



January 13, 2025

New Mexico Oil Conservation Division

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

**Re: Closure Request Addendum
Remuda 500 TB
Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362
Eddy County, New Mexico**

To Whom it May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request Addendum (Addendum)* to document assessment and soil sampling activities performed at the Remuda 500 Tank Battery (TB; Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a condensate flare fire, and two crude oil flare fires at the Site. A *Closure Request* was submitted for these releases on March 20, 2023. The New Mexico Oil Conservation Division (NMOCD) denied the request stating additional soil sampling was required. Confirmation soil sampling was completed and the laboratory analytical results are included in this *Addendum*. Based on Site assessment activities and soil sample laboratory analytical results, XTO is submitting this *Addendum*, describing remediation activities that have occurred and requesting no further action for Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362.

RELEASE BACKGROUND

The Site is located in Unit O, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.26974°, -103.93694°) and is associated with oil and gas exploration and production operations on state land managed by the New Mexico State Land Office (SLO; Figure 1).

On December 23, 2022, the low-pressure flare pipeline froze which allowed fluid to build up in the pipeline, causing approximately 0.13 barrels (bbls) of condensate to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO immediately reported the release via email to the NMOCD on December 23, 2022, and submitted a Release Notification Form C-141 (Form C-141) on January 4, 2023. The release was assigned Incident Number NAPP2300441385.

On December 26, 2022, the low-pressure flare pipeline over-pressured, causing approximately 0.02 bbls of crude oil to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO reported the release via email to the NMOCD on December 28, 2022, and submitted a Form C-141 on January 4, 2023. The release was assigned Incident Number NAPP2300448092.

On December 27, 2022, the low-pressure flare guppy system malfunctioned, causing approximately 0.05 bbls of crude oil to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO reported the release via email to the NMOCD on December 28, 2022, and submitted a Form C-141 on January 6, 2023. The release was assigned Incident Number NAPP2300641362.

XTO Energy, Inc
Closure Request Addendum
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Please note the location of the release given on the original C-141 for Incident Numbers NAPP2300448092 and NAPP2300641362 has been corrected on the Final Closure C-141. All three release areas overlapped near the low-pressure flare and were addressed concurrently.

As documented in the *Closure Request*, Site assessment and delineation activities were conducted by Ensolum to evaluate the release extent following the flare fire releases. One pothole (PH01) was advanced within the release extent to assess the vertical extent of the release and two discrete delineation soil samples were collected from the pothole at depths of 0.5 feet below ground surface (bgs) and 1-foot bgs. Four discrete delineation soil samples (SS01 through SS04) were collected from a depth of 0.5 feet bgs to assess the lateral extent of the release. Following delineation activities, surface scraping was completed to remove surficial staining caused by the fire releases. Laboratory analytical results indicated contaminants of concern (COC) concentrations for all delineation soil samples were in compliance with the Closure Criteria and the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and soil sample locations are depicted on Figure 2. On August 4, 2023, NMOCD denied the *Closure Request* for all three Incident Numbers for the following reasons:

- *The Closure Report is Denied. The “step-out” samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area to conduct horizontal delineation samples may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. Please make sure that the edge of the release extent is accurately defined. Additionally, when equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won’t give us those sampling data points that we need. “Step-out” samples should never be conducted if equipment is in the vicinity of the release area.*

CLOSURE CRITERIA

The *Closure Request* detailed site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, (19.15.29) of the New Mexico Administrative Code (NMAC). The site characterization results were included in the previously submitted *Closure Request* that is included in Appendix A. The Site is in a medium potential karst designation area; however, the release and all of the remedial activities occurred prior to December 1, 2024, the effective date of the NMOCD published *Karst Potential Occurrence Zones Public Notice*. Based on the results of the site characterization, the following Closure Criteria was applied:

- 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

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NMSLO CULTURAL RESOURCES AND BIOLOGICAL REVIEW

Cultural Properties Protection

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

Biological Review

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

- The Site is within range of the Lesser Prairie-Chicken habitat. From March 1 through June 15, no remediation activities will occur between the hours of 3 am to 9 am to protect any Lesser Prairie-Chickens within the area.
- A review of the U.S. Fish and Wildlife Services Information for Planning and Consultation (IPaC) resources indicated there are no potential critical habitats at the Site. The release was contained on the pad surface, limiting any contact with potential habitats that may exist in the vicinity the Site.
- No environmentally sensitive receptors were located near the Site, as determined by the Site Characterization.
- The Natural Resources Conservation Service (NRCS) Web Soil Survey classifies the soil type at the Site as Simona-Bippus complex, which is not classified as a sensitive soil. The release occurred on the caliche surface of the well pad limiting contact with native soil.

CONFIRMATION SOIL SAMPLING ACTIVITIES

In response to NMOCD comments on the denied *Closure Request*, three 5-point composite confirmation soil samples (FS01 through FS03) were collected at least every 200 square feet from the surface-scraped, release extent on January 4, 2024. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. 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 composite soil samples were collected on the pad surface and encompassed the entirety of the release extent. While the NMOCD denial response indicates the collection of sidewall samples, no sidewall soil samples could be collected since excavation was not completed and thus, no sidewall had existed. The release extent/surface scrape area and confirmation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 3. Photographic documentation was completed during the soil sampling activities and a Photographic Log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

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LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated COC concentrations for all delineation and confirmation soil samples collected were in compliance with the Closure Criteria and the most stringent Table I Closure Criteria. These results include confirmation soil samples FS01 through FS03 collected within the entirety of the release extent/surface scraped area, fully defining the release area as requested by NMOCD in the denial response and confirms the absence of any impacted or waste-containing soil at the Site. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix C.

CLOSURE REQUEST

Site assessment, surficial soil scraping, and confirmation soil sampling activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from a release of condensate that occurred on December 23, 2022, and two releases of crude oil occurring on December 26, 2022, and December 27, 2022, all of which resulted in a flare fire. Laboratory analytical results for all delineation and confirmation soil samples indicated COC concentrations were compliant with the Closure Criteria and the most stringent Table I Closure Criteria.

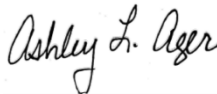
Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extents. Based on laboratory analytical results compliant with Closure Criteria, no further remediation is required. As such, XTO respectfully requests closure for Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362.

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

Sincerely,
Ensolum, LLC



Katherine Kahn, P.G.
Senior Managing Geologist



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

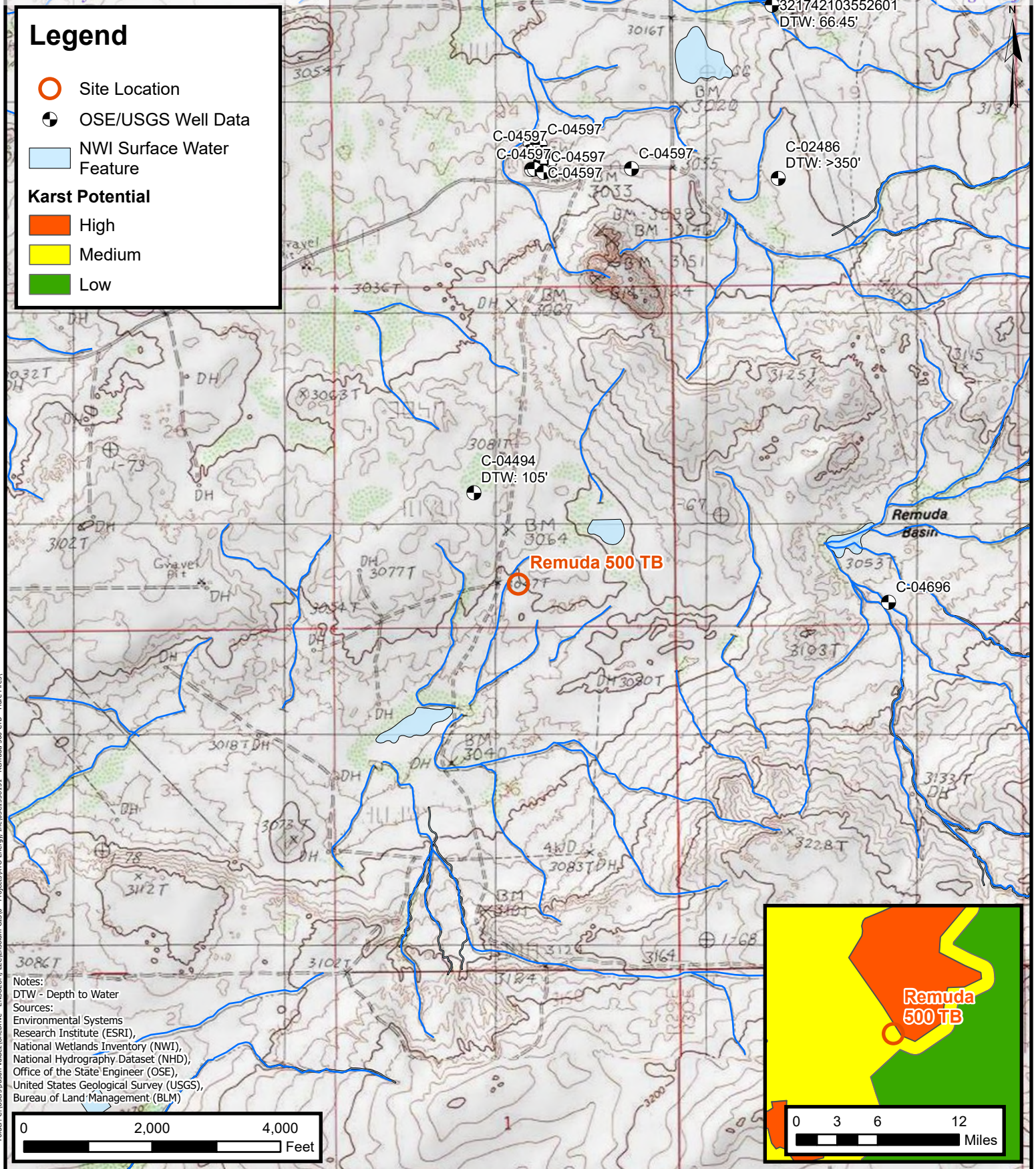
cc: Kaylan Dirkx, XTO
Dale Woodall, XTO
SLO

