10/30/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	755	10.0	10/30/2024	ND	224	112	200	2.75	QM-07	
DRO >C10-C28*	4210	10.0	10/30/2024	ND	224	112	200	3.89	QM-07	
EXT DRO >C28-C36	778	10.0	10/30/2024	ND						

Surrogate: 1-Chlorooctane 193 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/29/2024
Reported: 10/31/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO

Sampling Date: 10/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SS 02 0.5 (H246568-02)

BTEx 8021B		mg/kg	Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.123	0.050	10/31/2024	ND	2.00	100	2.00	4.73	GC-NC1
Toluene*	4.70	0.050	10/31/2024	ND	2.12	106	2.00	5.86	
Ethylbenzene*	6.62	0.050	10/31/2024	ND	2.23	112	2.00	7.05	
Total Xylenes*	28.6	0.150	10/31/2024	ND	6.71	112	6.00	7.38	
Total BTEx	40.1	0.300	10/31/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 356 % 71.5-134

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10000	16.0	10/30/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1070	10.0	10/30/2024	ND	224	112	200	2.75	
DRO >C10-C28*	5780	10.0	10/30/2024	ND	224	112	200	3.89	
EXT DRO >C28-C36	1030	10.0	10/30/2024	ND					

Surrogate: 1-Chlorooctane 237 % 48.2-134

Surrogate: 1-Chlorooctadecane 168 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 10/29/2024
Reported: 10/31/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO

Sampling Date: 10/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SS 03 0.5 (H246568-03)

BTEx 8021B		mg/kg	Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.121	0.100	10/31/2024	ND	2.00	100	2.00	4.73	GC-NC1
Toluene*	5.90	0.100	10/31/2024	ND	2.12	106	2.00	5.86	
Ethylbenzene*	8.57	0.100	10/31/2024	ND	2.23	112	2.00	7.05	
Total Xylenes*	37.7	0.300	10/31/2024	ND	6.71	112	6.00	7.38	
Total BTEx	52.3	0.600	10/31/2024	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 292 % 71.5-134

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	10/30/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1640	50.0	10/31/2024	ND	224	112	200	2.75	
DRO >C10-C28*	15900	50.0	10/31/2024	ND	224	112	200	3.89	
EXT DRO >C28-C36	3300	50.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 391 % 48.2-134

Surrogate: 1-Chlorooctadecane 323 % 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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/29/2024
Reported: 10/31/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO

Sampling Date: 10/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SS 04 0.5 (H246568-04)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2024	ND	2.00	100	2.00	4.73	
Toluene*	0.483	0.050	10/30/2024	ND	2.12	106	2.00	5.86	
Ethylbenzene*	0.502	0.050	10/30/2024	ND	2.23	112	2.00	7.05	
Total Xylenes*	2.40	0.150	10/30/2024	ND	6.71	112	6.00	7.38	
Total BTEX	3.39	0.300	10/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	10/30/2024	ND	432	108	400	0.00	

TPH 8015M	mg/kg		Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	66.4	10.0	10/30/2024	ND	224	112	200	2.75	
DRO >C10-C28*	2110	10.0	10/30/2024	ND	224	112	200	3.89	
EXT DRO >C28-C36	472	10.0	10/30/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 157 % 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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 10/29/2024
Reported: 10/31/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO

Sampling Date: 10/25/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Alyssa Parras

Sample ID: SS 05 0.5 (H246568-05)

BTEx 8021B		mg/kg	Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/31/2024	ND	2.00	100	2.00	4.73	
Toluene*	8.91	0.200	10/31/2024	ND	2.12	106	2.00	5.86	
Ethylbenzene*	15.8	0.200	10/31/2024	ND	2.23	112	2.00	7.05	
Total Xylenes*	70.4	0.600	10/31/2024	ND	6.71	112	6.00	7.38	
Total BTEX	95.1	1.20	10/31/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 312 % 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	21200	16.0	10/30/2024	ND	416	104	400	3.77	QM-07

