Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2223831434
District RP	
Facility ID	
Application ID	

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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.

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __11/03/2022_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: Jocelyn Harimon Date: 11/10/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Robert Hamlet Date: 2/3/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2223831434
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Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Garrett Green	Contact Telephone 575-200-0729
Contact email garrett.green@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.14550° Longitude -103.96290°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Elk Wallow CDP	Site Type Central Delivery Point
Date Release Discovered 08/13/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	11	25S	29E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Lube oil	Volume/Weight Released (provide units) 5.11 BBLS	Volume/Weight Recovered (provide units) 5.00 BBLS

Cause of Release: Compressor skid pump timer malfunctioned, allowing fluids to overflow tank into containment and onto pad. All contained fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

NA

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

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.

Printed Name: Garrett Green Title: SSHE Coordinator

Signature:  Date: 8/25/2022

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: _____ Date: _____

Location:	Elk Wallow CDP	
Spill Date:	8/13/2022	
Area 1		
Approximate Area =	28.07	cu.ft.
VOLUME OF LEAK		
Total Lube Oil =	5.00	bbls
Total Produced Water =	0.00	bbls
Area 2		
Approximate Area =	967.75	sq. ft.
Average Saturation (or depth) of spill =	0.25	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Lube Oil =	0.11	bbls
Total Produced Water =	0.00	bbls

TOTAL VOLUME OF LEAK		
Total Lube Oil =	**5.11**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Lube Oil =	**5.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2223831434
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Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2223831434
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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: ____11/03/2022_____

email: _garrett.green@exxonmobil.com_____ Telephone: ____575-200-0729_____

OCD Only

Received by: ___Jocelyn Harimon_____ Date: ___11/10/2022___

Incident ID	NAPP2223831434
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Closure

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Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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.

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __11/03/2022_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: Jocelyn Harimon Date: 11/10/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

November 9, 2022

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

Re: Closure Request
Elk Wallow CDP
Incident Number NAPP2223831434
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document site assessment, excavation, and soil sampling activities at the Elk Wallow CDP (Site). The purpose of the site assessment and soil sampling activities was to address impacts to soil following a release of lubrication oil at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2223831434.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit E, Section 11, Township 25 South, Range 29 East, in Eddy County, New Mexico (32.14550°N, 103.96290°W) and is associated with oil and gas exploration and production operations on New Mexico State land.

On, August 13, 2022, a compressor skid pump timer malfunctioned resulting in the release of 5.11 barrels (bbls) of lubrication oil into containment and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 5 bbls of lubrication oil were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on August 25, 2022. The release was assigned Incident Number NAPP2223831434.

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 the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico OSE well named C-4525, located approximately 0.6 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 110 feet bgs and a total depth of 110 feet bgs. Ground surface elevation at the groundwater well location is 3,025 feet above mean

sea level (amsl), which is approximately 60 feet lower in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an unnamed dry wash, located approximately 1,269 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 (low potential karst designation area). 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 ACTIVITIES

On October 6, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six assessment soil samples (SS01 through SS06) were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess for the presence or absence of impacted soil. The soil samples were field screened for volatile aromatic hydrocarbons (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation 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 at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following contaminants of concern (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.

Laboratory analytical results for soil samples SS03 through SS06 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the strictest Table I Closure Criteria. Laboratory analytical results for soil sample SS01 and SS02 indicated TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the assessment soil samples, delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

A 48-hour advance notice of liner inspection was provided via email to the NMOCD. A liner integrity inspection was conducted following fluid recovery. Upon inspection, the liner was determined to be competent. No tears or deficiencies were observed. The containment was holding a small amount of rainwater due to the weather the night before. Photographic documentation is included in Appendix B.

On October 24, 2022, Ensolum personnel were at the Site to oversee delineation and excavation activities in the release extent outside of the containment. Two potholes (PH01 and PH02) were advanced via backhoe within the release extent to a maximum depth of 4 feet bgs respectivly. Delineation soil samples were collected from each pothole at 1 foot bgs and 4 feet bgs from the vicinity of samples SS01 and SS02. Soil was field screened for VOCs and chloride as described above. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The soil sample locations are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results for the delineation soil samples. To direct excavation activities, Ensolum personnel screened soil for VOCs and chloride. Excavation activities were performed using a backhoe and transport vehicle.

Following removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing 200 square feet from the floor and sidewalls of the excavation. 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. Composite soil samples FS01 through FS03 were collected from the floor of the excavation at a depth of 3 feet bgs. Two composite sidewall samples (SW01 and SW02) were collected from the sidewalls of the excavation at depths ranging from the ground surface to 3 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 600 square feet. A total of approximately 85 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico. In order to provide safe access to the active production equipment onsite, the excavation was backfilled following receipt the final laboratory analytical reports. The excavation was backfilled with material procured locally and photographic documentation of the backfill is included in Appendix B.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation pothole soil samples PH01/PH01A and PH02/PH02A indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and compliant with the most stringent Table I Closure Criteria.

Laboratory analytical results for the excavation floor soil samples FS01 through FS03 and sidewall samples SW01 and SW02, collected from the final excavation extent, indicated all COCs were compliant with the Closure Criteria. In addition, laboratory analytical results for the lateral samples, SS03 through SS06, sidewall samples, SW01 and SW02, and the terminal delineation samples PH01A and PH02A collected at 4 feet bgs indicate all COCs were compliant with the strictest Table I Closure Criteria, providing vertical and lateral delineation to the strictest 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 excavation activities were conducted at the Site to address the August 13, 2022, release of lubrication oil into containment and onto the pad. A liner inspection determined the liner was operating as designed. For the impacted area of the well pad outside of containment, soil was excavated and laboratory analytical results for the confirmation soil samples indicated all COCs were compliant with the Site Closure Criteria. Additionally, the release is vertically and laterally delineated to the strictest Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO has backfilled the excavation with locally procured material to provide safe access to active production equipment.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2223831434.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Ashley L. Ager, M.S., P.G.
Program Director

cc: Garrett Green, XTO
Shelby Pennington, XTO
New Mexico State Land Office

Appendices:

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

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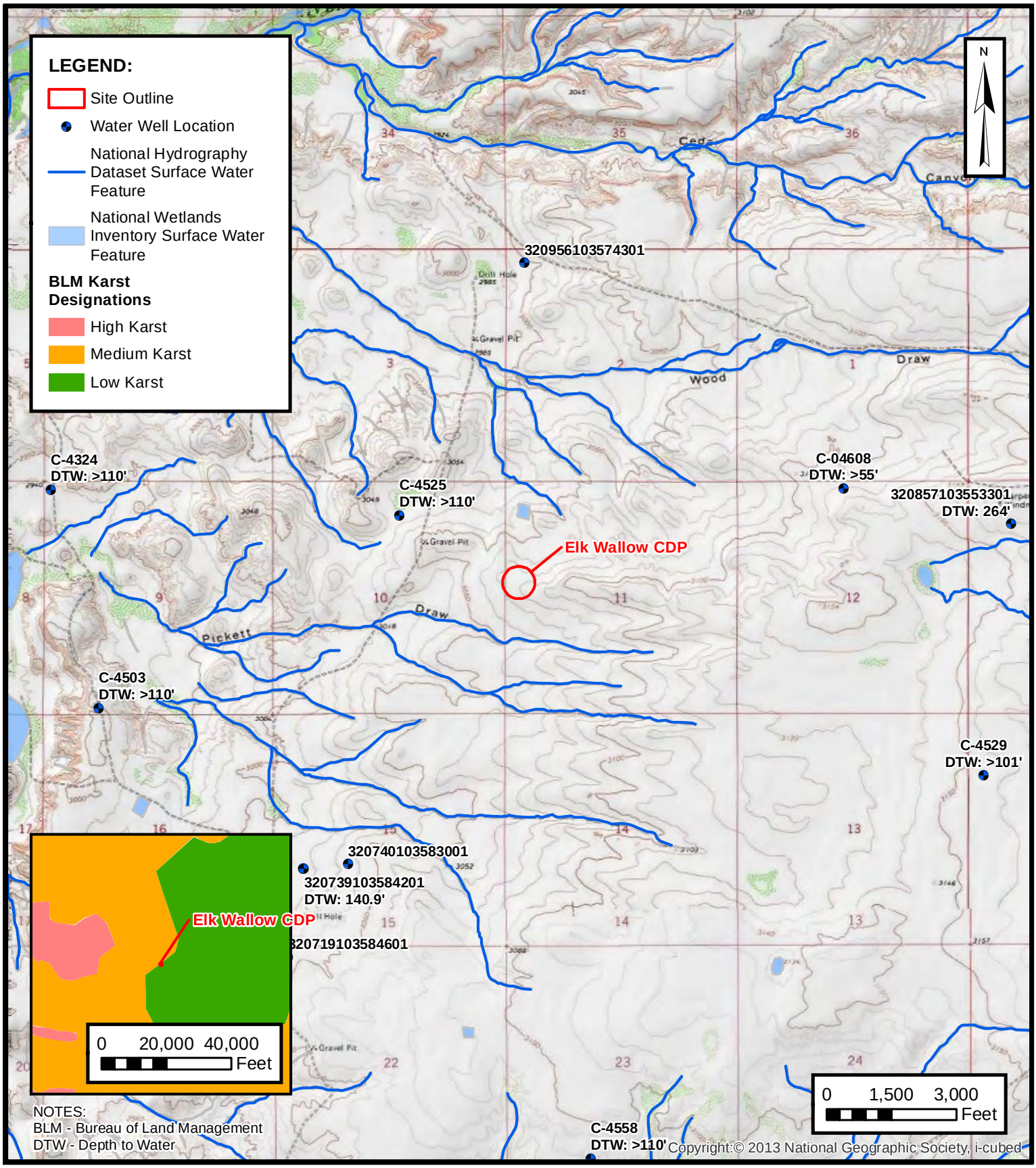
FIGURES

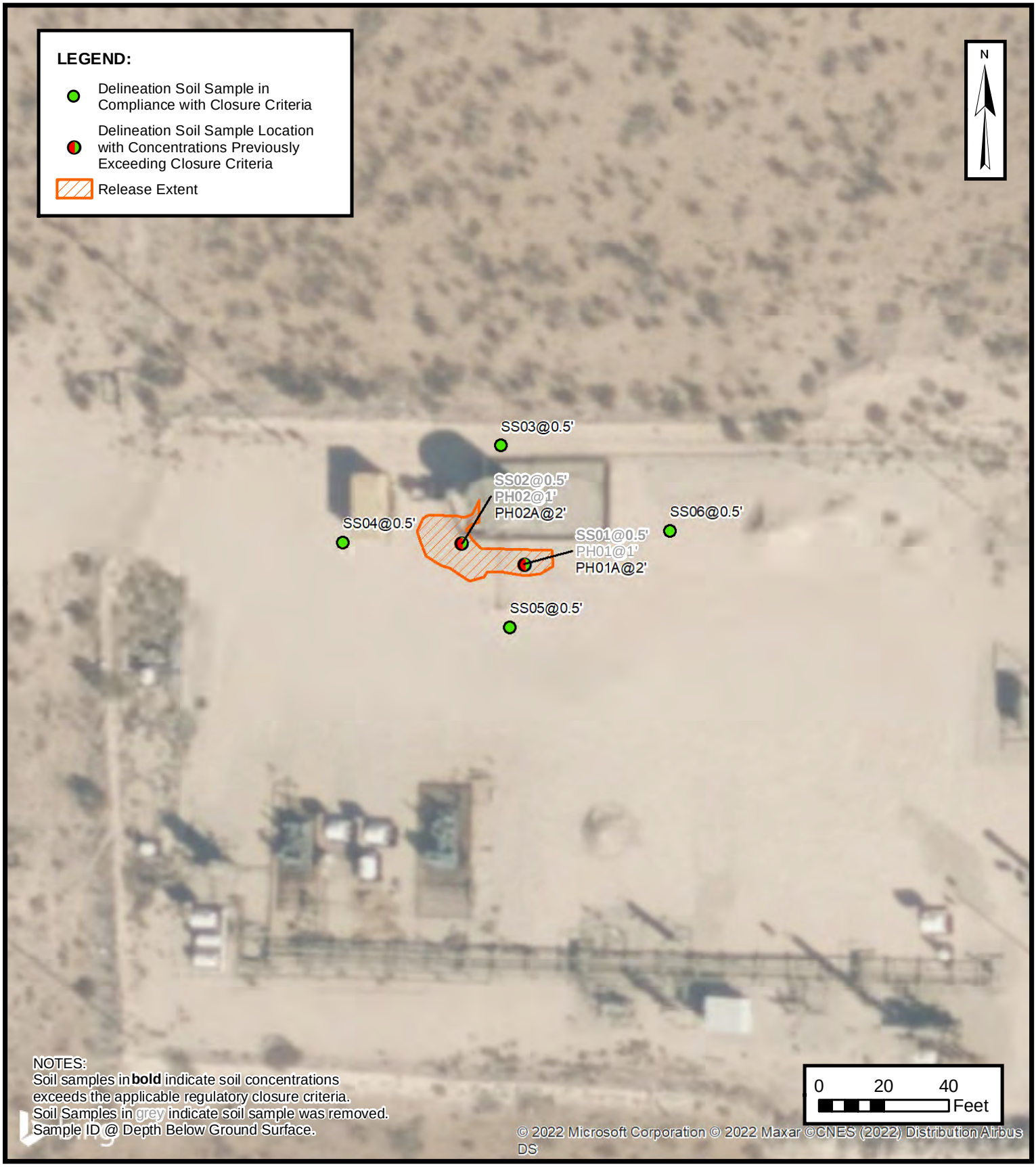


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
ELK WALLOW CDP
NAPP2223831434
Unit E, Sec 11, T25S, R29E
Eddy County, New Mexico