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	March 20, 2023, <i>Closure Request</i>
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES



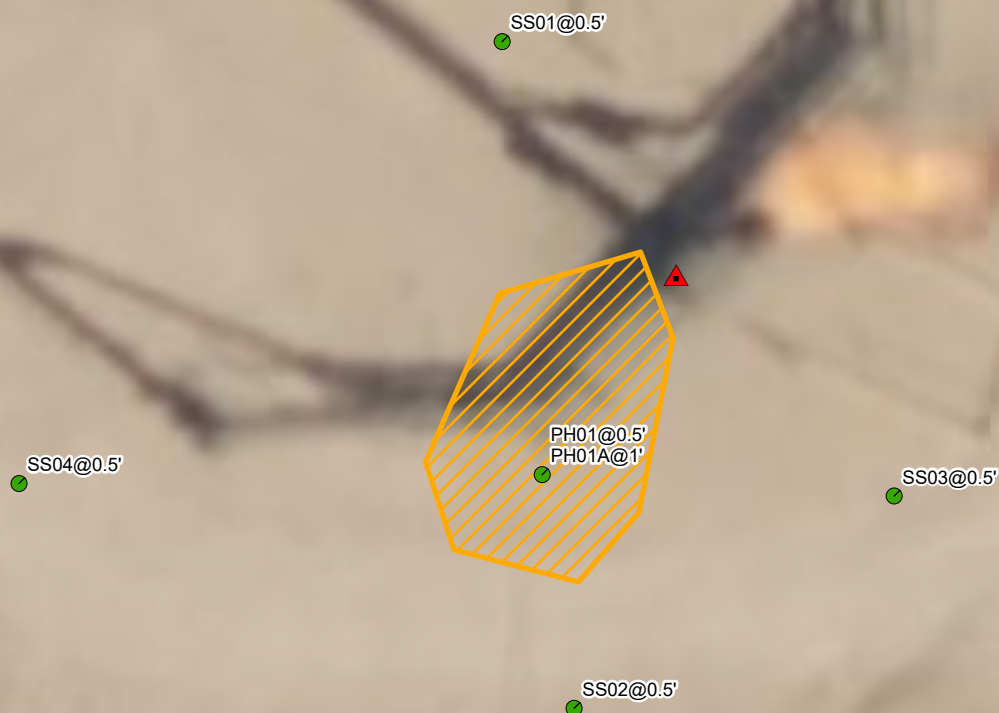
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Environmental, Engineering and
Hydrogeologic Consultants

Site Receptor Map
XTO Energy, Inc
Remuda 500 TB
Incident Number: NAPP2300441385, NAPP2300448092, NAPP2300641362
Unit O, Section 25, T 23S, R 29E
Eddy County, New Mexico

FIGURE
1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 4.25 8.5 17 25.5 34
Feet

Sources: Environmental Systems Research Institute (ESRI)



Delineation Soil Sample Locations

XTO Energy, Inc
Remuda 500 TB
Incident Number: NAPP2300441385, NAPP2300448092, NAPP2300641362
Unit O, Section 25, T 23S, R 29E
Eddy County, New Mexico

FIGURE

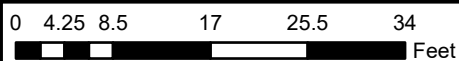
2

Legend

- Confirmation Soil Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- Surface Scrape Area



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



Confirmation Soil Sample Locations

XTO Energy, Inc
Remuda 500 TB
Incident Number: NAPP2300441385, NAPP2300448092, NAPP2300641362
Unit O, Section 25, T 23S, R 29E
Eddy County, New Mexico

FIGURE**3**



TABLE



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
REMUDA 500 TB
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	02/10/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	29.5
SS02	02/10/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	24.8
SS03	02/10/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	48.5
SS04	02/10/2023	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	24.0
PH01	02/10/2023	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	120
PH01A	02/10/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	127
Confirmation Soil Samples										
FS01	01/04/2024	0.5	<0.00201	<0.00402	<49.5	<49.5	<49.5	<49.5	<49.5	68.6
FS02	01/04/2024	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	296
FS03	01/04/2024	0.5	<0.00199	<0.00398	<50.4	<50.4	<50.4	<50.4	<50.4	90.2

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

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code



APPENDIX A

March 20, 2023, *Closure Request*



March 20, 2023

New Mexico Oil Conservation Division

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

**Re: Closure Request
Remuda 500 TB
Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362
Eddy County, New Mexico**

To Whom it May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment and soil sampling activities performed at the Remuda 500 Tank Battery (TB; Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a condensate flare fire, and two crude oil flare fires at the Site. Based on Site assessment activities and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing remediation activities that have occurred and requesting no further action for Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.26974°, -103.93694°) and is associated with oil and gas exploration and production operations on state land managed by the New Mexico State Land Office (SLO).

On December 23, 2022, the low-pressure flare pipeline froze which allowed fluid to build up in the pipeline, causing approximately 0.13 barrels (bbls) of condensate to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO immediately reported the release via email to the New Mexico Oil Conservation Division (NMOCD) on December 23, 2022 and submitted a Release Notification Form C-141 (Form C-141) on January 4, 2023. The release was assigned Incident Number NAPP2300441385.

On December 26, 2022, the low-pressure flare pipeline over-pressured, causing approximately 0.02 bbls of crude oil to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO reported the release via email to the NMOCD on December 28, 2022 and submitted a Form C-141 on January 4, 2023. The release was assigned Incident Number NAPP2300448092.

On December 27, 2022, the low-pressure flare guppy system malfunctioned, causing approximately 0.05 bbls of crude oil to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. XTO reported the release via email to the NMOCD on December 28, 2022 and submitted a Form C-141 on January 6, 2023. The release was assigned Incident Number NAPP2300641362.

Please note the location of the release given on the original C-141 for Incident Numbers NAPP2300448092 and NAPP2300641362 has been corrected on the Final Closure C-141. All three release areas overlapped near the low-pressure flare and were addressed concurrently.

XTO Energy, Inc
Closure Request
Remuda 500 TB

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 on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On January 5, 2021, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE file number C-04494) was completed approximately 0.35 miles northwest of the Site utilizing the combination of a truck-mounted hollow-stem auger rig and a sonic drilling rig. Soil boring C-04494 was drilled to a depth of 105 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 105 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 323 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake, and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). All Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On February 10, 2023, Site assessment and delineation activities were conducted by Ensolum to evaluate the release extent based on information provided on the Form C-141 and visual observations. One pothole (PH01) was advanced by use of heavy equipment within the release extent to assess the vertical extent of the release. Two discrete delineation soil samples were collected from the pothole at depths of 0.5 feet bgs and 1-foot bgs. Four discrete delineation soil samples (SS01 through SS04) were collected from a depth of 0.5 feet bgs to assess the lateral extent of the release. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) 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. Field screening results on all delineation soil samples collected indicated no impacts to soil; however, surficial staining from the fire was scraped and removed from the Site by use of heavy equipment and hand tools. Field screening results and observations for the pothole

XTO Energy, Inc
Closure Request
Remuda 500 TB

was logged on lithologic/soil sampling log, which is included in Appendix B. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix C.

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 Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they were collected may not have equilibrated to 6 degrees Celcius required for shipment and long term storage, but are considered to have been received in acceptable condition by the laboratory.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated COC concentrations for all delineation soil samples were in compliance with the Site Closure Criteria and the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from a release of condensate that occurred on December 23, 2022, and two releases of crude oil occurring on December 26, 2022 and December 27, 2022, all of which resulted in a flare fire. Laboratory analytical results for all delineation soil samples indicated COC concentrations were compliant with the Site Closure Criteria and the most stringent Table I Closure Criteria. Following delineation activities, surface scraping was completed to remove surficial staining caused by the fires.

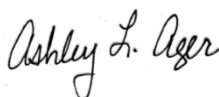
Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extents. Based on laboratory analytical results compliant with Closure Criteria, no further remediation was required. As such, XTO respectfully requests closure for Incident Numbers NAPP2300441385, NAPP2300448092, and NAPP2300641362.