TPH 8015M		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2290	50.0	10/31/2024	ND	224	112	200	2.75	
DRO >C10-C28*	11500	50.0	10/31/2024	ND	224	112	200	3.89	
EXT DRO >C28-C36	2080	50.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 354 % 48.2-134

Surrogate: 1-Chlorooctadecane 232 % 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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
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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*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

December 04, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JRU 124 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/02/24 11:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 01A 1' (H247297-01)

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	12/02/2024	ND	2.21	111	2.00	5.42	
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01	
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04	
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18	
Total BTX	<0.300	0.300	12/02/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2760	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 84.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.7 % 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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 01B 5' (H247297-02)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEx	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 01C 6' (H247297-03)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18	GC-NC	
Total BTEX	<0.300	0.300	12/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	68.2	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 95.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 02A 1' (H247297-04)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	944	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	109	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 99.0 % 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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 02B 4' (H247297-05)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5280	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 03A 1' (H247297-06)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 03B 6' (H247297-07)

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	12/02/2024	ND	2.21	111	2.00	5.42	
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01	
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04	
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18	
Total BTEX	<0.300	0.300	12/02/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	704	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	43.8	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 03C 7' (H247297-08)

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	12/02/2024	ND	2.21	111	2.00	5.42	
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01	
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04	
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18	
Total BTEX	<0.300	0.300	12/02/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 98.2 % 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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 04A 1' (H247297-09)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	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	80.0	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	16.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 85.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 04B 7' (H247297-10)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 101 % 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
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 04C 8' (H247297-11)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEx	<0.300	0.300	12/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	512	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	166	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	16.7	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 87.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 05A 4' (H247297-12)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEx	<0.300	0.300	12/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	1410	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/02/2024
Reported: 12/04/2024
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 11/26/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 05B 8' (H247297-13)

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	12/02/2024	ND	2.21	111	2.00	5.42		
Toluene*	<0.050	0.050	12/02/2024	ND	2.28	114	2.00	4.01		
Ethylbenzene*	<0.050	0.050	12/02/2024	ND	2.23	111	2.00	4.04		
Total Xylenes*	<0.150	0.150	12/02/2024	ND	6.97	116	6.00	3.18		
Total BTEX	<0.300	0.300	12/02/2024	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	12/03/2024	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	12/03/2024	ND	184	91.9	200	2.40	
DRO >C10-C28*	<10.0	10.0	12/03/2024	ND	170	85.2	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	12/03/2024	ND					

Surrogate: 1-Chlorooctane 90.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

[illegible]

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

FOR LAB USE ONLY						BILL TO	ANALYSIS REQUEST									
Company Name:	Emsolum, LLC					P.O. #:										
Project Manager:	Ben Bell					Company:	XTO Energy Inc									
Address:	3122 National Parks Hwy					Attn:	Colton Brown									
City:	Carlsbad	State:	NM	Zip:	88220	Address:	3104 E Green St									
Phone #:	989-854-0852	Fax #:				City:	Carlsbad									
Project #:	03C1556562	Project Owner:	XTO			State:	NM	Zip:	88220							
Project Name:	JRU 124 Battery					Phone #:										
Project Location:	32.305463, -103.802747					Fax #:										
Sampler Name:	Joshua Boxley															
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX	PRESERV.	SAMPLING	Chlorides	TPH	BTEX							
			GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :	ACID/BASE: ICE / COOL OTHER :	DATE	TIME										
H247297																
11	BHO4C	8	G 1	X	X	11.26.24	1422	X	X	X						
12	BHO5A	4	G 1	X	X	11.26.24	1452	X	X	X						
13	BHO5T3	8	G 1	X	X	11.26.24	1510	X	X	X						
	SHOG-JRB															
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Relinquished By: <i>[Signature]</i>		Date: <i>12-2-24</i>		Received By: <i>[Signature]</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: <i>1130</i>		Received By:		All Results are emailed. Please provide Email address:	
Relinquished By:		Date:		Received By:		<i>BSe11</i> @ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com	
Relinquished By:		Time:		Received By:		REMARKS: <i>APP 2128369219</i>	
Delivered By: (Circle One)		Observed Temp. °C <i>2.5</i>		Sample Condition		Incident: <i>WAPP 2128369219</i>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C <i>1.9</i>		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		Cost Center: <i>1080911001</i>	
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes		Turnaround Time: <i>48hr</i> Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	
				<input type="checkbox"/> No <input type="checkbox"/> No		Thermometer ID # <i>113</i> <i>#140</i>	
				<i>[Signature]</i>		Correction Factor <i>-0.5°C</i> <i>To 12/2/24</i>	
						Bacteria (only) Sample Condition	
						Cool Intact Observed Temp. °C	
						<input type="checkbox"/> Yes <input type="checkbox"/> Yes	
						<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	