FIGURE
1



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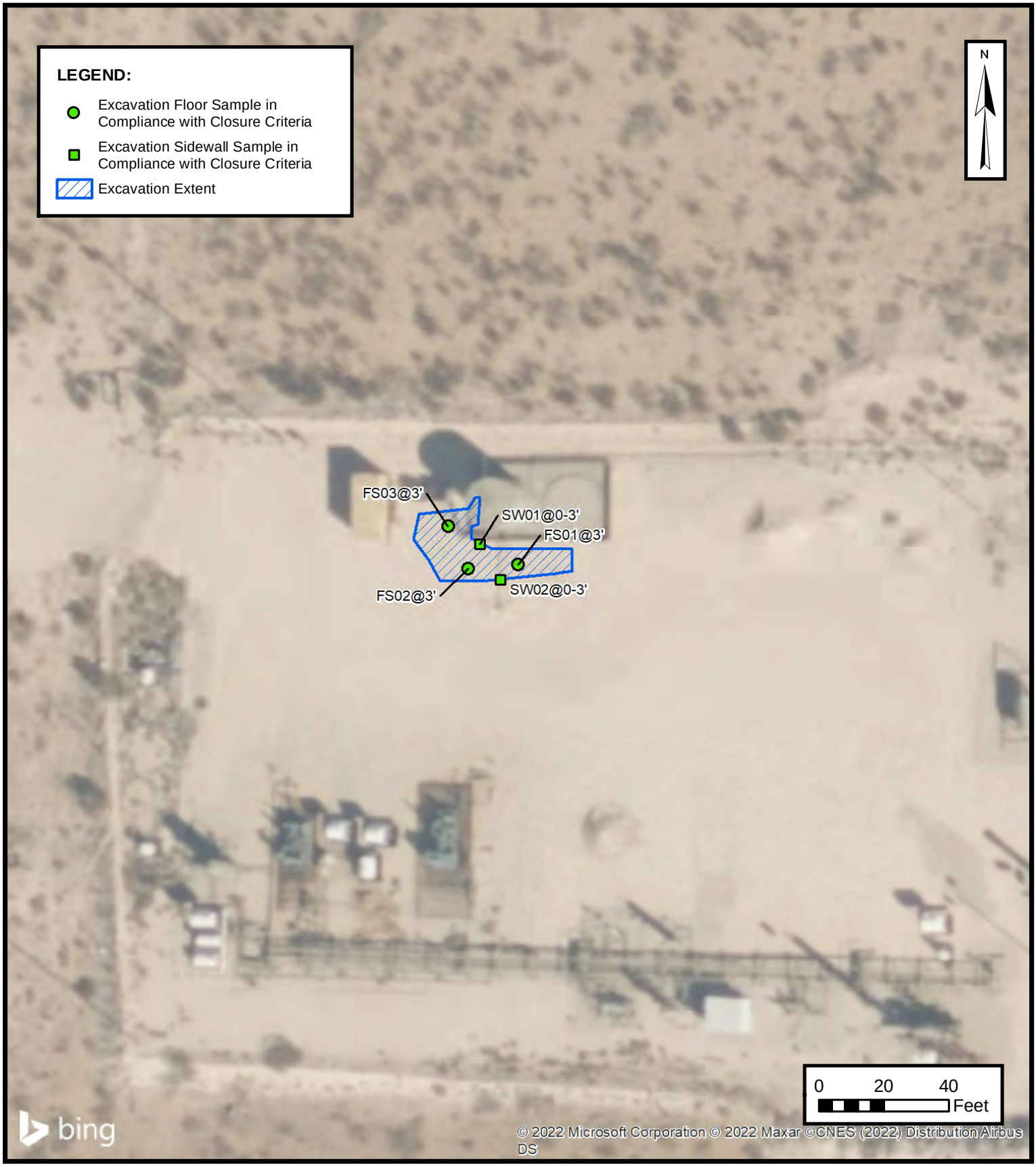
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
ELK WALLOW CDP
NAPP2223831434
Unit E, Sec 11, T25S, R29E
Eddy County, New Mexico

FIGURE
2



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
ELK WALLOW CDP
NAPP2223831434
Unit E, Sec 11, T25S, R29E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
ELK WALLOW CDP
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 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Delineation Soil Samples										
~~SS01~~	~~10/06/2022~~	~~0.5'~~	~~<0.200~~	~~14~~	~~836~~	~~10,300~~	~~7,180~~	~~**10,300**~~	~~**18,300**~~	~~88~~
~~SS02~~	~~10/06/2022~~	~~0.5'~~	~~<0.202~~	~~5~~	~~<499~~	~~10,900~~	~~9,400~~	~~**10,900**~~	~~**20,300**~~	~~28~~
SS03	10/06/2022	0.5'	<0.002	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	17
SS04	10/06/2022	0.5'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	22
SS05	10/06/2022	0.5'	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	201
SS06	10/06/2022	0.5'	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	33
~~PH01~~	~~10/24/2022~~	~~1'~~	~~<0.00199~~	~~0.00833~~	~~<50.0~~	~~356~~	~~<50.0~~	~~356~~	~~356~~	~~53.9~~
PH01A	10/24/2022	4'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	32.9
~~PH02~~	~~10/24/2022~~	~~1'~~	~~<0.00200~~	~~<0.00400~~	~~<50.0~~	~~918~~	~~111~~	~~918~~	~~1,030~~	~~20.9~~
PH02A	10/24/2022	4'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	24.5
Confirmation Soil Samples										
FS01	10/24/2022	3'	<0.00199	<0.00398	<49.8	59.5	<49.8	59.5	59.5	21.5
FS02	10/24/2022	3'	<0.00198	0.0127	<49.9	158	<49.9	158	158	24.7
FS03	10/24/2022	3'	<0.00200	<0.00400	<49.9	59.8	<49.9	59.8	59.8	33.2
SW01	10/24/2022	0-3'	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	37.6
SW02	10/24/2022	0-3'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	22.1

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 1 Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

ENSOLUM

APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (MW-1)	n/a	C-4525

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	8'	57.48"	N
	LONGITUDE	103°	58'	18.24"	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE
NW NE Sec. 10 T25S R29E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05/26/2021	05/26/2021	temporary well material	110	n/a

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

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

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

FILE NO.	C-4525	POD NO.	1	TRN NO.	692090
LOCATION	Exp1	25S.29E.10.213		WELL TAG ID NO.	—

PAGE 1 OF 2

OSE DIT JUN 10 2022 PM2:45

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	24	24	CALICHE, mod. consolidated, tan-off white, dry	Y ✓ N	
24	29	5	SAND, poorly graded, very- fine grained, caliche gravel, light-brown	Y ✓ N	
29	39	10	SAND, poorly graded, very- fine grained, caliche gravel, light-brown, moist	Y ✓ N	
39	44	5	SAND, poorly graded, very- fine grained, light-brown, moist	Y ✓ N	
44	59	15	SAND, poorly graded, very- fine grained, light-brown, moist	Y ✓ N	
59	69	10	SAND, poorly graded, very- fine grained, brown, moist	Y ✓ N	
69	74	5	SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
74	79	5	SILTY SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
79	89	10	SAND, poorly graded, very- fine grained, with silt, brown, moist	Y ✓ N	
89	94	5	SILTY SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
94	110	16	SILTY SAND, poorly graded, very- fine grained, brown, moist	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge, Carmelo Trevino, Cameron Pruitt

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 06/09/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4525	POD NO. 1	TRN NO. 692090
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

OSE DII JUN 10 2021 PM2:47

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Effective October 24, 2022 hyperlinks to legacy Current Condition pages will automatically redirect users to the corresponding Monitoring Location page. Please see the Water Data For The Nation Blog for full details, including how to navigate back to the legacy Current Condition page, if desired.
- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 320739103584201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

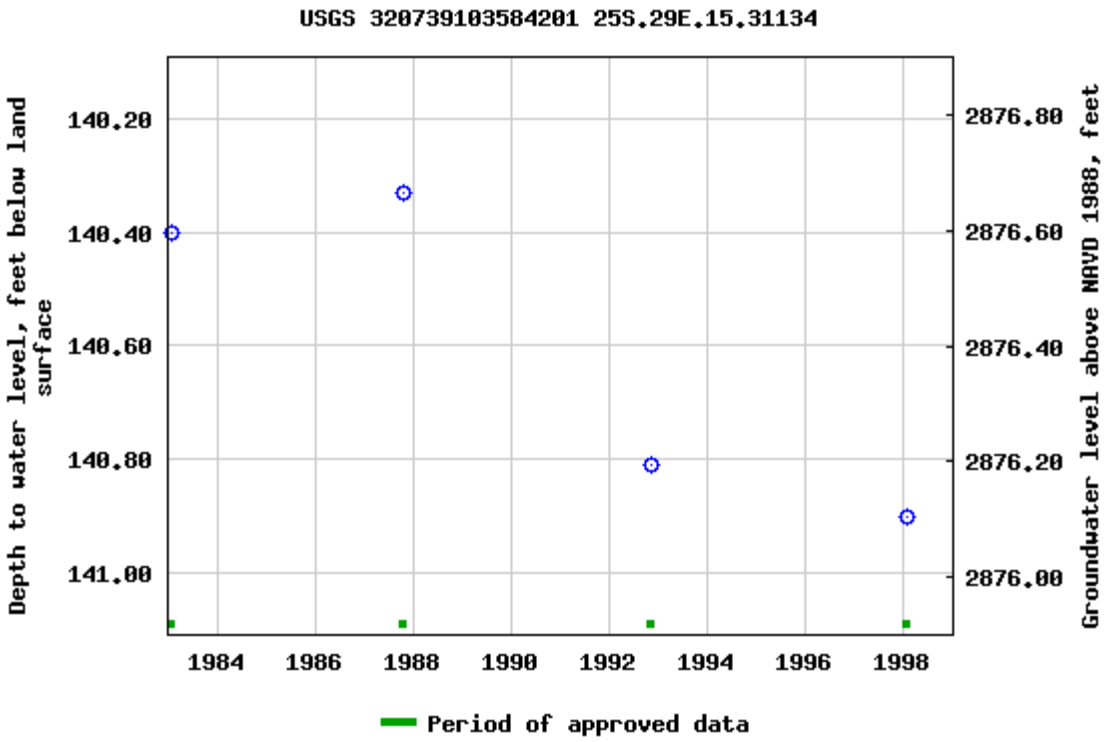
USGS 320739103584201 25S.29E.15.31134

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°07'39", Longitude 103°58'42" NAD27
Land-surface elevation 3,017 feet above NAVD88
The depth of the well is 192 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

ENSOLUM

APPENDIX B

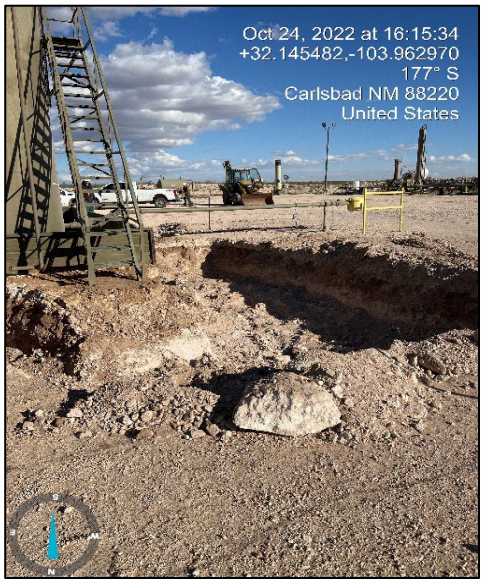
Photographic Log

ENSOLUM

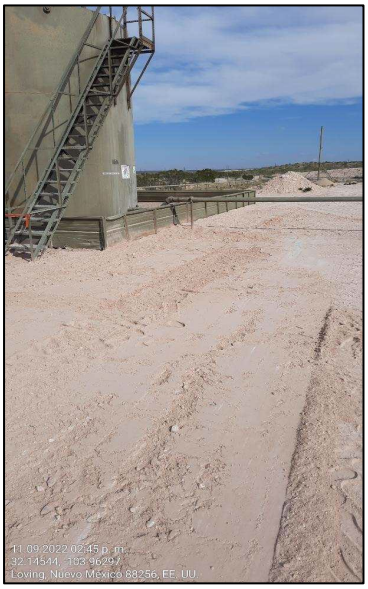
Photographic Log
XTO Energy, INC
Elk Wallow CDP
NAPP2223831434

Photograph: 1 Date: 10/6/2022
Description: View of soil staining extent
View: Northeast

Photograph: 2 Date: 10/24/2022
Description: Liner inspection, no visible deficiencies.
View: West



Photograph: 3 Date: 10/24/2022
Description: Excavation activities
View: Southwest



Photograph: 4 Date: 11/09/2022
Description: Backfilling activities
View: Northeast

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 10/24/2022
	Site Name: Elk Wallow CDP	
	Incident Number: nAPP2223831434	
	Job Number: 03E1558115	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Meredith Roberts	Method: Backhoe
Coordinates: 32.1454796, -103.9628148	Hole Diameter: 3'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
	473.6	164.6		PH01	1	1		Pad soils; Caliche
	473.6	28.5				2		Pad soils; Caliche
	<173.6	8.5				3		Caliche
	473.6	4.5		PH01A	4	4		Caliche TD @ 4 feet bgs

ENSOLUM

Sample Name: PH02	Date: 10/24/2022
Site Name: Elk Wallow CDP	
Incident Number: nAPP2223831434	
Job Number: 03E1558115	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Meredith Roberts / Method: Backhoe
Coordinates: 32.1454881, -103.9629074	Hole Diameter: 3' / Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
	<173.6	206.3		PH02	1	1		Pad soils; Caliche
	<173.6	95.6				2		Pad soils; Caliche
	<173.6	111.3				3		Caliche
	<173.6	0.6		PH02A	4	4		Caliche

TD @ 4 feet bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3164-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/14/2022 2:28:33 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3164-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Job ID: 890-3164-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3164-1

Receipt
The sample was received on 10/6/2022 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3164-1).