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

Sincerely,
Ensolum, LLC



Benjamin J. Belill
Project Geologist



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

cc: Garrett Green, XTO
Shelby Pennington, XTO
SLO

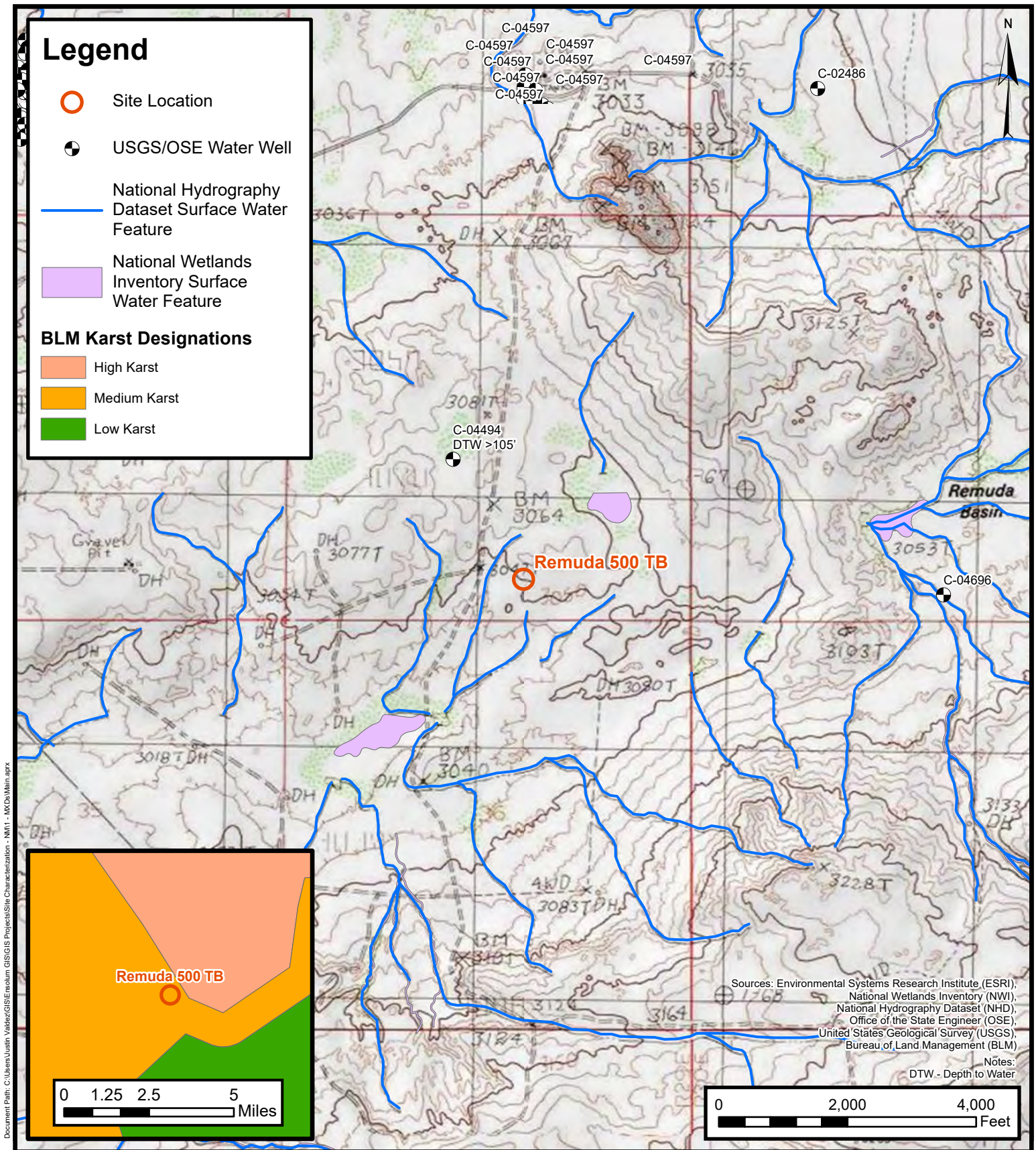
XTO Energy, Inc
Closure Request
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Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
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
Appendix E	NMOCD Notifications



FIGURES



Site Receptor Map

Remuda 500 TB
XTO ENERGY, INC

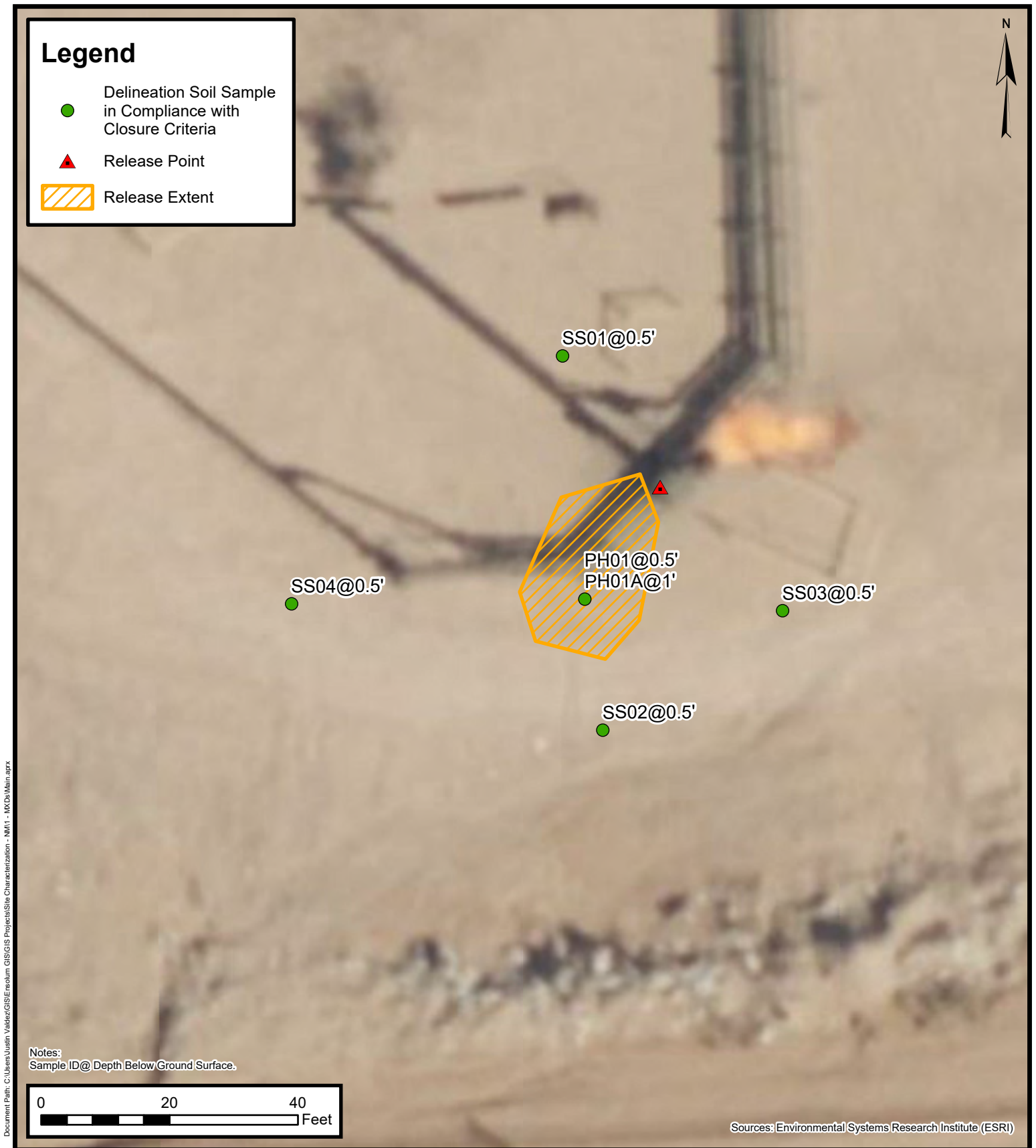
Incident Numbers: NAPP2300441385, NAPP2300448092, NAPP2300641362

Unit O, Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE

1

ENSOLUM
Environmental, Engineering and
Hydrogeologic Consultants



Delineation Soil Sample Locations Map

Remuda 500 TB
XTO ENERGY, INC
Incident Numbers: NAPP2300441385, NAPP2300448092, NAPP2300641362
Unit O, Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
2



TABLES



TABLE 1
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REMUDA 500 TB
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)
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SS03	02/10/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	48.5
SS04	02/10/2023	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	24.0
PH01	02/10/2023	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	120
PH01A	02/10/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	127

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code



APPENDIX A

Referenced Well Records

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

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

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

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

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



APPENDIX B

Lithologic Soil Sampling Logs

 ENSOLUM								Sample Name: PH01		Date: 2/10/2023	
								Site Name: Remuda 500 TB			
								Incident Number: NAPP2300441385, NAPP2300448092, NAPP2300641362			
								Job Number: 03C1558151			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Connor Whitman		Method: Backhoe	
Coordinates: 32.229373,-103.93697								Hole Diameter: N/A		Total Depth: 1' bgs	
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 and 40% correction factor added to chloride field screening results.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	<168	0.1	N	PH01	0.5	0	CCHE	0-1', CALICHE, moist, tan-light brown, unconsolidated fill, light brown-brown staining, no odor.			
D	<168	0.1	N	PH01A	1	1	TD	Total Depth at 1-foot bgs.			