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



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

January 02, 2025

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JRU 124 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/31/24 12:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 12/31/2024
 Reported: 01/02/2025
 Project Name: JRU 124 BATTERY
 Project Number: 03C1558562
 Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 06 .5' (H247800-01)

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	12/31/2024	ND	1.86	93.0	2.00	2.06	
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927	
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20	
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440	
Total BTX	<0.300	0.300	12/31/2024	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 76.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 07 .5' (H247800-02)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTX	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 08 .5' (H247800-03)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTX	<0.300	0.300	12/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 81.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 09 .5' (H247800-04)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTEx	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 10 .5' (H247800-05)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTX	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.9 % 49.1-148

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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 11 .5' (H247800-06)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTX	<0.300	0.300	12/31/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 76.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.5 % 49.1-148

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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 12 .5' (H247800-07)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTEx	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.1 % 49.1-148

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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 13 .5' (H247800-08)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTEx	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.2 % 49.1-148

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Analytical Results For:

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

Received: 12/31/2024
Reported: 01/02/2025
Project Name: JRU 124 BATTERY
Project Number: 03C1558562
Project Location: XTO 32.305463-103.802747

Sampling Date: 12/31/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 14 .5' (H247800-09)

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	12/31/2024	ND	1.86	93.0	2.00	2.06		
Toluene*	<0.050	0.050	12/31/2024	ND	1.98	98.9	2.00	0.0927		
Ethylbenzene*	<0.050	0.050	12/31/2024	ND	2.12	106	2.00	1.20		
Total Xylenes*	<0.150	0.150	12/31/2024	ND	6.41	107	6.00	0.440		
Total BTEx	<0.300	0.300	12/31/2024	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/31/2024	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	12/31/2024	ND	205	102	200	1.96	
DRO >C10-C28*	<10.0	10.0	12/31/2024	ND	205	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	12/31/2024	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.7 % 49.1-148

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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																			
Project Manager: Ben Belill				P.O. #:																							
Address: 3122 National Parks Hwy				Company: XTO Energy Inc.																							
City: Carlsbad State: NM Zip: 88220				Attn: Colton Brown																							
Phone #: 989-854-0852 Fax #:				Address: 3104 E. Green St.																							
Project #: 03C1558562 Project Owner: XTO				City: Carlsbad																							
Project Name: JRU 124 Battery				State: NM Zip: 88220																							
Project Location: 32.305463, -103.802747				Phone #:																							
Sampler Name: Jesse Dorman				Fax #:																							
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	Sample Depth (feet)	(GRAB OR COMPOUND)	MATRIX					PRESERV.	SAMPLING																	
			# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	BTEX	TPH	CHLORIDE										
H247800	1 5506	~5'	1										12/31/24	840													
	2 5507													842													
	3 5508													844													
	4 5509													847													
	5 5510													929													
	6 5511													1015													
	7 5512													932													
	8 5513													935													
	9 5514													937													