GC VOA
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 method blank for preparation batch 880-36395 and analytical batch 880-36488 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36395 and analytical batch 880-36488 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36394 and analytical batch 880-36739 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Client Sample ID: SS06

Date Collected: 10/06/22 09:10
Date Received: 10/06/22 13:00
Sample Depth: 0.5

Lab Sample ID: 890-3164-1

Matrix: Solid

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		10/14/22 08:57	10/14/22 11:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:43	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/14/22 08:57	10/14/22 11:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:43	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/14/22 08:57	10/14/22 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/14/22 08:57*	*10/14/22 11:43*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*10/14/22 08:57*	*10/14/22 11:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/14/22 15:05	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			10/11/22 09:32	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		10/07/22 15:16	10/10/22 14:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 14:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*10/07/22 15:16*	*10/10/22 14:48*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/07/22 15:16*	*10/10/22 14:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.1**		4.97		mg/Kg			10/11/22 23:10	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3164-1	SS06	107	85
890-3164-1 MS	SS06	103	98
890-3164-1 MSD	SS06	92	94
LCS 880-36936/1-A	Lab Control Sample	91	95
LCSD 880-36936/2-A	Lab Control Sample Dup	92	95
MB 880-36936/5-A	Method Blank	102	82

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3155-A-1-C MS	Matrix Spike	82	78
890-3155-A-1-D MSD	Matrix Spike Duplicate	82	78
890-3164-1	SS06	97	99
LCS 880-36395/2-A	Lab Control Sample	107	117
LCSD 880-36395/3-A	Lab Control Sample Dup	106	113
MB 880-36395/1-A	Method Blank	112	121

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36936/5-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36936

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/14/22 08:57	10/14/22 11:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 08:57	10/14/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/14/22 08:57	10/14/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/14/22 08:57*	*10/14/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*10/14/22 08:57*	*10/14/22 11:21*	*1*

Lab Sample ID: LCS 880-36936/1-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1022		mg/Kg		102	70 - 130		
Toluene			0.100	0.1041		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.09738		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2055		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1023		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-36936/2-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1058		mg/Kg		106	70 - 130	3	35
Toluene			0.100	0.1063		mg/Kg		106	70 - 130	2	35
Ethylbenzene			0.100	0.1010		mg/Kg		101	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2091		mg/Kg		105	70 - 130	2	35
o-Xylene			0.100	0.1050		mg/Kg		105	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3164-1 MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 36936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.08153		mg/Kg		81	70 - 130		
Toluene	<0.00200	U	0.100	0.08840		mg/Kg		88	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

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

Lab Sample ID: 890-3164-1 MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 36936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09509		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2037		mg/Kg		102	70 - 130
o-Xylene	<0.00200	U	0.100	0.1023		mg/Kg		102	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-3164-1 MSD
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 36936

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	0.08924		mg/Kg		90	70 - 130	9	35
Toluene	<0.00200	U	0.0990	0.09029		mg/Kg		91	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.0990	0.08591		mg/Kg		87	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1777		mg/Kg		90	70 - 130	14	35
o-Xylene	<0.00200	U	0.0990	0.09004		mg/Kg		91	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

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		10/07/22 15:16	10/10/22 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*
o-Terphenyl	*121*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	996.9		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	946.9		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

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

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-36395/3-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1023		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-3155-A-1-C MS
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	983.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	671.0	F1	mg/Kg		66	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 890-3155-A-1-D MSD
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36395

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	<50.0	U	999	1010		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	687.0	F1	mg/Kg		67	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36394/1-A
Matrix: Solid
Analysis Batch: 36739

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			10/11/22 20:54	1

Lab Sample ID: LCS 880-36394/2-A
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36394/3-A
Matrix: Solid
Analysis Batch: 36739

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	269.0		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-3163-A-7-C MS
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	241	F1	249	489.4		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3163-A-7-D MSD
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241	F1	249	520.0	F1	mg/Kg		112	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

GC VOA

Analysis Batch: 36928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	8021B	36936
MB 880-36936/5-A	Method Blank	Total/NA	Solid	8021B	36936
LCS 880-36936/1-A	Lab Control Sample	Total/NA	Solid	8021B	36936
LCSD 880-36936/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36936
890-3164-1 MS	SS06	Total/NA	Solid	8021B	36936
890-3164-1 MSD	SS06	Total/NA	Solid	8021B	36936

Prep Batch: 36936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	5035	
MB 880-36936/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36936/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36936/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3164-1 MS	SS06	Total/NA	Solid	5035	
890-3164-1 MSD	SS06	Total/NA	Solid	5035	

Analysis Batch: 36986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	8015B NM	36395
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015B NM	36395
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36395
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36395
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36395
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36395

Analysis Batch: 36652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Soluble	Solid	DI Leach	
MB 880-36394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

HPLC/IC (Continued)

Leach Batch: 36394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3164-1	SS06	Soluble	Solid	300.0	36394
MB 880-36394/1-A	Method Blank	Soluble	Solid	300.0	36394
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	300.0	36394
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36394
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	300.0	36394
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36394

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Client Sample ID: SS06

Date Collected: 10/06/22 09:10
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3164-1

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			4.99 g	5 mL	36936	10/14/22 08:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36928	10/14/22 11:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36986	10/14/22 15:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			36652	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36488	10/10/22 14:48	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:10	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: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3164-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3164-1	SS06	Solid	10/06/22 09:10	10/06/22 13:00	0.5

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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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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:	Elk Wallow CDP	Turn Around	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551,-103.96291	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TH100007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.8
Total Containers:		Corrected Temperature:	9.6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS06	S	10/6/2022	9:10	0.5'	G	1		x	x	x

ANALYSIS REQUEST / Parameters

890-3164 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID:
nAPP2223831434
Cost Center:
1067691001
AFE:

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 Tl 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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10-6-22 7390			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3164-1
SDG Number: 03E1558115

Login Number: 3164
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: 890-3164-1
SDG Number: 03E1558115

Login Number: 3164
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3165-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
10/13/2022 3:13:21 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3165-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Job ID: 890-3165-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3165-1

Receipt
The sample was received on 10/6/2022 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3165-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36737 and analytical batch 880-36814 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was 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 method blank for preparation batch 880-36395 and analytical batch 880-36488 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36395 and analytical batch 880-36488 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36394 and analytical batch 880-36739 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Client Sample ID: SS05

Date Collected: 10/06/22 09:05
Date Received: 10/06/22 13:00
Sample Depth: 0.5

Lab Sample ID: 890-3165-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F2 F1	0.00201		mg/Kg		10/12/22 10:15	10/13/22 11:38	1
Toluene	<0.00201	U F2 F1	0.00201		mg/Kg		10/12/22 10:15	10/13/22 11:38	1
Ethylbenzene	<0.00201	U F2 F1	0.00201		mg/Kg		10/12/22 10:15	10/13/22 11:38	1
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.00402		mg/Kg		10/12/22 10:15	10/13/22 11:38	1
o-Xylene	<0.00201	U F2 F1	0.00201		mg/Kg		10/12/22 10:15	10/13/22 11:38	1
Xylenes, Total	<0.00402	U F2 F1	0.00402		mg/Kg		10/12/22 10:15	10/13/22 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*10/12/22 10:15*	*10/13/22 11:38*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*10/12/22 10:15*	*10/13/22 11:38*	*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			10/13/22 15:29	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			10/11/22 09:32	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		10/07/22 15:16	10/10/22 15:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/07/22 15:16	10/10/22 15:12	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/07/22 15:16	10/10/22 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:12*	*1*
o-Terphenyl	*102*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:12*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**201**		5.05		mg/Kg			10/11/22 23:15	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3165-1	SS05	124	76
890-3165-1 MS	SS05	110	98
890-3165-1 MSD	SS05	109	98
LCS 880-36737/1-A	Lab Control Sample	97	92
LCSD 880-36737/2-A	Lab Control Sample Dup	95	91
MB 880-36737/5-A	Method Blank	107	81

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3155-A-1-C MS	Matrix Spike	82	78
890-3155-A-1-D MSD	Matrix Spike Duplicate	82	78
890-3165-1	SS05	97	102
LCS 880-36395/2-A	Lab Control Sample	107	117
LCSD 880-36395/3-A	Lab Control Sample Dup	106	113
MB 880-36395/1-A	Method Blank	112	121

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36737/5-A
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36737

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:15	10/13/22 11:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:15	10/13/22 11:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:15	10/13/22 11:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/12/22 10:15	10/13/22 11:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:15	10/13/22 11:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/12/22 10:15	10/13/22 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/12/22 10:15*	*10/13/22 11:17*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*10/12/22 10:15*	*10/13/22 11:17*	*1*

Lab Sample ID: LCS 880-36737/1-A
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36737

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1052		mg/Kg		105	70 - 130		
Toluene			0.100	0.1114		mg/Kg		111	70 - 130		
Ethylbenzene			0.100	0.1086		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2316		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1136		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-36737/2-A
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36737

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1086		mg/Kg		109	70 - 130	3	35
Toluene			0.100	0.1118		mg/Kg		112	70 - 130	0	35
Ethylbenzene			0.100	0.1078		mg/Kg		108	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2234		mg/Kg		112	70 - 130	4	35
o-Xylene			0.100	0.1108		mg/Kg		111	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 890-3165-1 MS
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 36737

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F2 F1	0.100	0.08431		mg/Kg		84	70 - 130		
Toluene	<0.00201	U F2 F1	0.100	0.09200		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

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

Lab Sample ID: 890-3165-1 MS
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 36737

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F2 F1	0.100	0.09140		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.201	0.2004		mg/Kg		100	70 - 130
o-Xylene	<0.00201	U F2 F1	0.100	0.1035		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-3165-1 MSD
Matrix: Solid
Analysis Batch: 36814

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 36737

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	0.04547	F2 F1	mg/Kg		46	70 - 130	60	35
Toluene	<0.00201	U F2 F1	0.0990	0.04339	F2 F1	mg/Kg		44	70 - 130	72	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.04388	F2 F1	mg/Kg		44	70 - 130	70	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.198	0.09555	F2 F1	mg/Kg		48	70 - 130	71	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.05969	F2 F1	mg/Kg		60	70 - 130	54	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

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		10/07/22 15:16	10/10/22 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*
o-Terphenyl	*121*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	996.9		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	946.9		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

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

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-36395/3-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1023		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-3155-A-1-C MS
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	983.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	671.0	F1	mg/Kg		66	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 890-3155-A-1-D MSD
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36395

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	<50.0	U	999	1010		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	687.0	F1	mg/Kg		67	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36394/1-A
Matrix: Solid
Analysis Batch: 36739

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			10/11/22 20:54	1

Lab Sample ID: LCS 880-36394/2-A
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36394/3-A
Matrix: Solid
Analysis Batch: 36739

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	269.0		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-3163-A-7-C MS
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	241	F1	249	489.4		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3163-A-7-D MSD
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241	F1	249	520.0	F1	mg/Kg		112	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

GC VOA

Prep Batch: 36737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	5035	
MB 880-36737/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36737/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36737/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3165-1 MS	SS05	Total/NA	Solid	5035	
890-3165-1 MSD	SS05	Total/NA	Solid	5035	

Analysis Batch: 36814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	8021B	36737
MB 880-36737/5-A	Method Blank	Total/NA	Solid	8021B	36737
LCS 880-36737/1-A	Lab Control Sample	Total/NA	Solid	8021B	36737
LCSD 880-36737/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36737
890-3165-1 MS	SS05	Total/NA	Solid	8021B	36737
890-3165-1 MSD	SS05	Total/NA	Solid	8021B	36737

Analysis Batch: 36897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	8015B NM	36395
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015B NM	36395
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36395
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36395
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36395
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36395

Analysis Batch: 36653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Soluble	Solid	DI Leach	
MB 880-36394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

HPLC/IC (Continued)

Leach Batch: 36394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3165-1	SS05	Soluble	Solid	300.0	36394
MB 880-36394/1-A	Method Blank	Soluble	Solid	300.0	36394
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	300.0	36394
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36394
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	300.0	36394
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36394

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Client Sample ID: SS05

Date Collected: 10/06/22 09:05
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3165-1

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	36737	10/12/22 10:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36814	10/13/22 11:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36897	10/13/22 15:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			36653	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36488	10/10/22 15:12	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:15	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: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3165-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3165-1	SS05	Solid	10/06/22 09:05	10/06/22 13:00	0.5