APPENDIX C

Photographic Log



Photographic Log

XTO Energy, Inc

Remuda 500 TB

NAPP2300441385, NAPP2300448092, & NAPP2300641362

Date & Time: Fri, Feb 10, 2023 at 09:14:11 MST
 Position: 032.269720°N / 103.936930°W (±15.9ft)
 Altitude: 3057ft (±10.5ft)
 Datum: WGS-84
 Azimuth/Bearing: 305° N55W 5422mils True (±15°)
 Elevation Angle: +05.0°
 Horizon Angle: +00.1°
 Zoom: 1.0X
 Remuda 500 flare line, PH01



Photograph 1

Date: 02/10/2023

Description: Release extent area.

View: West

Date & Time: Fri, Feb 10, 2023 at 09:37:56 MST
 Position: 032.269752°N / 103.936923°W (±19.9ft)
 Altitude: 3054ft (±19.9ft)
 Datum: WGS-84
 Azimuth/Bearing: 291° N69W 5173mils True (±15°)
 Elevation Angle: +04.6°
 Horizon Angle: +01.1°
 Zoom: 1.0X
 Remuda 500 flare line, PH01



Photograph 2

Date: 02/10/2023

Description: Delineation activities, PH01.

View: West

Date & Time: Fri, Feb 10, 2023 at 10:10:31 MST
 Position: 032.269759°N / 103.936990°W (±12.3ft)
 Altitude: 3052ft (±19.5ft)
 Datum: WGS-84
 Azimuth/Bearing: 317° N43W 5336mils True (±12°)
 Elevation Angle: +10.1°
 Horizon Angle: +00.6°
 Zoom: 1.0X
 Remuda 500 flare line, after cleanup



Photograph 3

Date: 02/10/2023

Description: Surface scraping activities.

View: West

Date & Time: Fri, Feb 10, 2023 at 10:12:35 MST
 Position: 032.269863°N / 103.937182°W (±419.8ft)
 Altitude: 3083ft (±454.8ft)
 Datum: WGS-84
 Azimuth/Bearing: 080° N80E 1422mils True (±12°)
 Elevation Angle: +45.8°
 Horizon Angle: +01.2°
 Zoom: 1.0X
 Remuda 500 flare line, after cleanup



Photograph 4

Date: 02/10/2023

Description: Surface scraping activities.

View: East



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/20/2023 2:48:43 PM

JOB DESCRIPTION

Remuda 500 CTB

SDG NUMBER 03C1558151

JOB NUMBER

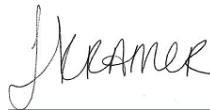
890-4089-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
2/20/2023 2:48:43 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: Remuda 500 CTB

Laboratory Job ID: 890-4089-1
SDG: 03C1558151

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Definitions/Glossary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Job ID: 890-4089-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-4089-1**

Receipt

The samples were received on 2/13/2023 10:38 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-4089-1), PH01A (890-4089-2), SS01 (890-4089-3), SS02 (890-4089-4), SS03 (890-4089-5) and SS04 (890-4089-6).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-46342 and analytical batch 880-46568 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-46409 and analytical batch 880-46479 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: PH01

Lab Sample ID: 890-4089-1

Date Collected: 02/10/23 09:30

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U F1 F2	0.00202	mg/Kg		02/14/23 16:34	02/17/23 14:30	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/14/23 16:34	02/17/23 14:30	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/14/23 16:34	02/17/23 14:30	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/14/23 16:34	02/17/23 14:30	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/14/23 16:34	02/17/23 14:30	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/14/23 16:34	02/17/23 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	02/14/23 16:34	02/17/23 14:30	1
1,4-Difluorobenzene (Surr)	90		70 - 130	02/14/23 16:34	02/17/23 14:30	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/19/23 12:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	02/15/23 11:56	02/17/23 00:15	1
o-Terphenyl	112		70 - 130	02/15/23 11:56	02/17/23 00:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		4.98	mg/Kg			02/15/23 20:49	1

Client Sample ID: PH01A

Lab Sample ID: 890-4089-2

Date Collected: 02/10/23 13:10

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/14/23 16:34	02/17/23 14:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:51	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/14/23 16:34	02/17/23 14:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	02/14/23 16:34	02/17/23 14:51	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: PH01A

Lab Sample ID: 890-4089-2

Date Collected: 02/10/23 13:10

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	84		70 - 130	02/14/23 16:34	02/17/23 14:51	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/19/23 12:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 00:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130			02/15/23 11:56	02/17/23 00:37	1
o-Terphenyl	90		70 - 130			02/15/23 11:56	02/17/23 00:37	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	127		5.00	mg/Kg			02/15/23 20:53	1

Client Sample ID: SS01

Lab Sample ID: 890-4089-3

Date Collected: 02/10/23 10:05

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:11	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:11	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:11	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:11	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	02/14/23 16:34	02/17/23 15:11	1
1,4-Difluorobenzene (Surr)	88		70 - 130	02/14/23 16:34	02/17/23 15:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/19/23 12:25	1

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Client Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: SS01

Lab Sample ID: 890-4089-3

Date Collected: 02/10/23 10:05

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130			02/15/23 11:56	02/17/23 01:00	1
o-Terphenyl	81		70 - 130			02/15/23 11:56	02/17/23 01:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.5		5.05	mg/Kg			02/15/23 20:58	1

Client Sample ID: SS02

Lab Sample ID: 890-4089-4

Date Collected: 02/10/23 10:10

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130			02/14/23 16:34	02/17/23 15:32	1
1,4-Difluorobenzene (Surr)	88		70 - 130			02/14/23 16:34	02/17/23 15:32	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/19/23 12:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/17/23 01:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			02/15/23 11:56	02/17/23 01:45	1
o-Terphenyl	104		70 - 130			02/15/23 11:56	02/17/23 01:45	1

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Client Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: SS02

Lab Sample ID: 890-4089-4

Date Collected: 02/10/23 10:10

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.8		4.98	mg/Kg			02/15/23 21:02	1

Client Sample ID: SS03

Lab Sample ID: 890-4089-5

Date Collected: 02/10/23 10:15

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 15:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130			02/14/23 16:34	02/17/23 15:52	1
1,4-Difluorobenzene (Surr)	90		70 - 130			02/14/23 16:34	02/17/23 15:52	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/19/23 12:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 02:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		02/15/23 11:56	02/17/23 02:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/15/23 11:56	02/17/23 02:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130			02/15/23 11:56	02/17/23 02:07	1
o-Terphenyl	103		70 - 130			02/15/23 11:56	02/17/23 02:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.5		5.05	mg/Kg			02/15/23 21:17	1

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Client Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: SS04

Lab Sample ID: 890-4089-6

Date Collected: 02/10/23 10:20

Matrix: Solid

Date Received: 02/13/23 10:38

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 16:38	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 16:38	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 16:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 16:38	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/14/23 16:34	02/17/23 16:38	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/14/23 16:34	02/17/23 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	02/14/23 16:34	02/17/23 16:38	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/14/23 16:34	02/17/23 16:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/20/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			02/19/23 12:25	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		02/15/23 11:56	02/17/23 02:30	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8	mg/Kg		02/15/23 11:56	02/17/23 02:30	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/15/23 11:56	02/17/23 02:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	02/15/23 11:56	02/17/23 02:30	1
o-Terphenyl	90		70 - 130	02/15/23 11:56	02/17/23 02:30	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.0		4.96	mg/Kg			02/15/23 21:21	1

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Surrogate Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4089-1	PH01	94	90
890-4089-1 MS	PH01	126	114
890-4089-1 MSD	PH01	132 S1+	104
890-4089-2	PH01A	88	84
890-4089-3	SS01	97	88
890-4089-4	SS02	97	88
890-4089-5	SS03	98	90
890-4089-6	SS04	97	87
LCS 880-46342/1-A	Lab Control Sample	109	105
LCSD 880-46342/2-A	Lab Control Sample Dup	116	103
MB 880-46342/5-A	Method Blank	76	96
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-24624-A-7-D MS	Matrix Spike	85	91
880-24624-A-7-E MSD	Matrix Spike Duplicate	99	107
890-4089-1	PH01	101	112
890-4089-2	PH01A	81	90
890-4089-3	SS01	71	81
890-4089-4	SS02	93	104
890-4089-5	SS03	92	103
890-4089-6	SS04	83	90
LCS 880-46409/2-A	Lab Control Sample	98	113
LCSD 880-46409/3-A	Lab Control Sample Dup	85	99
MB 880-46409/1-A	Method Blank	85	108
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46342/5-A

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46342

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/14/23 16:34	02/17/23 14:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/14/23 16:34	02/17/23 14:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/14/23 16:34	02/17/23 14:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130	02/14/23 16:34	02/17/23 14:09	1
1,4-Difluorobenzene (Surr)	96		70 - 130	02/14/23 16:34	02/17/23 14:09	1

Lab Sample ID: LCS 880-46342/1-A

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46342

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1214		mg/Kg		121	70 - 130
Toluene	0.100	0.1106		mg/Kg		111	70 - 130
Ethylbenzene	0.100	0.1137		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2456		mg/Kg		123	70 - 130
o-Xylene	0.100	0.1219		mg/Kg		122	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-46342/2-A