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Relinquished By:		Date: 12-31-24	Received By:		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:	
Time: 1200				All Results are emailed. Please provide Email address: Thillard@ensolum.com		
Relinquished By:		Date:	Received By:		BBelill@ensolum.com T Morrissey@ensolum.com, kthomason@ensolum.com	
Time:				REMARKS: Cost Center: 1080911001 Incident ID: nAPP2428369219		
Delivered By: (Circle One)	Observed Temp. °C 4.8	Sample Condition	CHECKED BY: (Initials)	Turnaround Time: #140	Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	
Sampler - UPS - Bus - Other:	Corrected Temp. °C 4.2	Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Thermometer ID: #115	Bacteria (only) Sample Condition	
				Correction Factor: -0.3°C	Cool Intact <input checked="" type="checkbox"/> Observed Temp. °C	
				6 TO 12/31/24	Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> Corrected Temp. °C	

FORM-006 R 3.2 10/07/21

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

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

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Phone: (505) 629-6116

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

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

QUESTIONS

Action 417813

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2428369219
Incident Name	NAPP2428369219 JRU 124 BATTERY @ 0
Incident Type	Release Other
Incident Status	Remediation Plan Received
Incident Facility	[fAPP2123052932] JAMES RANCH UNIT 124

Location of Release Source	
Please answer all the questions in this group.	
Site Name	JRU 124 BATTERY
Date Release Discovered	10/09/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Overflow - Tank, Pit, Etc. Tank (Any) Crude Oil Released: 28 BBL Recovered: 0 BBL Lost: 28 BBL.
Produced Water Released (bbls) Details	Cause: Overflow - Tank, Pit, Etc. Tank (Any) Produced Water Released: 863 BBL Recovered: 859 BBL Lost: 4 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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Phone: (505) 476-3441

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Phone: (505) 629-6116

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

QUESTIONS, Page 2

Action 417813

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
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: Kailee Smith Title: Regulatory Analyst Email: kailee.smith@exxonmobil.com Date: 01/07/2025
--	---

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 3

Action 417813

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	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	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	21200
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	20840
GRO+DRO (EPA SW-846 Method 8015M)	17540
BTEX (EPA SW-846 Method 8021B or 8260B)	95
Benzene (EPA SW-846 Method 8021B or 8260B)	0.3
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
On what estimated date will the remediation commence	10/25/2024
On what date will (or did) the final sampling or liner inspection occur	03/03/2025
On what date will (or was) the remediation complete(d)	04/02/2025
What is the estimated surface area (in square feet) that will be reclaimed	12400
What is the estimated volume (in cubic yards) that will be reclaimed	1800
What is the estimated surface area (in square feet) that will be remediated	12400
What is the estimated volume (in cubic yards) that will be remediated	1800
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 4

Action 417813

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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: Kailee Smith Title: Regulatory Analyst Email: kailee.smith@exxonmobil.com Date: 01/07/2025
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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Action 417813

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS, Page 6

Action 417813

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	415398
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	01/03/2025
What was the (estimated) number of samples that were to be gathered	18
What was the sampling surface area in square feet	3600

Remediation Closure Request

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

Requesting a remediation closure approval with this submission	No
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CONDITIONS

Action 417813

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 417813
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvez	Remediation plan is approved under the following conditions; 1. XTO must complete the excavation and removal of impacted soils until confirmation samples collected from the bottom and sidewalls of the excavation report NMOCD Closure Criteria per 19.15.29.12 NMAC has been achieved. 2. OCD approves the sampling frequency of 400 square feet (ft.2) per one (1) 5-point composite sample (5pcs) for the excavation floor samples and 200 ft.2 for the sidewall samples. 3. Prior to backfilling the open excavation per 19.15.29.12D (2) NMAC, XTO must collect a minimum of one (1) 5pcs from the media being used as backfill to verify that it meets non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. This is especially important for the material being used within the top four (4) feet from the ground surface.	1/23/2025
nvez	4. XTO has 90-days (April 22, 2025) to submit to OCD its appropriate or final remediation closure report.	1/23/2025