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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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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:	Elk Wallow CDP	**Turn Around**	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551,-103.96291	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.8	
Total Containers:		Corrected Temperature:	9.6	

ANALYSIS REQUEST

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS05	S	10/6/2022	9:05	0.5'	G	1		x	x	x

890-3165 Chain of Custody

Sample Comments

Incident ID:
nAPP2223831434
Cost Center:
1067691001
AFE:

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 Tl 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.6.22 1300	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3165-1
SDG Number: 03E1558115

Login Number: 3165
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: 890-3165-1
SDG Number: 03E1558115

Login Number: 3165
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3166-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
10/17/2022 11:27:56 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3166-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Job ID: 890-3166-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3166-1

Receipt
The sample was received on 10/6/2022 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-3166-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36687 and analytical batch 880-36926 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was 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 method blank for preparation batch 880-36395 and analytical batch 880-36488 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36395 and analytical batch 880-36488 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36394 and analytical batch 880-36739 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Client Sample ID: SS04

Date Collected: 10/06/22 09:00
Date Received: 10/06/22 13:00
Sample Depth: 0.5

Lab Sample ID: 890-3166-1

Matrix: Solid

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		10/11/22 14:39	10/15/22 05:21	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 05:21	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 05:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 05:21	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 05:21	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/11/22 14:39*	*10/15/22 05:21*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/11/22 14:39*	*10/15/22 05:21*	*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			10/17/22 10:10	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			10/11/22 09:32	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		10/07/22 15:16	10/10/22 15:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 15:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:33*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:33*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21.9**		4.97		mg/Kg			10/11/22 23:21	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3151-A-21-G MS	Matrix Spike	109	86										
890-3151-A-21-H MSD	Matrix Spike Duplicate	97	108										
890-3166-1	SS04	101	99										
LCS 880-36687/1-A	Lab Control Sample	108	109										
LCSD 880-36687/2-A	Lab Control Sample Dup	110	99										
MB 880-36687/5-A	Method Blank	86	96										
MB 880-36926/8	Method Blank	85	98										

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)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3155-A-1-C MS	Matrix Spike	82	78										
890-3155-A-1-D MSD	Matrix Spike Duplicate	82	78										
890-3166-1	SS04	96	98										
LCS 880-36395/2-A	Lab Control Sample	107	117										
LCSD 880-36395/3-A	Lab Control Sample Dup	106	113										
MB 880-36395/1-A	Method Blank	112	121										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36687/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36926 — **Prep Batch: 36687**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 14:39	10/14/22 21:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*10/11/22 14:39*	*10/14/22 21:49*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/11/22 14:39*	*10/14/22 21:49*	*1*

Lab Sample ID: LCS 880-36687/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36926 — **Prep Batch: 36687**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1156		mg/Kg		116	70 - 130		
Toluene			0.100	0.1061		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1095		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2219		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1093		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-36687/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36926 — **Prep Batch: 36687**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1073		mg/Kg		107	70 - 130	7	35
Toluene			0.100	0.09933		mg/Kg		99	70 - 130	7	35
Ethylbenzene			0.100	0.1022		mg/Kg		102	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2179		mg/Kg		109	70 - 130	2	35
o-Xylene			0.100	0.1081		mg/Kg		108	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-3151-A-21-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36926 — **Prep Batch: 36687**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F2 F1	0.101	0.05102	F1	mg/Kg		51	70 - 130		
Toluene	<0.00202	U F1	0.101	0.05844	F1	mg/Kg		58	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

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

Lab Sample ID: 890-3151-A-21-G MS
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F1	0.101	0.06664	F1	mg/Kg		66	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.201	0.1336	F1	mg/Kg		66	70 - 130
o-Xylene	<0.00202	U F1	0.101	0.06708	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-3151-A-21-H MSD
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36687

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F2 F1	0.0990	0.08190	F2	mg/Kg		83	70 - 130	46	35
Toluene	<0.00202	U F1	0.0990	0.07289		mg/Kg		74	70 - 130	22	35
Ethylbenzene	<0.00202	U F1	0.0990	0.07137		mg/Kg		72	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U F1	0.198	0.1444		mg/Kg		73	70 - 130	8	35
o-Xylene	<0.00202	U F1	0.0990	0.07130		mg/Kg		72	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-36926/8
Matrix: Solid
Analysis Batch: 36926

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			10/14/22 11:01	1
Toluene	<0.00200	U	0.00200	mg/Kg			10/14/22 11:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			10/14/22 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			10/14/22 11:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			10/14/22 11:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			10/14/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*10/14/22 11:01*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*		*10/14/22 11:01*	*1*

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

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		10/07/22 15:16	10/10/22 10:59	1

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*
o-Terphenyl	*121*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	996.9		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	946.9		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: LCSD 880-36395/3-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1023		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Lab Sample ID: 890-3155-A-1-C MS
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	983.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	671.0	F1	mg/Kg		66	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

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

Lab Sample ID: 890-3155-A-1-D MSD
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36395

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	<50.0	U	999	1010		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	687.0	F1	mg/Kg		67	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36394/1-A
Matrix: Solid
Analysis Batch: 36739

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			10/11/22 20:54	1

Lab Sample ID: LCS 880-36394/2-A
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36394/3-A
Matrix: Solid
Analysis Batch: 36739

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	269.0		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-3163-A-7-C MS
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	241	F1	249	489.4		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3163-A-7-D MSD
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241	F1	249	520.0	F1	mg/Kg		112	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

GC VOA

Prep Batch: 36687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	5035	
MB 880-36687/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36687/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36687/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3151-A-21-G MS	Matrix Spike	Total/NA	Solid	5035	
890-3151-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	8021B	36687
MB 880-36687/5-A	Method Blank	Total/NA	Solid	8021B	36687
MB 880-36926/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-36687/1-A	Lab Control Sample	Total/NA	Solid	8021B	36687
LCSD 880-36687/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36687
890-3151-A-21-G MS	Matrix Spike	Total/NA	Solid	8021B	36687
890-3151-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36687

Analysis Batch: 37119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	8015B NM	36395
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015B NM	36395
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36395
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36395
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36395
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36395

Analysis Batch: 36654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Soluble	Solid	DI Leach	
MB 880-36394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

HPLC/IC (Continued)

Leach Batch: 36394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3166-1	SS04	Soluble	Solid	300.0	36394
MB 880-36394/1-A	Method Blank	Soluble	Solid	300.0	36394
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	300.0	36394
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36394
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	300.0	36394
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36394

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Client Sample ID: SS04

Date Collected: 10/06/22 09:00
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3166-1

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			5.03 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 05:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37119	10/17/22 10:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36654	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36488	10/10/22 15:33	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:21	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: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3166-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3166-1	SS04	Solid	10/06/22 09:00	10/06/22 13:00	0.5

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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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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:	Elk Wallow CDP	Turn Around	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551,-103.96291	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TH1007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.8	
Total Containers:		Corrected Temperature:	9.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS04	S	10/6/2022	9:00	0.5'	G	1		x	x	x

Parameters

ANALYSIS REQUEST

890-3166 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID:
nAPP2223831434
Cost Center:
1067691001
AFE:

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 Tl 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.16.22 1300	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3166-1
SDG Number: 03E1558115

Login Number: 3166
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: 890-3166-1
SDG Number: 03E1558115

Login Number: 3166
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3167-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
10/13/2022 11:09:44 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3167-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Job ID: 890-3167-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3167-1

Receipt
The sample was received on 10/6/2022 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-3167-1).

GC VOA
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 method blank for preparation batch 880-36395 and analytical batch 880-36488 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36395 and analytical batch 880-36488 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36394 and analytical batch 880-36739 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Client Sample ID: SS03

Date Collected: 10/06/22 08:55
Date Received: 10/06/22 13:00
Sample Depth: 0.5

Lab Sample ID: 890-3167-1

Matrix: Solid

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		10/11/22 14:31	10/12/22 16:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 16:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 16:52	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/11/22 14:31	10/12/22 16:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 16:52	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/11/22 14:31	10/12/22 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*10/11/22 14:31*	*10/12/22 16:52*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*10/11/22 14:31*	*10/12/22 16:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/13/22 11:54	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			10/11/22 09:32	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		10/07/22 15:16	10/10/22 15:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 15:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:53*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/07/22 15:16*	*10/10/22 15:53*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.5**		5.00		mg/Kg			10/11/22 23:26	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20176-A-12-C MS	Matrix Spike	89	90
880-20176-A-12-D MSD	Matrix Spike Duplicate	85	89
890-3167-1	SS03	129	71
LCS 880-36686/1-A	Lab Control Sample	84	90
LCSD 880-36686/2-A	Lab Control Sample Dup	90	90
MB 880-36686/5-A	Method Blank	103	84

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3155-A-1-C MS	Matrix Spike	82	78
890-3155-A-1-D MSD	Matrix Spike Duplicate	82	78
890-3167-1	SS03	91	92
LCS 880-36395/2-A	Lab Control Sample	107	117
LCSD 880-36395/3-A	Lab Control Sample Dup	106	113
MB 880-36395/1-A	Method Blank	112	121

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36686/5-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36686

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 14:31	10/12/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:31*	*10/12/22 11:01*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 14:31*	*10/12/22 11:01*	*1*

Lab Sample ID: LCS 880-36686/1-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36686

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1008		mg/Kg		101	70 - 130		
Toluene			0.100	0.1020		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.09606		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1983		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.09918		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-36686/2-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36686

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1024		mg/Kg		102	70 - 130	2	35
Toluene			0.100	0.1064		mg/Kg		106	70 - 130	4	35
Ethylbenzene			0.100	0.09847		mg/Kg		98	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2051		mg/Kg		103	70 - 130	3	35
o-Xylene			0.100	0.1011		mg/Kg		101	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-20176-A-12-C MS
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1018		mg/Kg		102	70 - 130		
Toluene	<0.00201	U	0.0998	0.1041		mg/Kg		104	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

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

Lab Sample ID: 880-20176-A-12-C MS
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.09844		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2047		mg/Kg		103	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1010		mg/Kg		101	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-20176-A-12-D MSD
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09470		mg/Kg		95	70 - 130	7	35
Toluene	<0.00201	U	0.0996	0.09624		mg/Kg		97	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0996	0.09061		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1862		mg/Kg		93	70 - 130	9	35
o-Xylene	<0.00201	U	0.0996	0.09149		mg/Kg		92	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

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		10/07/22 15:16	10/10/22 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*
o-Terphenyl	*121*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	996.9		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	946.9		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

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

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-36395/3-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1023		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-3155-A-1-C MS
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	983.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	671.0	F1	mg/Kg		66	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 890-3155-A-1-D MSD
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36395

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	<50.0	U	999	1010		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	687.0	F1	mg/Kg		67	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36394/1-A
Matrix: Solid
Analysis Batch: 36739

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			10/11/22 20:54	1

Lab Sample ID: LCS 880-36394/2-A
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36394/3-A
Matrix: Solid
Analysis Batch: 36739

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	269.0		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-3163-A-7-C MS
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	241	F1	249	489.4		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3163-A-7-D MSD
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241	F1	249	520.0	F1	mg/Kg		112	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

GC VOA

Prep Batch: 36686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	5035	
MB 880-36686/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36686/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36686/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20176-A-12-C MS	Matrix Spike	Total/NA	Solid	5035	
880-20176-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	8021B	36686
MB 880-36686/5-A	Method Blank	Total/NA	Solid	8021B	36686
LCS 880-36686/1-A	Lab Control Sample	Total/NA	Solid	8021B	36686
LCSD 880-36686/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36686
880-20176-A-12-C MS	Matrix Spike	Total/NA	Solid	8021B	36686
880-20176-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36686

Analysis Batch: 36879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	8015B NM	36395
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015B NM	36395
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36395
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36395
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36395
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36395

Analysis Batch: 36655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Soluble	Solid	DI Leach	
MB 880-36394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

HPLC/IC (Continued)

Leach Batch: 36394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3167-1	SS03	Soluble	Solid	300.0	36394
MB 880-36394/1-A	Method Blank	Soluble	Solid	300.0	36394
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	300.0	36394
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36394
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	300.0	36394
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36394

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Client Sample ID: SS03

Date Collected: 10/06/22 08:55
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3167-1

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			4.99 g	5 mL	36686	10/11/22 14:31	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36715	10/12/22 16:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36879	10/13/22 11:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			36655	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36488	10/10/22 15:53	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:26	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: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3167-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3167-1	SS03	Solid	10/06/22 08:55	10/06/22 13:00	0.5

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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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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:	Elk Wallow CDP	**Turn Around**	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551,-103.96291	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TWN007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.8
Total Containers:		Corrected Temperature:	9.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS03	S	10/6/2022	8:55	0.5'	G	1		x	x	x

890-3167 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID:
nAPP2223831434
Cost Center:
1067691001
AFE:

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 Tl 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.6.221300	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3167-1
SDG Number: 03E1558115

Login Number: 3167
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: 890-3167-1
SDG Number: 03E1558115

Login Number: 3167
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3168-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
10/17/2022 11:19:14 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3168-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Job ID: 890-3168-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3168-1

Receipt
The samples were received on 10/6/2022 1:00 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 9.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3168-1) and SS02 (890-3168-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36682 and analytical batch 880-36933 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was 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 method blank for preparation batch 880-36395 and analytical batch 880-36488 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36395 and analytical batch 880-36488 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36394 and analytical batch 880-36739 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Client Sample ID: SS01