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 46342

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1054		mg/Kg		105	70 - 130	14	35
Toluene	0.100	0.1042		mg/Kg		104	70 - 130	6	35
Ethylbenzene	0.100	0.1073		mg/Kg		107	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2301		mg/Kg		115	70 - 130	6	35
o-Xylene	0.100	0.1157		mg/Kg		116	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-4089-1 MS

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 46342

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U F1 F2	0.100	0.1523	F1	mg/Kg		152	70 - 130
Toluene	<0.00202	U	0.100	0.09819		mg/Kg		98	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4089-1 MS

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 46342

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.100	0.09453		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.2043		mg/Kg		102	70 - 130
o-Xylene	<0.00202	U	0.100	0.1039		mg/Kg		104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-4089-1 MSD

Matrix: Solid

Analysis Batch: 46568

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 46342

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1 F2	0.0990	0.1032	F2	mg/Kg		104	70 - 130	38	35
Toluene	<0.00202	U	0.0990	0.09209		mg/Kg		93	70 - 130	6	35
Ethylbenzene	<0.00202	U	0.0990	0.09634		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.2071		mg/Kg		105	70 - 130	1	35
o-Xylene	<0.00202	U	0.0990	0.1053		mg/Kg		106	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-46409/1-A

Matrix: Solid

Analysis Batch: 46479

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46409

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/16/23 19:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/16/23 19:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/15/23 11:56	02/16/23 19:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	02/15/23 11:56	02/16/23 19:48	1
o-Terphenyl	108		70 - 130	02/15/23 11:56	02/16/23 19:48	1

Lab Sample ID: LCS 880-46409/2-A

Matrix: Solid

Analysis Batch: 46479

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46409

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1045		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-46409/2-A
Matrix: Solid
Analysis Batch: 46479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46409

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: LCSD 880-46409/3-A
Matrix: Solid
Analysis Batch: 46479

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46409

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	893.1		mg/Kg		89	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	849.0	*1	mg/Kg		85	70 - 130	22	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 880-24624-A-7-D MS
Matrix: Solid
Analysis Batch: 46479

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46409

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1023		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *1	1000	940.4		mg/Kg		92	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 880-24624-A-7-E MSD
Matrix: Solid
Analysis Batch: 46479

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46409

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1044		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U *1	1000	1103		mg/Kg		109	70 - 130	16	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	107		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46319/1-A
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/15/23 19:44	1

Lab Sample ID: LCS 880-46319/2-A
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	244.1		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-46319/3-A
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	256.0		mg/Kg		102	90 - 110	5	20

Lab Sample ID: 890-4089-4 MS
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	24.8		249	262.3		mg/Kg		95	90 - 110

Lab Sample ID: 890-4089-4 MSD
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24.8		249	252.9		mg/Kg		92	90 - 110	4	20

QC Association Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

GC VOA

Prep Batch: 46342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	5035	
890-4089-2	PH01A	Total/NA	Solid	5035	
890-4089-3	SS01	Total/NA	Solid	5035	
890-4089-4	SS02	Total/NA	Solid	5035	
890-4089-5	SS03	Total/NA	Solid	5035	
890-4089-6	SS04	Total/NA	Solid	5035	
MB 880-46342/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46342/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46342/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4089-1 MS	PH01	Total/NA	Solid	5035	
890-4089-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 46568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	8021B	46342
890-4089-2	PH01A	Total/NA	Solid	8021B	46342
890-4089-3	SS01	Total/NA	Solid	8021B	46342
890-4089-4	SS02	Total/NA	Solid	8021B	46342
890-4089-5	SS03	Total/NA	Solid	8021B	46342
890-4089-6	SS04	Total/NA	Solid	8021B	46342
MB 880-46342/5-A	Method Blank	Total/NA	Solid	8021B	46342
LCS 880-46342/1-A	Lab Control Sample	Total/NA	Solid	8021B	46342
LCSD 880-46342/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46342
890-4089-1 MS	PH01	Total/NA	Solid	8021B	46342
890-4089-1 MSD	PH01	Total/NA	Solid	8021B	46342

Analysis Batch: 46742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	Total BTEX	
890-4089-2	PH01A	Total/NA	Solid	Total BTEX	
890-4089-3	SS01	Total/NA	Solid	Total BTEX	
890-4089-4	SS02	Total/NA	Solid	Total BTEX	
890-4089-5	SS03	Total/NA	Solid	Total BTEX	
890-4089-6	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 46409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	8015NM Prep	
890-4089-2	PH01A	Total/NA	Solid	8015NM Prep	
890-4089-3	SS01	Total/NA	Solid	8015NM Prep	
890-4089-4	SS02	Total/NA	Solid	8015NM Prep	
890-4089-5	SS03	Total/NA	Solid	8015NM Prep	
890-4089-6	SS04	Total/NA	Solid	8015NM Prep	
MB 880-46409/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46409/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46409/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24624-A-7-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24624-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

GC Semi VOA

Analysis Batch: 46479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	8015B NM	46409
890-4089-2	PH01A	Total/NA	Solid	8015B NM	46409
890-4089-3	SS01	Total/NA	Solid	8015B NM	46409
890-4089-4	SS02	Total/NA	Solid	8015B NM	46409
890-4089-5	SS03	Total/NA	Solid	8015B NM	46409
890-4089-6	SS04	Total/NA	Solid	8015B NM	46409
MB 880-46409/1-A	Method Blank	Total/NA	Solid	8015B NM	46409
LCS 880-46409/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46409
LCSD 880-46409/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46409
880-24624-A-7-D MS	Matrix Spike	Total/NA	Solid	8015B NM	46409
880-24624-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	46409

Analysis Batch: 46667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Total/NA	Solid	8015 NM	
890-4089-2	PH01A	Total/NA	Solid	8015 NM	
890-4089-3	SS01	Total/NA	Solid	8015 NM	
890-4089-4	SS02	Total/NA	Solid	8015 NM	
890-4089-5	SS03	Total/NA	Solid	8015 NM	
890-4089-6	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Soluble	Solid	DI Leach	
890-4089-2	PH01A	Soluble	Solid	DI Leach	
890-4089-3	SS01	Soluble	Solid	DI Leach	
890-4089-4	SS02	Soluble	Solid	DI Leach	
890-4089-5	SS03	Soluble	Solid	DI Leach	
890-4089-6	SS04	Soluble	Solid	DI Leach	
MB 880-46319/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46319/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46319/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4089-4 MS	SS02	Soluble	Solid	DI Leach	
890-4089-4 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 46460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4089-1	PH01	Soluble	Solid	300.0	46319
890-4089-2	PH01A	Soluble	Solid	300.0	46319
890-4089-3	SS01	Soluble	Solid	300.0	46319
890-4089-4	SS02	Soluble	Solid	300.0	46319
890-4089-5	SS03	Soluble	Solid	300.0	46319
890-4089-6	SS04	Soluble	Solid	300.0	46319
MB 880-46319/1-A	Method Blank	Soluble	Solid	300.0	46319
LCS 880-46319/2-A	Lab Control Sample	Soluble	Solid	300.0	46319
LCSD 880-46319/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46319
890-4089-4 MS	SS02	Soluble	Solid	300.0	46319
890-4089-4 MSD	SS02	Soluble	Solid	300.0	46319

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Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: PH01

Lab Sample ID: 890-4089-1

Date Collected: 02/10/23 09:30

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 14:30	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 00:15	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 20:49	CH	EET MID

Client Sample ID: PH01A

Lab Sample ID: 890-4089-2

Date Collected: 02/10/23 13:10

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 14:51	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 00:37	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 20:53	CH	EET MID

Client Sample ID: SS01

Lab Sample ID: 890-4089-3

Date Collected: 02/10/23 10:05

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 15:11	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 01:00	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 20:58	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-4089-4

Date Collected: 02/10/23 10:10

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 15:32	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Client Sample ID: SS02

Lab Sample ID: 890-4089-4

Date Collected: 02/10/23 10:10

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 01:45	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:02	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-4089-5

Date Collected: 02/10/23 10:15

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 15:52	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 02:07	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:17	CH	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-4089-6

Date Collected: 02/10/23 10:20

Matrix: Solid

Date Received: 02/13/23 10:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46342	02/14/23 16:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/17/23 16:38	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46742	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46667	02/19/23 12:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46409	02/15/23 11:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46479	02/17/23 02:30	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:21	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: Remuda 500 CTB

Job ID: 890-4089-1
SDG: 03C1558151

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4089-1	PH01	Solid	02/10/23 09:30	02/13/23 10:38	0.5
890-4089-2	PH01A	Solid	02/10/23 13:10	02/13/23 10:38	1
890-4089-3	SS01	Solid	02/10/23 10:05	02/13/23 10:38	0.5
890-4089-4	SS02	Solid	02/10/23 10:10	02/13/23 10:38	0.5
890-4089-5	SS03	Solid	02/10/23 10:15	02/13/23 10:38	0.5
890-4089-6	SS04	Solid	02/10/23 10:20	02/13/23 10:38	0.5

- 1
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- 11
- 12
- 13
- 14



Environment Testing
Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 986-3199

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Ben Bellill	Bill to: (if different)	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other: _____

Project Name:	Remuda 500 CTB	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03C1558151	Due Date:			
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Connor Whitman				
PO #:		Temp Blank:	Yes ☒ No ☐	Thermometer ID:	IN-00
SAMPLE RECEIPT		Samples Received Intact:	Yes ☒ No ☐	Cooler Custody Seals:	Yes ☒ No ☐
		Sample Custody Seals:	Yes ☒ No ☐	Temperature Reading:	5.6
		Total Containers:	Yes ☒ No ☐	Corrected Temperature:	5.4
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grav/Comp
PH01	S	2/10/23	1:30	.5'	1
PH01A			1:10	1'	1
SS01			10:05	.5	1
SS02			10:10	.5	1
SS03			10:15	.5	1
SS04			10:20	.5	1
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTX (8021)					
ANALYSIS REQUEST					
PRESERVATIVE CODES					
None: NO DI Water: H ₂ O					
Cool: Cool MeOH: Me					
HCL: HC HNO ₃ : HN					
H ₂ SO ₄ : H ₂ NaOH: Na					
H ₃ PO ₄ : HP					
NaHSO ₄ : NABIS					
Na ₂ S ₂ O ₃ : NaSO ₃					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SAPC					
Sample Comments					
Incident ID: NAPP2300441385, NAPP2300448092, NAPP2300641362					
Cost Center: 1067601001					
AFE: _____					



890-4089 Chain of Custody

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed																															
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471																															

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Carla</i>	<i>Garrett Green</i>	2-13-23 10:38			
3					
5					

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Eurofins Carlsbad

1089 N Canal St

Carlsbad NM 88220

Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No- 890-1132 1								
Client Contact: Shipping/Receiving		Phone:	Kramer, Jessica E-Mail: Jessica.Kramer@eurofins.com	State of Origin New Mexico	Page Page 1 of 1								
Company Eurofins Environment Testing South Cent		Accreditations Required (See note) NELAP - Texas		Job #	890-4089-1								
Address 1211 W Florida Ave		Due Date Requested 2/17/2023		Preservation Codes: A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA M Hexane N None O AsNaO2 P Na2OAS Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecylate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify) Other									
City Midland		TAT Requested (days)		Analysis Requested									
State, Zip: TX, 79701		PO #:											
Phone 432-704-5440(Tel)		WO #:											
Email:		Project # 89000093											
Project Name remuda 500 ctb		SSCOW#:											
Site:													
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab, A=Ali)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
PH01 (890-4089-1)		2/10/23	09 30	Mountain	Solid		X	X	X	X	X	1	
PH01A (890-4089-2)		2/10/23	13 10	Mountain	Solid		X	X	X	X	X	1	
SS01 (890-4089-3)		2/10/23	10 05	Mountain	Solid		X	X	X	X	X	1	
SS02 (890-4089-4)		2/10/23	10 10	Mountain	Solid		X	X	X	X	X	1	
SS03 (890-4089-5)		2/10/23	10 15	Mountain	Solid		X	X	X	X	X	1	
SS04 (890-4089-6)		2/10/23	10 20	Mountain	Solid		X	X	X	X	X	1	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.													
Possible Hazard Identification													
Unconfirmed													
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank 2 Special Instructions/QC Requirements													
Empty Kit Relinquished by Date Time Method of Shipment													
Relinquished by Date Time Company Received by Date Time Company													
Relinquished by Date Time Company Received by Date Time Company													
Relinquished by Date Time Company Received by Date Time Company													
Custody Seals Intact: Custody Seal No Cooler Temperature(s) °C and Other Remarks													
Δ Yes Δ No													

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4089-1

SDG Number: 03C1558151

Login Number: 4089

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4089-1

SDG Number: 03C1558151

Login Number: 4089

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 02/14/23 12:17 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



APPENDIX E

NMOCD Notifications

From: [Enviro, OCD, EMNRD](#)
To: [Green, Garrett J](#); [Enviro, OCD, EMNRD](#); [Bratcher, Michael, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)
Cc: [Tacoma Morrissey](#); [DelawareSpills /SM](#)
Subject: RE: [EXTERNAL] XTO - Sampling Notification (Week of 2/6/23 - 2/10/23)
Date: Thursday, February 2, 2023 2:29:09 PM

[**EXTERNAL EMAIL**]

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, February 2, 2023 12:13 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 2/6/23 - 2/10/23)

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

All,

XTO plans to complete final sampling activities at the following sites the week of Feb 6, 2023.

- ADU 641 / nAPP2302355577
- Remuda 500 / NAPP2300441385, NAPP2300448092, NAPP2300641362
- PLU 21 BD 125H / nAPP2229145683

Thank you,

Garrett Green

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729



APPENDIX B

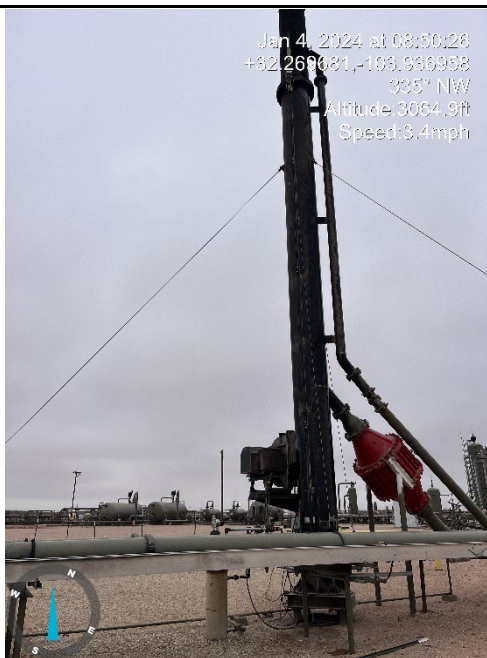
Photographic Log

**Photographic Log**

XTO Energy, Inc

Remuda 500 TB

NAPP2300441385, NAPP2300448092 & NAPP2300641362



Photograph 1

Date: 01/04/2024

Description: Soil sampling area

View: North-northwest



Photograph 2

Date: 01/04/2024

Description: Soil sampling area

View: West



Photograph 3

Date: 01/04/2024

Description: Soil sampling area

View: West-northwest



Photograph 4

Date: 01/04/2024

Description: Soil sampling area

View: North-northwest



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 1/15/2024 4:08:34 PM

JOB DESCRIPTION

REMUDA 500 CTB
03C1558151

JOB NUMBER

890-5903-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
1/15/2024 4:08:34 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: REMUDA 500 CTB

Laboratory Job ID: 890-5903-1
SDG: 03C1558151

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Definitions/Glossary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: REMUDA 500 CTB

Job ID: 890-5903-1

Job ID: 890-5903-1

Eurofins Carlsbad

Job Narrative 890-5903-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 1/5/2024 4:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS 01 (890-5903-1), FS 02 (890-5903-2) and FS 03 (890-5903-3).

GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-70509 and analytical batch 880-70625 was outside the control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-70505 and analytical batch 880-70625 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCSD 880-70505/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-70722 and analytical batch 880-70720 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS 01 (890-5903-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-5904-A-1-F MS) and (890-5904-A-1-G MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-70539 and analytical batch 880-70525 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Client Sample ID: FS 01

Lab Sample ID: 890-5903-1

Date Collected: 01/04/24 09:10

Matrix: Solid

Date Received: 01/05/24 16:13

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/12/24 08:25	01/12/24 21:43	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/12/24 08:25	01/12/24 21:43	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/12/24 08:25	01/12/24 21:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/12/24 08:25	01/12/24 21:43	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/12/24 08:25	01/12/24 21:43	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/12/24 08:25	01/12/24 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	362	S1+	70 - 130	01/12/24 08:25	01/12/24 21:43	1
1,4-Difluorobenzene (Surr)	155	S1+	70 - 130	01/12/24 08:25	01/12/24 21:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/12/24 21:43	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5	mg/Kg			01/10/24 18:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5	mg/Kg		01/10/24 09:19	01/10/24 18:18	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5	mg/Kg		01/10/24 09:19	01/10/24 18:18	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		01/10/24 09:19	01/10/24 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	01/10/24 09:19	01/10/24 18:18	1
o-Terphenyl	78		70 - 130	01/10/24 09:19	01/10/24 18:18	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.6		5.00	mg/Kg			01/10/24 21:36	1

Client Sample ID: FS 02

Lab Sample ID: 890-5903-2

Date Collected: 01/04/24 09:15

Matrix: Solid

Date Received: 01/05/24 16:13

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:13	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:13	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/09/24 16:57	01/12/24 11:13	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:13	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/09/24 16:57	01/12/24 11:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	01/09/24 16:57	01/12/24 11:13	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Client Sample ID: FS 02

Lab Sample ID: 890-5903-2

Date Collected: 01/04/24 09:15

Matrix: Solid

Date Received: 01/05/24 16:13

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101		70 - 130	01/09/24 16:57	01/12/24 11:13	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/12/24 11:13	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/10/24 18:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/10/24 09:19	01/10/24 18:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/10/24 09:19	01/10/24 18:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/10/24 09:19	01/10/24 18:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			01/10/24 09:19	01/10/24 18:40	1
o-Terphenyl	79		70 - 130			01/10/24 09:19	01/10/24 18:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	296		5.00	mg/Kg			01/10/24 21:41	1