Lab Sample ID: 890-3168-1
Matrix: Solid
Date Collected: 10/06/22 08:45
Date Received: 10/06/22 13:00
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.200	U	0.200		mg/Kg		10/11/22 13:34	10/15/22 15:15	100
Toluene	**1.57**		0.200		mg/Kg		10/11/22 13:34	10/15/22 15:15	100
Ethylbenzene	**2.35**		0.200		mg/Kg		10/11/22 13:34	10/15/22 15:15	100
m-Xylene & p-Xylene	**5.40**		0.399		mg/Kg		10/11/22 13:34	10/15/22 15:15	100
o-Xylene	**4.34**		0.200		mg/Kg		10/11/22 13:34	10/15/22 15:15	100
Xylenes, Total	**9.74**		0.399		mg/Kg		10/11/22 13:34	10/15/22 15:15	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*10/11/22 13:34*	*10/15/22 15:15*	*100*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*10/11/22 13:34*	*10/15/22 15:15*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**13.7**		0.399		mg/Kg			10/17/22 10:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**18300**		498		mg/Kg			10/11/22 09:32	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	**836**		498		mg/Kg		10/07/22 15:16	10/10/22 16:42	10
Diesel Range Organics (Over C10-C28)	**10300**		498		mg/Kg		10/07/22 15:16	10/10/22 16:42	10
OII Range Organics (Over C28-C36)	**7180**		498		mg/Kg		10/07/22 15:16	10/10/22 16:42	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*10/07/22 15:16*	*10/10/22 16:42*	*10*
o-Terphenyl	*98*		*70 - 130*	*10/07/22 15:16*	*10/10/22 16:42*	*10*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.2**		4.98		mg/Kg			10/11/22 23:32	1

Client Sample ID: SS02

Lab Sample ID: 890-3168-2
Matrix: Solid
Date Collected: 10/06/22 08:50
Date Received: 10/06/22 13:00
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.202	U	0.202		mg/Kg		10/11/22 13:34	10/15/22 15:36	100
Toluene	<0.202	U	0.202		mg/Kg		10/11/22 13:34	10/15/22 15:36	100
Ethylbenzene	**0.835**		0.202		mg/Kg		10/11/22 13:34	10/15/22 15:36	100
m-Xylene & p-Xylene	**2.32**		0.404		mg/Kg		10/11/22 13:34	10/15/22 15:36	100
o-Xylene	**1.45**		0.202		mg/Kg		10/11/22 13:34	10/15/22 15:36	100
Xylenes, Total	**3.77**		0.404		mg/Kg		10/11/22 13:34	10/15/22 15:36	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/11/22 13:34*	*10/15/22 15:36*	*100*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Client Sample ID: SS02
Date Collected: 10/06/22 08:50
Date Received: 10/06/22 13:00
Sample Depth: 0.5

Lab Sample ID: 890-3168-2
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 13:34*	*10/15/22 15:36*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**4.61**		0.404		mg/Kg			10/17/22 10:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**20300**		499		mg/Kg			10/11/22 09:32	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	<499	U	499		mg/Kg		10/07/22 15:16	10/10/22 17:02	10
Diesel Range Organics (Over C10-C28)	**10900**		499		mg/Kg		10/07/22 15:16	10/10/22 17:02	10
OII Range Organics (Over C28-C36)	**9400**		499		mg/Kg		10/07/22 15:16	10/10/22 17:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*93*		*70 - 130*	*10/07/22 15:16*	*10/10/22 17:02*	*10*
o-Terphenyl	*104*		*70 - 130*	*10/07/22 15:16*	*10/10/22 17:02*	*10*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27.7**		4.95		mg/Kg			10/11/22 23:37	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3168-1	SS01	75	86
890-3168-2	SS02	94	103
890-3175-A-1-G MS	Matrix Spike	99	111
890-3175-A-1-H MSD	Matrix Spike Duplicate	98	102
LCS 880-36682/1-A	Lab Control Sample	93	110
LCSD 880-36682/2-A	Lab Control Sample Dup	92	110
MB 880-36682/5-A	Method Blank	92	115
MB 880-36886/5-A	Method Blank	90	110

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3155-A-1-C MS	Matrix Spike	82	78
890-3155-A-1-D MSD	Matrix Spike Duplicate	82	78
890-3168-1	SS01	98	98
890-3168-2	SS02	93	104
LCS 880-36395/2-A	Lab Control Sample	107	117
LCSD 880-36395/3-A	Lab Control Sample Dup	106	113
MB 880-36395/1-A	Method Blank	112	121

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36682/5-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36682

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 13:34	10/15/22 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:03*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:03*	*1*

Lab Sample ID: LCS 880-36682/1-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36682

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09689		mg/Kg		97	70 - 130		
Toluene			0.100	0.09359		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.08062		mg/Kg		81	70 - 130		
m-Xylene & p-Xylene			0.200	0.1616		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.08028		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-36682/2-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36682

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1005		mg/Kg		100	70 - 130	4	35
Toluene			0.100	0.09574		mg/Kg		96	70 - 130	2	35
Ethylbenzene			0.100	0.08266		mg/Kg		83	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1659		mg/Kg		83	70 - 130	3	35
o-Xylene			0.100	0.08312		mg/Kg		83	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-3175-A-1-G MS
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36682

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1 F2	0.101	0.09405		mg/Kg		93	70 - 130		
Toluene	<0.00202	U	0.101	0.09271		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

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

Lab Sample ID: 890-3175-A-1-G MS
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36682

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F1	0.101	0.07908		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.202	0.1583		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U F1	0.101	0.07941		mg/Kg		78	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3175-A-1-H MSD
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36682

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	0.0994	0.06368	F1 F2	mg/Kg		64	70 - 130	39	35
Toluene	<0.00202	U	0.0994	0.06957		mg/Kg		70	70 - 130	29	35
Ethylbenzene	<0.00202	U F1	0.0994	0.06289	F1	mg/Kg		63	70 - 130	23	35
m-Xylene & p-Xylene	<0.00403	U F1	0.199	0.1285	F1	mg/Kg		65	70 - 130	21	35
o-Xylene	<0.00202	U F1	0.0994	0.06546	F1	mg/Kg		65	70 - 130	19	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-36886/5-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36886

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/13/22 13:52	10/15/22 00:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/13/22 13:52	10/15/22 00:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/13/22 13:52	10/15/22 00:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/13/22 13:52*	*10/15/22 00:27*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*10/13/22 13:52*	*10/15/22 00:27*	*1*

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

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		10/07/22 15:16	10/10/22 10:59	1

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

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

Lab Sample ID: MB 880-36395/1-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36395

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 15:16	10/10/22 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*
o-Terphenyl	*121*		*70 - 130*	*10/07/22 15:16*	*10/10/22 10:59*	*1*

Lab Sample ID: LCS 880-36395/2-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	996.9		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	946.9		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: LCSD 880-36395/3-A
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1023		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Lab Sample ID: 890-3155-A-1-C MS
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	983.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	671.0	F1	mg/Kg		66	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

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

Lab Sample ID: 890-3155-A-1-D MSD
Matrix: Solid
Analysis Batch: 36488

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36395

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	<50.0	U	999	1010		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	687.0	F1	mg/Kg		67	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36394/1-A
Matrix: Solid
Analysis Batch: 36739

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			10/11/22 20:54	1

Lab Sample ID: LCS 880-36394/2-A
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36394/3-A
Matrix: Solid
Analysis Batch: 36739

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	269.0		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-3163-A-7-C MS
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	241	F1	249	489.4		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3163-A-7-D MSD
Matrix: Solid
Analysis Batch: 36739

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241	F1	249	520.0	F1	mg/Kg		112	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

GC VOA

Prep Batch: 36682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	5035	
890-3168-2	SS02	Total/NA	Solid	5035	
MB 880-36682/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36682/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36682/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3175-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-3175-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 36886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36886/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 36933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	8021B	36682
890-3168-2	SS02	Total/NA	Solid	8021B	36682
MB 880-36682/5-A	Method Blank	Total/NA	Solid	8021B	36682
MB 880-36886/5-A	Method Blank	Total/NA	Solid	8021B	36886
LCS 880-36682/1-A	Lab Control Sample	Total/NA	Solid	8021B	36682
LCSD 880-36682/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36682
890-3175-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	36682
890-3175-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36682

Analysis Batch: 37107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	Total BTEX	
890-3168-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	8015NM Prep	
890-3168-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	8015B NM	36395
890-3168-2	SS02	Total/NA	Solid	8015B NM	36395
MB 880-36395/1-A	Method Blank	Total/NA	Solid	8015B NM	36395
LCS 880-36395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36395
LCSD 880-36395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36395
890-3155-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36395
890-3155-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36395

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

GC Semi VOA

Analysis Batch: 36656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Total/NA	Solid	8015 NM	
890-3168-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Soluble	Solid	DI Leach	
890-3168-2	SS02	Soluble	Solid	DI Leach	
MB 880-36394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3168-1	SS01	Soluble	Solid	300.0	36394
890-3168-2	SS02	Soluble	Solid	300.0	36394
MB 880-36394/1-A	Method Blank	Soluble	Solid	300.0	36394
LCS 880-36394/2-A	Lab Control Sample	Soluble	Solid	300.0	36394
LCSD 880-36394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36394
890-3163-A-7-C MS	Matrix Spike	Soluble	Solid	300.0	36394
890-3163-A-7-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36394

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Client Sample ID: SS01
Date Collected: 10/06/22 08:45
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3168-1
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			5.01 g	5 mL	36682	10/11/22 13:34	EL	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	36933	10/15/22 15:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37107	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36656	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		10	1 uL	1 uL	36488	10/10/22 16:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:32	CH	EET MID

Client Sample ID: SS02
Date Collected: 10/06/22 08:50
Date Received: 10/06/22 13:00

Lab Sample ID: 890-3168-2
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			4.95 g	5 mL	36682	10/11/22 13:34	EL	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	36933	10/15/22 15:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37107	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36656	10/11/22 09:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36395	10/07/22 15:16	DM	EET MID
Total/NA	Analysis	8015B NM		10	1 uL	1 uL	36488	10/10/22 17:02	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36394	10/07/22 15:14	CH	EET MID
Soluble	Analysis	300.0		1			36739	10/11/22 23:37	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: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3168-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3168-1	SS01	Solid	10/06/22 08:45	10/06/22 13:00	0.5
890-3168-2	SS02	Solid	10/06/22 08:50	10/06/22 13:00	0.5

eurofins 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) 988-3199

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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:	Elk Wallow CDP	**Turn Around**	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551,-103.96291	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.8
Total Containers:		Corrected Temperature:	9.6

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	10/6/2022	8:45	0.5'	G	1		x	x	x
SS02	S	10/6/2022	8:50	0.5'	G	1		x	x	x

890-3168 Chain of Custody

Sample Comments

Incident ID: nAPP2223831434
Cost Center: 1067691001
AFE:

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 Tl 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.6.22 1300	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3168-1
SDG Number: 03E1558115

Login Number: 3168
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: 890-3168-1
SDG Number: 03E1558115

Login Number: 3168
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 AM

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	

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3277-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
10/31/2022 1:03:06 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3277-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3277-1
Project/Site: Elk Wallow CDP SDG: 03E1558115

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high 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/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Job ID: 890-3277-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3277-1

Receipt
The samples were received on 10/25/2022 11:35 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 3.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3277-1) and PH02A (890-3277-2).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-38061 and analytical batch 880-38058 was outside the upper control limits.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-38061 and analytical batch 880-38058 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 laboratory control sample (LCS) associated with preparation batch 880-37877 and analytical batch 880-37857 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCSD 880-37877/3-A) and (MB 880-37877/1-A). Evidence of matrix interferences is not obvious.