Client Sample ID: FS 03

Lab Sample ID: 890-5903-3

Date Collected: 01/04/24 09:20

Matrix: Solid

Date Received: 01/05/24 16:13

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/09/24 16:57	01/12/24 11:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130			01/09/24 16:57	01/12/24 11:40	1
1,4-Difluorobenzene (Surr)	114		70 - 130			01/09/24 16:57	01/12/24 11:40	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/12/24 11:40	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			01/10/24 19:02	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Client Sample ID: FS 03
Date Collected: 01/04/24 09:20
Date Received: 01/05/24 16:13
Sample Depth: 0.5'

Lab Sample ID: 890-5903-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		01/10/24 09:19	01/10/24 19:02	1	
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		01/10/24 09:19	01/10/24 19:02	1	
OII Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		01/10/24 09:19	01/10/24 19:02	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	79		70 - 130			01/10/24 09:19	01/10/24 19:02	1	
o-Terphenyl	79		70 - 130			01/10/24 09:19	01/10/24 19:02	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	90.2		4.99	mg/Kg			01/10/24 21:46	1	

Surrogate Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-37864-A-1-H MS	Matrix Spike	103	103
880-37864-A-1-I MSD	Matrix Spike Duplicate	116	106
890-5903-1	FS 01	362 S1+	155 S1+
890-5903-2	FS 02	106	101
890-5903-3	FS 03	102	114
890-5904-A-1-B MS	Matrix Spike	110	104
890-5904-A-1-C MSD	Matrix Spike Duplicate	125	104
LCS 880-70505/1-A	Lab Control Sample	101	112
LCS 880-70722/1-A	Lab Control Sample	102	102
LCSD 880-70505/2-A	Lab Control Sample Dup	136 S1+	111
LCSD 880-70722/2-A	Lab Control Sample Dup	106	103
MB 880-70505/5-A	Method Blank	66 S1-	119
MB 880-70509/5-A	Method Blank	69 S1-	120
MB 880-70722/5-A	Method Blank	110	134 S1+
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5903-1	FS 01	81	78
890-5903-2	FS 02	80	79
890-5903-3	FS 03	79	79
890-5904-A-1-F MS	Matrix Spike	73	65 S1-
890-5904-A-1-G MSD	Matrix Spike Duplicate	73	64 S1-
LCS 880-70539/2-A	Lab Control Sample	93	103
LCSD 880-70539/3-A	Lab Control Sample Dup	95	108
MB 880-70539/1-A - RA2	Method Blank	94	98
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-70505/5-A

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 70505

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:57	01/12/24 01:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:57	01/12/24 01:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:57	01/12/24 01:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/09/24 16:57	01/12/24 01:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:57	01/12/24 01:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/09/24 16:57	01/12/24 01:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	01/09/24 16:57	01/12/24 01:26	1
1,4-Difluorobenzene (Surr)	119		70 - 130	01/09/24 16:57	01/12/24 01:26	1

Lab Sample ID: LCS 880-70505/1-A

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 70505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08641		mg/Kg		86	70 - 130
Toluene	0.100	0.08540		mg/Kg		85	70 - 130
Ethylbenzene	0.100	0.08639		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1887		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09229		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: LCSD 880-70505/2-A

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 70505

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1143		mg/Kg		114	70 - 130	28	35
Toluene	0.100	0.1064		mg/Kg		106	70 - 130	22	35
Ethylbenzene	0.100	0.1040		mg/Kg		104	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.2335		mg/Kg		117	70 - 130	21	35
o-Xylene	0.100	0.1093		mg/Kg		109	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 890-5904-A-1-B MS

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 70505

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.07529		mg/Kg		76	70 - 130
Toluene	<0.00200	U	0.0996	0.07751		mg/Kg		78	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-5904-A-1-B MS

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 70505

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.07904		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1713		mg/Kg		86	70 - 130
o-Xylene	<0.00200	U	0.0996	0.08624		mg/Kg		87	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: 890-5904-A-1-C MSD

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 70505

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.08237		mg/Kg		83	70 - 130	9	35
Toluene	<0.00200	U	0.0990	0.08313		mg/Kg		84	70 - 130	7	35
Ethylbenzene	<0.00200	U	0.0990	0.09696		mg/Kg		98	70 - 130	20	35
m-Xylene & p-Xylene	<0.00399	U	0.198	0.2093		mg/Kg		106	70 - 130	20	35
o-Xylene	<0.00200	U	0.0990	0.09597		mg/Kg		97	70 - 130	11	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	125		70 - 130								
1,4-Difluorobenzene (Surr)	104		70 - 130								

Lab Sample ID: MB 880-70509/5-A

Matrix: Solid

Analysis Batch: 70625

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 70509

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/09/24 16:59	01/11/24 11:47	1
Surrogate	%Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130			01/09/24 16:59	01/11/24 11:47	1
1,4-Difluorobenzene (Surr)	120		70 - 130			01/09/24 16:59	01/11/24 11:47	1

Lab Sample ID: MB 880-70722/5-A

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 70722

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/12/24 08:25	01/12/24 13:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/12/24 08:25	01/12/24 13:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/12/24 08:25	01/12/24 13:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/12/24 08:25	01/12/24 13:14	1

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QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-70722/5-A

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 70722

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/12/24 08:25	01/12/24 13:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/12/24 08:25	01/12/24 13:14	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	110		70 - 130			01/12/24 08:25	01/12/24 13:14	1
1,4-Difluorobenzene (Surr)	134	S1+	70 - 130			01/12/24 08:25	01/12/24 13:14	1

Lab Sample ID: LCS 880-70722/1-A

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 70722

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	0.100	0.1288		mg/Kg		129	70 - 130
Toluene	0.100	0.1089		mg/Kg		109	70 - 130
Ethylbenzene	0.100	0.1065		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2330		mg/Kg		116	70 - 130
o-Xylene	0.100	0.1182		mg/Kg		118	70 - 130
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
4-Bromofluorobenzene (Surr)	102		70 - 130				
1,4-Difluorobenzene (Surr)	102		70 - 130				

Lab Sample ID: LCSD 880-70722/2-A

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 70722

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Benzene	0.100	0.1207		mg/Kg		121	70 - 130	7	35
Toluene	0.100	0.1109		mg/Kg		111	70 - 130	2	35
Ethylbenzene	0.100	0.1125		mg/Kg		113	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2517		mg/Kg		126	70 - 130	8	35
o-Xylene	0.100	0.1244		mg/Kg		124	70 - 130	5	35
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	106		70 - 130						
1,4-Difluorobenzene (Surr)	103		70 - 130						

Lab Sample ID: 880-37864-A-1-H MS

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 70722

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Benzene	<0.00199	U	0.101	0.1122		mg/Kg		111	70 - 130
Toluene	<0.00199	U	0.101	0.09574		mg/Kg		94	70 - 130
Ethylbenzene	<0.00199	U	0.101	0.09587		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.2213		mg/Kg		110	70 - 130
o-Xylene	<0.00199	U	0.101	0.1128		mg/Kg		112	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-37864-A-1-H MS

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 70722

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-37864-A-1-I MSD

Matrix: Solid

Analysis Batch: 70720

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 70722

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1174		mg/Kg		118	70 - 130	4	35
Toluene	<0.00199	U	0.0998	0.09047		mg/Kg		90	70 - 130	6	35
Ethylbenzene	<0.00199	U	0.0998	0.09145		mg/Kg		91	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2057		mg/Kg		103	70 - 130	7	35
o-Xylene	<0.00199	U	0.0998	0.1001		mg/Kg		100	70 - 130	12	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: LCS 880-70539/2-A

Matrix: Solid

Analysis Batch: 70525

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 70539

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	890.4		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	882.1		mg/Kg		88	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-70539/3-A

Matrix: Solid

Analysis Batch: 70525

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 70539

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	872.3		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	926.8		mg/Kg		93	70 - 130	5	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	108		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-5904-A-1-F MS
Matrix: Solid
Analysis Batch: 70525

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 70539

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	1000	656.1	F1	mg/Kg		65	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1000	658.4	F1	mg/Kg		63	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	73		70 - 130						
o-Terphenyl	65	S1-	70 - 130						

Lab Sample ID: 890-5904-A-1-G MSD
Matrix: Solid
Analysis Batch: 70525

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 70539

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	1000	655.1	F1	mg/Kg		65	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1000	677.0	F1	mg/Kg		65	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	73		70 - 130								
o-Terphenyl	64	S1-	70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC) - RA2

Lab Sample ID: MB 880-70539/1-A
Matrix: Solid
Analysis Batch: 70525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 70539

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 - RA2	<50.0	U	50.0	mg/Kg		01/10/24 08:00	01/10/24 08:03	1
Diesel Range Organics (Over C10-C28) - RA2	<50.0	U	50.0	mg/Kg		01/10/24 08:00	01/10/24 08:03	1
Oil Range Organics (Over C28-C36) - RA2	<50.0	U	50.0	mg/Kg		01/10/24 08:00	01/10/24 08:03	1
Surrogate	MB %Recovery	MB Qualifier	Limits					
1-Chlorooctane - RA2	94		70 - 130					
o-Terphenyl - RA2	98		70 - 130					