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: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Client Sample ID: PH02

Lab Sample ID: 890-3277-1
Matrix: Solid
Date Collected: 10/24/22 10:10
Date Received: 10/25/22 11:35
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		10/28/22 09:04	10/28/22 21:19	1
Toluene	<0.00200	U *-	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/28/22 09:04	10/28/22 21:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/28/22 09:04	10/28/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*10/28/22 09:04*	*10/28/22 21:19*	*1*
1,4-Difluorobenzene (Surr)	*129*		*70 - 130*	*10/28/22 09:04*	*10/28/22 21:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			10/30/22 22:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1030**		50.0		mg/Kg			10/27/22 09:52	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 *+ *1	50.0		mg/Kg		10/26/22 11:21	10/27/22 03:54	1
Diesel Range Organics (Over C10-C28)	**918**		50.0		mg/Kg		10/26/22 11:21	10/27/22 03:54	1
Oil Range Organics (Over C28-C36)	**111**		50.0		mg/Kg		10/26/22 11:21	10/27/22 03:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*10/26/22 11:21*	*10/27/22 03:54*	*1*
o-Terphenyl	*105*		*70 - 130*	*10/26/22 11:21*	*10/27/22 03:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.9**		5.04		mg/Kg			10/30/22 02:34	1

Client Sample ID: PH02A

Lab Sample ID: 890-3277-2
Matrix: Solid
Date Collected: 10/24/22 10:30
Date Received: 10/25/22 11:35
Sample Depth: 4'

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		10/28/22 09:04	10/28/22 21:45	1
Toluene	<0.00200	U *-	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/28/22 09:04	10/28/22 21:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/28/22 09:04	10/28/22 21:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/28/22 09:04	10/28/22 21:45	1

Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Client Sample ID: PH02A

Date Collected: 10/24/22 10:30
Date Received: 10/25/22 11:35
Sample Depth: 4'

Lab Sample ID: 890-3277-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/28/22 09:04*	*10/28/22 21:45*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*10/28/22 09:04*	*10/28/22 21:45*	*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			10/30/22 22:15	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			10/27/22 09:52	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 *+ *1	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:15*	*1*
o-Terphenyl	*104*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.5**		5.01		mg/Kg			10/30/22 02:41	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

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)										
880-20623-A-84-G MS	Matrix Spike	99	93										
880-20623-A-84-K MSD	Matrix Spike Duplicate	96	92										
890-3277-1	PH02	130	129										
890-3277-2	PH02A	101	88										
LCS 880-38061/1-A	Lab Control Sample	110	106										
LCSD 880-38061/2-A	Lab Control Sample Dup	108	100										
MB 880-38061/6-A	Method Blank	62 S1-	89										

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)										
890-3276-A-21-B MS	Matrix Spike	82	84										
890-3276-A-21-C MSD	Matrix Spike Duplicate	98	97										
890-3277-1	PH02	92	105										
890-3277-2	PH02A	90	104										
LCS 880-37877/2-A	Lab Control Sample	97	118										
LCSD 880-37877/3-A	Lab Control Sample Dup	117	137 S1+										
MB 880-37877/1-A	Method Blank	121	146 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38061/6-A
Matrix: Solid
Analysis Batch: 38058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38061

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/28/22 09:04	10/28/22 11:36	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/28/22 09:04	10/28/22 11:36	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/28/22 09:04	10/28/22 11:36	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/28/22 09:04	10/28/22 11:36	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/28/22 09:04	10/28/22 11:36	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/28/22 09:04	10/28/22 11:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*10/28/22 09:04*	*10/28/22 11:36*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*10/28/22 09:04*	*10/28/22 11:36*	*1*

Lab Sample ID: LCS 880-38061/1-A
Matrix: Solid
Analysis Batch: 38058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38061

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07369		mg/Kg		74	70 - 130		
Toluene			0.100	0.06319	*-	mg/Kg		63	70 - 130		
Ethylbenzene			0.100	0.07103		mg/Kg		71	70 - 130		
m-Xylene & p-Xylene			0.200	0.1424		mg/Kg		71	70 - 130		
o-Xylene			0.100	0.07141		mg/Kg		71	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-38061/2-A
Matrix: Solid
Analysis Batch: 38058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38061

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08194		mg/Kg		82	70 - 130	11	35
Toluene			0.100	0.07901		mg/Kg		79	70 - 130	22	35
Ethylbenzene			0.100	0.07690		mg/Kg		77	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1545		mg/Kg		77	70 - 130	8	35
o-Xylene			0.100	0.07852		mg/Kg		79	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-20623-A-84-G MS
Matrix: Solid
Analysis Batch: 38058

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0998	0.07938		mg/Kg		80	70 - 130		
Toluene	<0.00199	U *-	0.0998	0.07727		mg/Kg		77	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

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

Lab Sample ID: 880-20623-A-84-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38058 — **Prep Batch: 38061**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0998	0.07442		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1483		mg/Kg		74	70 - 130
o-Xylene	<0.00199	U	0.0998	0.07325		mg/Kg		73	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-20623-A-84-K MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38058 — **Prep Batch: 38061**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.08035		mg/Kg		81	70 - 130	1	35
Toluene	<0.00199	U *-	0.0990	0.07748		mg/Kg		78	70 - 130	0	35
Ethylbenzene	<0.00199	U	0.0990	0.07532		mg/Kg		76	70 - 130	1	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1500		mg/Kg		76	70 - 130	1	35
o-Xylene	<0.00199	U	0.0990	0.07389		mg/Kg		75	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

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

Lab Sample ID: MB 880-37877/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37857 — **Prep Batch: 37877**

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		10/26/22 11:21	10/26/22 20:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*

Lab Sample ID: LCS 880-37877/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37857 — **Prep Batch: 37877**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1077		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1003		mg/Kg		100	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

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

Lab Sample ID: LCS 880-37877/2-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37877

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-37877/3-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1328	*+ *1	mg/Kg		133	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	1159		mg/Kg		116	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	137	S1+	70 - 130

Lab Sample ID: 890-3276-A-21-B MS
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+ *1	998	1122		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	938.0		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 890-3276-A-21-C MSD
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37877

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	<49.8	U *+ *1	998	937.6		mg/Kg		91	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1117		mg/Kg		112	70 - 130	17	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37893/1-A
Matrix: Solid
Analysis Batch: 38163

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			10/30/22 00:48	1

Lab Sample ID: LCS 880-37893/2-A
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.4		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-37893/3-A
Matrix: Solid
Analysis Batch: 38163

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	262.8		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-3277-2 MS
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: PH02A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	24.5		251	290.5		mg/Kg		106	90 - 110		

Lab Sample ID: 890-3277-2 MSD
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: PH02A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24.5		251	290.9		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

GC VOA

Analysis Batch: 38058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	8021B	38061
890-3277-2	PH02A	Total/NA	Solid	8021B	38061
MB 880-38061/6-A	Method Blank	Total/NA	Solid	8021B	38061
LCS 880-38061/1-A	Lab Control Sample	Total/NA	Solid	8021B	38061
LCSD 880-38061/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38061
880-20623-A-84-G MS	Matrix Spike	Total/NA	Solid	8021B	38061
880-20623-A-84-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38061

Prep Batch: 38061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	5035	
890-3277-2	PH02A	Total/NA	Solid	5035	
MB 880-38061/6-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38061/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38061/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20623-A-84-G MS	Matrix Spike	Total/NA	Solid	5035	
880-20623-A-84-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	Total BTEX	
890-3277-2	PH02A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	8015B NM	37877
890-3277-2	PH02A	Total/NA	Solid	8015B NM	37877
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015B NM	37877
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37877
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37877
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	37877
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37877

Prep Batch: 37877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	8015NM Prep	
890-3277-2	PH02A	Total/NA	Solid	8015NM Prep	
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Total/NA	Solid	8015 NM	
890-3277-2	PH02A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

HPLC/IC

Leach Batch: 37893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Soluble	Solid	DI Leach	
890-3277-2	PH02A	Soluble	Solid	DI Leach	
MB 880-37893/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3277-2 MS	PH02A	Soluble	Solid	DI Leach	
890-3277-2 MSD	PH02A	Soluble	Solid	DI Leach	

Analysis Batch: 38163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-1	PH02	Soluble	Solid	300.0	37893
890-3277-2	PH02A	Soluble	Solid	300.0	37893
MB 880-37893/1-A	Method Blank	Soluble	Solid	300.0	37893
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	300.0	37893
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37893
890-3277-2 MS	PH02A	Soluble	Solid	300.0	37893
890-3277-2 MSD	PH02A	Soluble	Solid	300.0	37893

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Client Sample ID: PH02

Date Collected: 10/24/22 10:10
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3277-1

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			5.00 g	5 mL	38061	10/28/22 09:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38058	10/28/22 21:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38198	10/30/22 22:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			37992	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 03:54	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 02:34	CH	EET MID

Client Sample ID: PH02A

Date Collected: 10/24/22 10:30
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3277-2

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			5.01 g	5 mL	38061	10/28/22 09:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38058	10/28/22 21:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38198	10/30/22 22:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			37992	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 04:15	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 02:41	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: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3277-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3277-1	PH02	Solid	10/24/22 10:10	10/25/22 11:35	1'
890-3277-2	PH02A	Solid	10/24/22 10:30	10/25/22 11:35	4'

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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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337.257.8307	Email:	tmorrissey@ensolum.com

Work Order Comments

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:	Elk Wallow CDP	Turn Around	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551, -103.96291	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.0
Total Containers:		Corrected Temperature:	3.8

ANALYSIS REQUEST

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	BTEX	TPH	Sample Comments
PH02	S	10/24/22	1010	1'	G	1	X	X	X	Incident #: nAPP2223831434
PH02A	↓	↓	1030	4'	G	1	X	X	X	
										Cost Center: 1067691001
										API: 30-015-37588

890-3277 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 Tl 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					
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3277-1
SDG Number: 03E1558115

Login Number: 3277
List Number: 1
Creator: Stutzman, Amanda

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: 890-3277-1
SDG Number: 03E1558115

Login Number: 3277
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/26/22 10:29 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3278-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
11/1/2022 1:08:35 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3278-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high 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/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Job ID: 890-3278-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3278-1

Receipt
The samples were received on 10/25/2022 11:35 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 3.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3278-1), PH01A (890-3278-2) and PH01B (890-3278-3).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-38104 and analytical batch 880-38211 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-38104 and analytical batch 880-38211 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-20715-A-1-I). Evidence of matrix interferences is not obvious.

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 laboratory control sample (LCS) associated with preparation batch 880-37877 and analytical batch 880-37857 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCSD 880-37877/3-A) and (MB 880-37877/1-A). Evidence of matrix interferences is not obvious.

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: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Client Sample ID: PH01

Date Collected: 10/24/22 09:30
Date Received: 10/25/22 11:35
Sample Depth: 1'

Lab Sample ID: 890-3278-1
Matrix: Solid

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		10/28/22 13:54	10/31/22 23:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/28/22 13:54	10/31/22 23:28	1
o-Xylene	**0.00833**		0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:28	1
Xylenes, Total	**0.00833**		0.00398		mg/Kg		10/28/22 13:54	10/31/22 23:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*10/28/22 13:54*	*10/31/22 23:28*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*10/28/22 13:54*	*10/31/22 23:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00833**		0.00398		mg/Kg			11/01/22 09:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**356**		50.0		mg/Kg			10/27/22 09:52	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 *+ *1	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:36	1
Diesel Range Organics (Over C10-C28)	**356**		50.0		mg/Kg		10/26/22 11:21	10/27/22 04:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:36*	*1*
o-Terphenyl	*97*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:36*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.9**		4.99		mg/Kg			10/30/22 03:01	1

Client Sample ID: PH01A

Date Collected: 10/24/22 09:50
Date Received: 10/25/22 11:35
Sample Depth: 4'

Lab Sample ID: 890-3278-2
Matrix: Solid

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		10/28/22 13:54	10/31/22 23:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/28/22 13:54	10/31/22 23:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/28/22 13:54	10/31/22 23:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/28/22 13:54	10/31/22 23:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*10/28/22 13:54*	*10/31/22 23:49*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Client Sample ID: PH01A
Date Collected: 10/24/22 09:50
Date Received: 10/25/22 11:35
Sample Depth: 4'

Lab Sample ID: 890-3278-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/28/22 13:54*	*10/31/22 23:49*	*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			11/01/22 09:36	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			10/27/22 09:52	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 *+ *1	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/27/22 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:57*	*1*
o-Terphenyl	*103*		*70 - 130*	*10/26/22 11:21*	*10/27/22 04:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32.9**		4.98		mg/Kg			10/30/22 03:08	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-20715-A-1-G MS	Matrix Spike	106	98										
880-20715-A-1-H MSD	Matrix Spike Duplicate	95	96										
890-3278-1	PH01	113	98										
890-3278-2	PH01A	117	103										
LCS 880-38104/1-A	Lab Control Sample	90	93										
LCSD 880-38104/2-A	Lab Control Sample Dup	93	102										
MB 880-38104/5-A	Method Blank	106	90										
MB 880-38223/5-A	Method Blank	99	91										

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)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3276-A-21-B MS	Matrix Spike	82	84										
890-3276-A-21-C MSD	Matrix Spike Duplicate	98	97										
890-3278-1	PH01	84	97										
890-3278-2	PH01A	89	103										
LCS 880-37877/2-A	Lab Control Sample	97	118										
LCSD 880-37877/3-A	Lab Control Sample Dup	117	137 S1+										
MB 880-37877/1-A	Method Blank	121	146 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38104/5-A
Matrix: Solid
Analysis Batch: 38211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38104

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/28/22 13:54	10/31/22 21:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/28/22 13:54	10/31/22 21:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/28/22 13:54	10/31/22 21:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/28/22 13:54	10/31/22 21:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/28/22 13:54	10/31/22 21:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/28/22 13:54	10/31/22 21:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/28/22 13:54*	*10/31/22 21:43*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*10/28/22 13:54*	*10/31/22 21:43*	*1*

Lab Sample ID: LCS 880-38104/1-A
Matrix: Solid
Analysis Batch: 38211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38104

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08023		mg/Kg		80	70 - 130		
Toluene			0.100	0.09061		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.08724		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1657		mg/Kg		83	70 - 130		
o-Xylene			0.100	0.09573		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-38104/2-A
Matrix: Solid
Analysis Batch: 38211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38104

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08940		mg/Kg		89	70 - 130	11	35
Toluene			0.100	0.09359		mg/Kg		94	70 - 130	3	35
Ethylbenzene			0.100	0.09028		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1737		mg/Kg		87	70 - 130	5	35
o-Xylene			0.100	0.09916		mg/Kg		99	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-20715-A-1-G MS
Matrix: Solid
Analysis Batch: 38211

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1	0.0998	0.06756	F1	mg/Kg		67	70 - 130		
Toluene	<0.00200	U	0.0998	0.07052		mg/Kg		71	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

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

Lab Sample ID: 880-20715-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38211 — **Prep Batch: 38104**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.07303		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.1443		mg/Kg		71	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08233		mg/Kg		82	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-20715-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38211 — **Prep Batch: 38104**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.07262		mg/Kg		72	70 - 130	7	35
Toluene	<0.00200	U	0.0990	0.07369		mg/Kg		74	70 - 130	4	35
Ethylbenzene	<0.00200	U	0.0990	0.07078		mg/Kg		71	70 - 130	3	35
m-Xylene & p-Xylene	<0.00401	U F1	0.198	0.1343	F1	mg/Kg		67	70 - 130	7	35
o-Xylene	<0.00200	U	0.0990	0.07664		mg/Kg		77	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: MB 880-38223/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38211 — **Prep Batch: 38223**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:15	10/31/22 11:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:15	10/31/22 11:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:15	10/31/22 11:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/31/22 09:15	10/31/22 11:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:15	10/31/22 11:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/31/22 09:15	10/31/22 11:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*10/31/22 09:15*	*10/31/22 11:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/31/22 09:15*	*10/31/22 11:00*	*1*

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

Lab Sample ID: MB 880-37877/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37857 — **Prep Batch: 37877**

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		10/26/22 11:21	10/26/22 20:49	1

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

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

Lab Sample ID: MB 880-37877/1-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37877

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*

Lab Sample ID: LCS 880-37877/2-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1077		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: LCSD 880-37877/3-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1328	*+ *1	mg/Kg		133	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	1159		mg/Kg		116	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*137*	*S1+*	*70 - 130*

Lab Sample ID: 890-3276-A-21-B MS
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+ *1	998	1122		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	938.0		mg/Kg		94	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

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

Lab Sample ID: 890-3276-A-21-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37857 — **Prep Batch: 37877**

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	<49.8	U *+ *1	998	937.6		mg/Kg		91	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1117		mg/Kg		112	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37893/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38163

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/30/22 00:48	1

Lab Sample ID: LCS 880-37893/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38163

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.4		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-37893/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38163

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	262.8		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-3277-A-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38163

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	24.5		251	290.5		mg/Kg		106	90 - 110		

Lab Sample ID: 890-3277-A-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24.5		251	290.9		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

GC VOA

Prep Batch: 38104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	5035	
890-3278-2	PH01A	Total/NA	Solid	5035	
MB 880-38104/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38104/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38104/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20715-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
880-20715-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	8021B	38104
890-3278-2	PH01A	Total/NA	Solid	8021B	38104
MB 880-38104/5-A	Method Blank	Total/NA	Solid	8021B	38104
MB 880-38223/5-A	Method Blank	Total/NA	Solid	8021B	38223
LCS 880-38104/1-A	Lab Control Sample	Total/NA	Solid	8021B	38104
LCSD 880-38104/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38104
880-20715-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	38104
880-20715-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38104

Prep Batch: 38223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38223/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	Total BTEX	
890-3278-2	PH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	8015B NM	37877
890-3278-2	PH01A	Total/NA	Solid	8015B NM	37877
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015B NM	37877
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37877
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37877
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	37877
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37877

Prep Batch: 37877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	8015NM Prep	
890-3278-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

GC Semi VOA

Analysis Batch: 37993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Total/NA	Solid	8015 NM	
890-3278-2	PH01A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Soluble	Solid	DI Leach	
890-3278-2	PH01A	Soluble	Solid	DI Leach	
MB 880-37893/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3277-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3277-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3278-1	PH01	Soluble	Solid	300.0	37893
890-3278-2	PH01A	Soluble	Solid	300.0	37893
MB 880-37893/1-A	Method Blank	Soluble	Solid	300.0	37893
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	300.0	37893
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37893
890-3277-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	37893
890-3277-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37893

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Client Sample ID: PH01

Date Collected: 10/24/22 09:30
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3278-1

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			5.02 g	5 mL	38104	10/28/22 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38211	10/31/22 23:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38344	11/01/22 09:36	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37993	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 04:36	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:01	CH	EET MID

Client Sample ID: PH01A

Date Collected: 10/24/22 09:50
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3278-2

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			5.03 g	5 mL	38104	10/28/22 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38211	10/31/22 23:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38344	11/01/22 09:36	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37993	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 04:57	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:08	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: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3278-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3278-1	PH01	Solid	10/24/22 09:30	10/25/22 11:35	1'
890-3278-2	PH01A	Solid	10/24/22 09:50	10/25/22 11:35	4'

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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

Work Order No: _____

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Project Manager:	Tacoma Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337.257.8307 Email:		tmorrissey@ensolum.com

Work Order Comments

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:	Elk Wallow CDP	Turn Around	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551, -103.96291	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

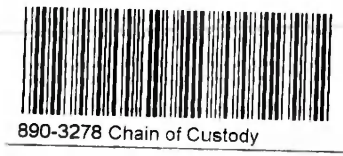
SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	Thm-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.0
Total Containers:		Corrected Temperature:	3.8

ANALYSIS REQUEST

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	BTEX	TPH	Sample Comments
PH01	S	10/24/22	0930	1'	G	1	X	X	X	Incident #: nAPP2223831434
PH01A	S	↓	0950	4'	↓	↓	↓	↓	↓	
PH01B	S	↓	1000	6'	↓	↓	↓	↓	↓	Please hold PH01B NR
										Cost Center: 1067691001



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 Tl 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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	[signature]	Amanda Stuf	10/25/22 1135			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3278-1
SDG Number: 03E1558115

Login Number: 3278
List Number: 1
Creator: Stutzman, Amanda

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: 890-3278-1
SDG Number: 03E1558115

Login Number: 3278
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/26/22 10:29 AM

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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3279-1
Laboratory Sample Delivery Group: 03E1558115
Client Project/Site: Elk Wallow CDP

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
11/1/2022 1:13:27 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: Elk Wallow CDP

Laboratory Job ID: 890-3279-1
SDG: 03E1558115

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high 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/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Job ID: 890-3279-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3279-1

Receipt
The samples were received on 10/25/2022 11:35 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 3.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3279-1), FS02 (890-3279-2), FS03 (890-3279-3), SW01 (890-3279-4) and SW02 (890-3279-5).

GC VOA
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 laboratory control sample (LCS) associated with preparation batch 880-37877 and analytical batch 880-37857 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCSD 880-37877/3-A) and (MB 880-37877/1-A). Evidence of matrix interferences is not obvious.

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: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: FS01

Lab Sample ID: 890-3279-1
Matrix: Solid
Date Collected: 10/24/22 15:05
Date Received: 10/25/22 11:35
Sample Depth: 3'

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		10/27/22 15:09	11/01/22 03:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/27/22 15:09	11/01/22 03:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/27/22 15:09	11/01/22 03:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/27/22 15:09	11/01/22 03:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/27/22 15:09	11/01/22 03:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/27/22 15:09	11/01/22 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*10/27/22 15:09*	*11/01/22 03:36*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/27/22 15:09*	*11/01/22 03:36*	*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			11/01/22 13:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**59.5**		49.8		mg/Kg			10/27/22 09:52	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 *+ *1	49.8		mg/Kg		10/26/22 11:21	10/27/22 05:19	1
Diesel Range Organics (Over C10-C28)	**59.5**		49.8		mg/Kg		10/26/22 11:21	10/27/22 05:19	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/26/22 11:21	10/27/22 05:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/26/22 11:21*	*10/27/22 05:19*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/26/22 11:21*	*10/27/22 05:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21.5**		5.03		mg/Kg			10/30/22 03:28	1

Client Sample ID: FS02

Lab Sample ID: 890-3279-2
Matrix: Solid
Date Collected: 10/24/22 15:00
Date Received: 10/25/22 11:35
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/27/22 15:09	11/01/22 03:56	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/27/22 15:09	11/01/22 03:56	1
Ethylbenzene	**0.00324**		0.00198		mg/Kg		10/27/22 15:09	11/01/22 03:56	1
m-Xylene & p-Xylene	**0.00425**		0.00397		mg/Kg		10/27/22 15:09	11/01/22 03:56	1
o-Xylene	**0.00517**		0.00198		mg/Kg		10/27/22 15:09	11/01/22 03:56	1
Xylenes, Total	**0.00942**		0.00397		mg/Kg		10/27/22 15:09	11/01/22 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*10/27/22 15:09*	*11/01/22 03:56*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: FS02

Lab Sample ID: 890-3279-2
Matrix: Solid
Date Collected: 10/24/22 15:00
Date Received: 10/25/22 11:35
Sample Depth: 3'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/27/22 15:09*	*11/01/22 03:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0127**		0.00397		mg/Kg			11/01/22 13:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**158**		49.9		mg/Kg			10/27/22 09:52	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 *+ *1	49.9		mg/Kg		10/26/22 11:21	10/27/22 05:40	1
Diesel Range Organics (Over C10-C28)	**158**		49.9		mg/Kg		10/26/22 11:21	10/27/22 05:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/26/22 11:21	10/27/22 05:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/26/22 11:21*	*10/27/22 05:40*	*1*
o-Terphenyl	*104*		*70 - 130*	*10/26/22 11:21*	*10/27/22 05:40*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.7**		5.04		mg/Kg			10/30/22 03:34	1

Client Sample ID: FS03

Lab Sample ID: 890-3279-3
Matrix: Solid
Date Collected: 10/24/22 15:40
Date Received: 10/25/22 11:35
Sample Depth: 3'

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		10/27/22 15:09	11/01/22 04:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/27/22 15:09	11/01/22 04:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/27/22 15:09	11/01/22 04:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:17*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			11/01/22 13:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**59.8**		49.9		mg/Kg			10/31/22 13:36	1

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Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: FS03

Lab Sample ID: 890-3279-3
Matrix: Solid
Date Collected: 10/24/22 15:40
Date Received: 10/25/22 11:35
Sample Depth: 3'

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		10/27/22 13:56	10/30/22 05:48	1
Diesel Range Organics (Over C10-C28)	**59.8**		49.9		mg/Kg		10/27/22 13:56	10/30/22 05:48	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/27/22 13:56	10/30/22 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/27/22 13:56*	*10/30/22 05:48*	*1*
o-Terphenyl	*96*		*70 - 130*	*10/27/22 13:56*	*10/30/22 05:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.2**		4.98		mg/Kg			10/30/22 03:41	1

Client Sample ID: SW01

Lab Sample ID: 890-3279-4
Matrix: Solid
Date Collected: 10/24/22 12:50
Date Received: 10/25/22 11:35
Sample Depth: 0-3'

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		10/27/22 15:09	11/01/22 04:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/27/22 15:09	11/01/22 04:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/27/22 15:09	11/01/22 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:37*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/01/22 13:51	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			10/31/22 13:36	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		10/27/22 13:56	10/30/22 06:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/27/22 13:56	10/30/22 06:10	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/27/22 13:56	10/30/22 06:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*10/27/22 13:56*	*10/30/22 06:10*	*1*
o-Terphenyl	*102*		*70 - 130*	*10/27/22 13:56*	*10/30/22 06:10*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: SW01

Lab Sample ID: 890-3279-4
Matrix: Solid
Date Collected: 10/24/22 12:50
Date Received: 10/25/22 11:35
Sample Depth: 0-3'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.6		5.02		mg/Kg			10/30/22 03:48	1

Client Sample ID: SW02

Lab Sample ID: 890-3279-5
Matrix: Solid
Date Collected: 10/24/22 15:10
Date Received: 10/25/22 11:35
Sample Depth: 0-3'

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		10/27/22 15:09	11/01/22 04:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/27/22 15:09	11/01/22 04:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	11/01/22 04:57	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/27/22 15:09	11/01/22 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:57*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*10/27/22 15:09*	*11/01/22 04:57*	*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			11/01/22 13:51	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			10/31/22 13:36	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		10/27/22 13:56	10/30/22 06:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/27/22 13:56	10/30/22 06:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/27/22 13:56	10/30/22 06:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*10/27/22 13:56*	*10/30/22 06:31*	*1*
o-Terphenyl	*90*		*70 - 130*	*10/27/22 13:56*	*10/30/22 06:31*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.1		5.02		mg/Kg			10/30/22 03:54	1

Surrogate Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3268-A-1-C MS	Matrix Spike	99	107
890-3268-A-1-D MSD	Matrix Spike Duplicate	108	98
890-3279-1	FS01	110	102
890-3279-2	FS02	118	99
890-3279-3	FS03	103	90
890-3279-4	SW01	100	95
890-3279-5	SW02	87	75
LCS 880-38031/1-A	Lab Control Sample	93	107
LCSD 880-38031/2-A	Lab Control Sample Dup	100	110
MB 880-38031/5-A	Method Blank	82	96
MB 880-38226/5-A	Method Blank	83	90

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3276-A-21-B MS	Matrix Spike	82	84
890-3276-A-21-C MSD	Matrix Spike Duplicate	98	97
890-3279-1	FS01	82	95
890-3279-2	FS02	88	104
890-3279-3	FS03	84	96
890-3279-4	SW01	89	102
890-3279-5	SW02	78	90
890-3285-A-1-C MS	Matrix Spike	76	81
890-3285-A-1-D MSD	Matrix Spike Duplicate	88	89
LCS 880-37877/2-A	Lab Control Sample	97	118
LCS 880-38023/2-A	Lab Control Sample	105	124
LCSD 880-37877/3-A	Lab Control Sample Dup	117	137 S1+
LCSD 880-38023/3-A	Lab Control Sample Dup	103	120
MB 880-37877/1-A	Method Blank	121	146 S1+
MB 880-38023/1-A	Method Blank	79	91

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38031/5-A
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38031