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-70455/1-A
Matrix: Solid
Analysis Batch: 70532

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/10/24 19:22	1

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QC Sample Results

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-70455/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 70532											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.8		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-70455/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 70532											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.1		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-5902-A-16-B MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 70532											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	90.9		251	340.8		mg/Kg		100	90 - 110		

Lab Sample ID: 890-5902-A-16-C MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 70532											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	90.9		251	340.7		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

GC VOA

Prep Batch: 70505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-2	FS 02	Total/NA	Solid	5035	
890-5903-3	FS 03	Total/NA	Solid	5035	
MB 880-70505/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-70505/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-70505/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5904-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-5904-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 70509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-70509/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 70625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-2	FS 02	Total/NA	Solid	8021B	70505
890-5903-3	FS 03	Total/NA	Solid	8021B	70505
MB 880-70505/5-A	Method Blank	Total/NA	Solid	8021B	70505
MB 880-70509/5-A	Method Blank	Total/NA	Solid	8021B	70509
LCS 880-70505/1-A	Lab Control Sample	Total/NA	Solid	8021B	70505
LCSD 880-70505/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	70505
890-5904-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	70505
890-5904-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	70505

Analysis Batch: 70720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	8021B	70722
MB 880-70722/5-A	Method Blank	Total/NA	Solid	8021B	70722
LCS 880-70722/1-A	Lab Control Sample	Total/NA	Solid	8021B	70722
LCSD 880-70722/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	70722
880-37864-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	70722
880-37864-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	70722

Prep Batch: 70722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	5035	
MB 880-70722/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-70722/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-70722/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-37864-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-37864-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 70777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	Total BTEX	
890-5903-2	FS 02	Total/NA	Solid	Total BTEX	
890-5903-3	FS 03	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

GC Semi VOA

Analysis Batch: 70525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	8015B NM	70539
890-5903-2	FS 02	Total/NA	Solid	8015B NM	70539
890-5903-3	FS 03	Total/NA	Solid	8015B NM	70539
MB 880-70539/1-A - RA2	Method Blank	Total/NA	Solid	8015B NM	70539
LCS 880-70539/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	70539
LCSD 880-70539/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	70539
890-5904-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	70539
890-5904-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	70539

Prep Batch: 70539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	8015NM Prep	
890-5903-2	FS 02	Total/NA	Solid	8015NM Prep	
890-5903-3	FS 03	Total/NA	Solid	8015NM Prep	
MB 880-70539/1-A - RA2	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-70539/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-70539/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5904-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5904-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 70645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Total/NA	Solid	8015 NM	
890-5903-2	FS 02	Total/NA	Solid	8015 NM	
890-5903-3	FS 03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 70455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Soluble	Solid	DI Leach	
890-5903-2	FS 02	Soluble	Solid	DI Leach	
890-5903-3	FS 03	Soluble	Solid	DI Leach	
MB 880-70455/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-70455/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-70455/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5902-A-16-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5902-A-16-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 70532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5903-1	FS 01	Soluble	Solid	300.0	70455
890-5903-2	FS 02	Soluble	Solid	300.0	70455
890-5903-3	FS 03	Soluble	Solid	300.0	70455
MB 880-70455/1-A	Method Blank	Soluble	Solid	300.0	70455
LCS 880-70455/2-A	Lab Control Sample	Soluble	Solid	300.0	70455
LCSD 880-70455/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	70455
890-5902-A-16-B MS	Matrix Spike	Soluble	Solid	300.0	70455
890-5902-A-16-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	70455

Lab Chronicle

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Client Sample ID: FS 01
Date Collected: 01/04/24 09:10
Date Received: 01/05/24 16:13

Lab Sample ID: 890-5903-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	70722	01/12/24 08:25	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70720	01/12/24 21:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70777	01/12/24 21:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			70645	01/10/24 18:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	70539	01/10/24 09:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70525	01/10/24 18:18	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	70455	01/09/24 11:00	SA	EET MID
Soluble	Analysis	300.0		1			70532	01/10/24 21:36	CH	EET MID

Client Sample ID: FS 02
Date Collected: 01/04/24 09:15
Date Received: 01/05/24 16:13

Lab Sample ID: 890-5903-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	70505	01/09/24 16:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70625	01/12/24 11:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70777	01/12/24 11:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			70645	01/10/24 18:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	70539	01/10/24 09:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70525	01/10/24 18:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	70455	01/09/24 11:00	SA	EET MID
Soluble	Analysis	300.0		1			70532	01/10/24 21:41	CH	EET MID

Client Sample ID: FS 03
Date Collected: 01/04/24 09:20
Date Received: 01/05/24 16:13

Lab Sample ID: 890-5903-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	70505	01/09/24 16:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	70625	01/12/24 11:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70777	01/12/24 11:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			70645	01/10/24 19:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	70539	01/10/24 09:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70525	01/10/24 19:02	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	70455	01/09/24 11:00	SA	EET MID
Soluble	Analysis	300.0		1			70532	01/10/24 21:46	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: REMUDA 500 CTB

Job ID: 890-5903-1
SDG: 03C1558151

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5903-1	FS 01	Solid	01/04/24 09:10	01/05/24 16:13	0.5'
890-5903-2	FS 02	Solid	01/04/24 09:15	01/05/24 16:13	0.5'
890-5903-3	FS 03	Solid	01/04/24 09:20	01/05/24 16:13	0.5'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing
Xenco



Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Bevil	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3122 Nat'l Parks Green St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0858	Email:	bbevil@ensolum.com

Project Name:	Remuda 500 CTB	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03C1558151	Due Date:			
Project Location:	32, 27051-103.93133	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Meredith Roberts	Wet Ice:	Yes No		
P.O. #:		Thermometer ID:	777777		
		Correction Factor:	0.2		
		Temperature Reading:	0.6		
		Corrected Temperature:	0.4		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Sample Comments
							Yes	No	
FS01	S	1/4/24	0910	0.5'	C	1			SAMPLES LABELED w/ "(Flare Fire)"
FS02			0915						
FS03			0920						
									Incident #3
									NAPP2300441385
									NAPP2300448092
									NAPP2300641362
									Cost Center: 1061601001

Total 2007 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010 : 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client. If such losses are due to circumstances beyond the control of Eurofins Xenco, a minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. <i>Meredith Roberts</i>	<i>alred</i>	1/13 1/5 ²			
3. _____					
5. _____					

Revised Date: 08/25/2020 Rev. 2002

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5903-1

SDG Number: 03C1558151

Login Number: 5903

List Source: Eurofins Carlsbad

List Number: 1

Creator: Bruns, Shannon

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5903-1
SDG Number: 03C1558151

Login Number: 5903
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/09/24 01:43 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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

General Information
Phone: (505) 629-6116

Online Phone Directory
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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

Action 420428

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2300441385
Incident Name	NAPP2300441385 REMUDA 500 TB @ 0
Incident Type	Fire
Incident Status	Remediation Closure Report Received

Location of Release Source

Please answer all the questions in this group.

Site Name	REMUDA 500 TB
Date Release Discovered	12/23/2022
Surface Owner	State

Incident Details

Please answer all the questions in this group.

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

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	Not answered.
Condensate Released (bbls) Details	Cause: Freeze Other (Specify) Condensate Released: 0 BBL Recovered: 0 BBL Lost: 0 BBL.
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)	The low pressure flare guppy line froze, allowing fluid to build up in the line, then escape the flare and ignite on the pad surface. The fire damaged wiring on the high pressure flare before burning itself out. No injuries were reported. A third-party contractor has been retained for remediation purposes.

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QUESTIONS, Page 2

Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	More info needed to determine if this will be treated as 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: (2) an unauthorized release of a volume that: (a) results in a fire or is the result of a fire.
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: 01/14/2025
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QUESTIONS, Page 3

Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
<i>Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	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 1 and 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Between 1000 (ft.) and ½ (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<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)	296
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<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	02/10/2023
On what date will (or did) the final sampling or liner inspection occur	01/04/2024
On what date will (or was) the remediation complete(d)	02/10/2023
What is the estimated surface area (in square feet) that will be reclaimed	430
What is the estimated volume (in cubic yards) that will be reclaimed	8
What is the estimated surface area (in square feet) that will be remediated	430
What is the estimated volume (in cubic yards) that will be remediated	8
<i>These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.</i>	
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 4

Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(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: 01/14/2025
<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>	

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

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Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS, Page 6

Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	298232
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	01/05/2024
What was the (estimated) number of samples that were to be gathered	10
What was the sampling surface area in square feet	500

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	430
What was the total volume (cubic yards) remediated	8
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	430
What was the total volume (in cubic yards) reclaimed	8
Summarize any additional remediation activities not included by answers (above)	On December 23, 2022, the low-pressure flare pipeline froze which allowed fluid to build up in the pipeline, causing approximately 0.13 barrels (bbls) of condensate to exit the flare and ignite. The fire extinguished by itself, and no recoverable fluids remained. The release was assigned Incident Number NAPP2300441385
<i>The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Kailee Smith Title: Regulatory Analyst Email: kailee.smith@exxonmobil.com Date: 01/14/2025

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Action 420428

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 420428

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 420428
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #APP2300441385 REMUDA 500 TB, thank you. This Remediation Closure Report is approved.	1/21/2025