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	10/31/22 22:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	10/31/22 22:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	10/31/22 22:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/27/22 15:09	10/31/22 22:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/22 15:09	10/31/22 22:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/27/22 15:09	10/31/22 22:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/27/22 15:09*	*10/31/22 22:08*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/27/22 15:09*	*10/31/22 22:08*	*1*

Lab Sample ID: LCS 880-38031/1-A
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38031

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1082		mg/Kg		108	70 - 130		
Toluene			0.100	0.09302		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09102		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			0.200	0.1840		mg/Kg		92	70 - 130		
o-Xylene			0.100	0.09049		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-38031/2-A
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38031

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1111		mg/Kg		111	70 - 130	3	35
Toluene			0.100	0.09423		mg/Kg		94	70 - 130	1	35
Ethylbenzene			0.100	0.09258		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1885		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.09300		mg/Kg		93	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-3268-A-1-C MS
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38031

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0990	0.09422		mg/Kg		95	70 - 130		
Toluene	<0.00201	U	0.0990	0.07942		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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

Lab Sample ID: 890-3268-A-1-C MS
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38031

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0990	0.07601		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1531		mg/Kg		77	70 - 130
o-Xylene	<0.00201	U	0.0990	0.07420		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3268-A-1-D MSD
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38031

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08003		mg/Kg		81	70 - 130	16	35
Toluene	<0.00201	U	0.0990	0.07421		mg/Kg		74	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.08163		mg/Kg		82	70 - 130	7	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1632		mg/Kg		82	70 - 130	6	35
o-Xylene	<0.00201	U	0.0990	0.07909		mg/Kg		80	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 880-38226/5-A
Matrix: Solid
Analysis Batch: 38213

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38226

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:37	10/31/22 11:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:37	10/31/22 11:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:37	10/31/22 11:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/31/22 09:37	10/31/22 11:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/31/22 09:37	10/31/22 11:33	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/31/22 09:37	10/31/22 11:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*10/31/22 09:37*	*10/31/22 11:33*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*10/31/22 09:37*	*10/31/22 11:33*	*1*

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

Lab Sample ID: MB 880-37877/1-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37877

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		10/26/22 11:21	10/26/22 20:49	1

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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

Lab Sample ID: MB 880-37877/1-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37877

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*

Lab Sample ID: LCS 880-37877/2-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1077		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: LCSD 880-37877/3-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1328	*+ *1	mg/Kg		133	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	1159		mg/Kg		116	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*137*	*S1+*	*70 - 130*

Lab Sample ID: 890-3276-A-21-B MS
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37877

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+ *1	998	1122		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	938.0		mg/Kg		94	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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

Lab Sample ID: 890-3276-A-21-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37857 — **Prep Batch: 37877**

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	<49.8	U *+ *1	998	937.6		mg/Kg		91	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1117		mg/Kg		112	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: MB 880-38023/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38137 — **Prep Batch: 38023**

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		10/27/22 13:56	10/29/22 21:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/27/22 13:56	10/29/22 21:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/27/22 13:56	10/29/22 21:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/27/22 13:56*	*10/29/22 21:37*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/27/22 13:56*	*10/29/22 21:37*	*1*

Lab Sample ID: LCS 880-38023/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38137 — **Prep Batch: 38023**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	847.8		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	748.0		mg/Kg		75	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*124*		*70 - 130*

Lab Sample ID: LCSD 880-38023/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38137 — **Prep Batch: 38023**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	784.5		mg/Kg		78	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	738.0		mg/Kg		74	70 - 130	1	20

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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

Lab Sample ID: LCSD 880-38023/3-A
Matrix: Solid
Analysis Batch: 38137

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38023

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-3285-A-1-C MS
Matrix: Solid
Analysis Batch: 38137

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38023

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	927.7		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	80.1		998	808.7		mg/Kg		73	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	76		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-3285-A-1-D MSD
Matrix: Solid
Analysis Batch: 38137

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38023

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	<49.8	U	998	824.7		mg/Kg		80	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	80.1		998	921.4		mg/Kg		84	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	89		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37893/1-A
Matrix: Solid
Analysis Batch: 38163

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			10/30/22 00:48	1

Lab Sample ID: LCS 880-37893/2-A
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.4		mg/Kg		105	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-37893/3-A
Matrix: Solid
Analysis Batch: 38163

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	262.8		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-3277-A-2-C MS
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	24.5		251	290.5		mg/Kg		106	90 - 110		

Lab Sample ID: 890-3277-A-2-D MSD
Matrix: Solid
Analysis Batch: 38163

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24.5		251	290.9		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

GC VOA

Prep Batch: 38031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	5035	
890-3279-2	FS02	Total/NA	Solid	5035	
890-3279-3	FS03	Total/NA	Solid	5035	
890-3279-4	SW01	Total/NA	Solid	5035	
890-3279-5	SW02	Total/NA	Solid	5035	
MB 880-38031/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38031/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38031/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3268-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3268-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	8021B	38031
890-3279-2	FS02	Total/NA	Solid	8021B	38031
890-3279-3	FS03	Total/NA	Solid	8021B	38031
890-3279-4	SW01	Total/NA	Solid	8021B	38031
890-3279-5	SW02	Total/NA	Solid	8021B	38031
MB 880-38031/5-A	Method Blank	Total/NA	Solid	8021B	38031
MB 880-38226/5-A	Method Blank	Total/NA	Solid	8021B	38226
LCS 880-38031/1-A	Lab Control Sample	Total/NA	Solid	8021B	38031
LCSD 880-38031/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38031
890-3268-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	38031
890-3268-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38031

Prep Batch: 38226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38226/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	Total BTEX	
890-3279-2	FS02	Total/NA	Solid	Total BTEX	
890-3279-3	FS03	Total/NA	Solid	Total BTEX	
890-3279-4	SW01	Total/NA	Solid	Total BTEX	
890-3279-5	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	8015B NM	37877
890-3279-2	FS02	Total/NA	Solid	8015B NM	37877
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015B NM	37877
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37877
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37877
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	37877
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37877

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

GC Semi VOA

Prep Batch: 37877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	8015NM Prep	
890-3279-2	FS02	Total/NA	Solid	8015NM Prep	
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Total/NA	Solid	8015 NM	
890-3279-2	FS02	Total/NA	Solid	8015 NM	
890-3279-3	FS03	Total/NA	Solid	8015 NM	
890-3279-4	SW01	Total/NA	Solid	8015 NM	
890-3279-5	SW02	Total/NA	Solid	8015 NM	

Prep Batch: 38023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-3	FS03	Total/NA	Solid	8015NM Prep	
890-3279-4	SW01	Total/NA	Solid	8015NM Prep	
890-3279-5	SW02	Total/NA	Solid	8015NM Prep	
MB 880-38023/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38023/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38023/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3285-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3285-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-3	FS03	Total/NA	Solid	8015B NM	38023
890-3279-4	SW01	Total/NA	Solid	8015B NM	38023
890-3279-5	SW02	Total/NA	Solid	8015B NM	38023
MB 880-38023/1-A	Method Blank	Total/NA	Solid	8015B NM	38023
LCS 880-38023/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38023
LCSD 880-38023/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38023
890-3285-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	38023
890-3285-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38023

HPLC/IC

Leach Batch: 37893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Soluble	Solid	DI Leach	
890-3279-2	FS02	Soluble	Solid	DI Leach	
890-3279-3	FS03	Soluble	Solid	DI Leach	
890-3279-4	SW01	Soluble	Solid	DI Leach	
890-3279-5	SW02	Soluble	Solid	DI Leach	
MB 880-37893/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3277-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

HPLC/IC (Continued)

Leach Batch: 37893 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3277-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3279-1	FS01	Soluble	Solid	300.0	37893
890-3279-2	FS02	Soluble	Solid	300.0	37893
890-3279-3	FS03	Soluble	Solid	300.0	37893
890-3279-4	SW01	Soluble	Solid	300.0	37893
890-3279-5	SW02	Soluble	Solid	300.0	37893
MB 880-37893/1-A	Method Blank	Soluble	Solid	300.0	37893
LCS 880-37893/2-A	Lab Control Sample	Soluble	Solid	300.0	37893
LCSD 880-37893/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37893
890-3277-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	37893
890-3277-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37893

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: FS01
Date Collected: 10/24/22 15:05
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-1
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			5.03 g	5 mL	38031	10/27/22 15:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38213	11/01/22 03:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38408	11/01/22 13:51	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37994	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 05:19	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:28	CH	EET MID

Client Sample ID: FS02
Date Collected: 10/24/22 15:00
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-2
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			5.04 g	5 mL	38031	10/27/22 15:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38213	11/01/22 03:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38408	11/01/22 13:51	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37994	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 05:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:34	CH	EET MID

Client Sample ID: FS03
Date Collected: 10/24/22 15:40
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-3
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			5.00 g	5 mL	38031	10/27/22 15:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38213	11/01/22 04:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38408	11/01/22 13:51	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37994	10/31/22 13:36	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38023	10/27/22 13:56	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38137	10/30/22 05:48	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:41	CH	EET MID

Client Sample ID: SW01
Date Collected: 10/24/22 12:50
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-4
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			4.99 g	5 mL	38031	10/27/22 15:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38213	11/01/22 04:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38408	11/01/22 13:51	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Client Sample ID: SW01

Date Collected: 10/24/22 12:50
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-4
Matrix: Solid

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			37994	10/31/22 13:36	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38023	10/27/22 13:56	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38137	10/30/22 06:10	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:48	CH	EET MID

Client Sample ID: SW02

Date Collected: 10/24/22 15:10
Date Received: 10/25/22 11:35

Lab Sample ID: 890-3279-5
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			5.01 g	5 mL	38031	10/27/22 15:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38213	11/01/22 04:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38408	11/01/22 13:51	AJ	EET MID
Total/NA	Analysis	8015 NM		1			37994	10/31/22 13:36	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38023	10/27/22 13:56	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38137	10/30/22 06:31	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37893	10/27/22 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38163	10/30/22 03:54	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: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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	T104704400-22-24	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: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Elk Wallow CDP

Job ID: 890-3279-1
SDG: 03E1558115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3279-1	FS01	Solid	10/24/22 15:05	10/25/22 11:35	3'
890-3279-2	FS02	Solid	10/24/22 15:00	10/25/22 11:35	3'
890-3279-3	FS03	Solid	10/24/22 15:40	10/25/22 11:35	3'
890-3279-4	SW01	Solid	10/24/22 12:50	10/25/22 11:35	0-3'
890-3279-5	SW02	Solid	10/24/22 15:10	10/25/22 11:35	0-3'

eurofins | 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) 988-3199

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337-257-8307	Email:	tmorrissey@ensolum.com

Work Order Comments

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:	Elk Willow CDP	Turn Around	
Project Number:	03E1558115	☑ Routine ☐ Rush	
Project Location:	32.14551, -103.96291	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.0
Total Containers:		Corrected Temperature:	3.8

ANALYSIS REQUEST

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	BTEX	TPH	Sample Comments
FS01	S	10/24/22	1505	3'	C	1	X	X	X	Incident #:
FS02	↓	↓	1500	3'	↓	↓	↓	↓	↓	nAPP2223831434
FS03			1540	3'						
SW01			1250	0-3'						Cost Center:
SW02	↓	↓	1510	0-3'	↓	↓	↓	↓	↓	106769001

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 Tl 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			2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3279-1
SDG Number: 03E1558115

Login Number: 3279
List Number: 1
Creator: Stutzman, Amanda

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: 890-3279-1
SDG Number: 03E1558115

Login Number: 3279
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/26/22 10:29 AM

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	

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Green, Garrett J
To: Tacoma Morrissey; Kalei Jennings; Ben Belill
Subject: FW: XTO - 48 Hour Liner Inspection Notification - Elk Wallow CDP - Incident Number nAPP2223831434
Date: Friday, October 21, 2022 11:32:55 AM

[**EXTERNAL EMAIL**]

From: Foust, Bryan Jacob
Sent: Friday, October 21, 2022 11:28 AM
To: ocd.enviro@emnrd.nm.gov; Robert.Hamlet@emnrd.nm.gov; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO - 48 Hour Liner Inspection Notification - Elk Wallow CDP - Incident Number nAPP2223831434

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at Elk Wallow CDP (Incident Number nAPP2223831434) on Monday, October 24, 2022, at 2:30 pm MST. Please call us with any questions or concerns.

GPS Coordinates: (32.14551, -103.96291)

Thank you,

Jake Foust
SSHE Coordinator (environmental)
432-266-2663

From: Green, Garrett J
To: ocd.enviro@emnrd.nm.gov; Hamlet, Robert, EMNRD; Bratcher, Michael, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 10/24/22 - 10/28/22)
Date: Friday, October 21, 2022 1:10:30 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 24, 2022.

Monday
- Elk Wallow CDP/ nAPP2223831434

Tuesday
- Elk Wallow CDP/ nAPP2223831434

Wednesday
- PLU PC 17/ nAPP2223832773

Thursday
- JRU DI 11 Ekalaka 823H/ nAPP2224527297
- Poker Lake Unit 409/ nAPP2223751933
- PLU 27 Brushy Draw 167H / nAPP2222741514

Friday
- JRU DI 11 Ekalaka 823H/ nAPP2224527297
- Poker Lake Unit 409/ nAPP2223751933
- PLU 27 Brushy Draw 167H / nAPP2222741514

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 157777

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 157777
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2223831434 ELK WALLOW CDP, thank you. This closure is approved.	2/3/2023