State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
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: __11/28/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 11/30/2022

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: 2/22/2023

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	NAPP2214547737
District RP	
Facility ID	
Application ID	

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)* NAPP2214547737
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.10974 Longitude -103.88422
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 21 Brushy Draw 125H	Site Type Production Well
Date Release Discovered 5/14/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
O	21	25S	30E	EDDY

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

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) Produced Water w/ FR	Volume/Weight Released (provide units) 7.00 BBLS	Volume/Weight Recovered (provide units) 3.00 BBLS

Cause of Release: During frac operations, a boost pump discharge hose ruptured, releasing fluids both to containment and pad. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
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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

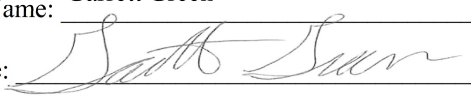
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ 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: 05/25/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 05/25/2022

Location:	PLU 21 BD 125H	
Spill Date:	5/14/2022	

Area 1		
Approximate Area =	16.84	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	3.00	bbls

Area 2		
Approximate Area =	4489.00	sq. ft.
Average Saturation (or depth) of spill =	2.00	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	4.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**7.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**3.00**	**bbls**

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 110509
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	5/25/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
District RP	
Facility ID	
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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
District RP	
Facility ID	
Application ID	

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: _Environmental Coordinator_____

Signature: _____ Date: ____11/28/2022_____

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

OCD Only

Received by: ___Jocelyn Harimon_____ Date: ___11/30/2022___

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
District RP	
Facility ID	
Application ID	

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: __11/28/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 11/30/2022

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 28, 2022

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request
PLU 21 Brushy Draw 125H
Incident Number NAPP2214547737
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 and soil sampling activities performed at the Poker Lake Unit (PLU) 21 Brushy Draw 125H (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water with friction reducer (FR) at the Site. Based on field observations, field screening activities, and laboratory analytical results from the soil sampling events, XTO is submitting this *Closure Request*, describing site assessment and delineation activities that have occurred and requesting no further action for Incident Number NAPP2214547737.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located Unit O, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.10974°N, 103.88422°W) and is associated with oil and gas exploration and production operations on private land owned by Janey Paschal.

On May 14, 2022, a boost pump discharge hose ruptured during hydraulic fracturing (frac) operations, resulting in a release of approximately 7 barrels (bbls) of produced water with FR into temporary containment and onto the well pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 3 bbls of released fluids 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 May 25, 2022. The release was assigned Incident Number NAPP2214547737.

Produced water is recycled through filtering and separation, then mixed in a blender with FR and used as frac fluid during the well completion process. The safety data sheet (SDS) for FR is provided as an attachment.

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. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is USGS well 320629103533002, located approximately 2,402 feet southwest of the Site. The groundwater well has a reported depth to groundwater of 265 feet bgs and a total depth of 280 feet bgs. Ground surface elevation at the groundwater well location is 3,219 feet above mean sea level (amsl), which is approximately 31 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 intermittent riverine channel, located approximately 985 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is 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 AND ANALYTICAL RESULTS

Frac operations continued onsite prohibiting XTO from conducting Site assessment immediately following notification of the release. Between September 27, 2022 and October 18, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and information from XTO regarding the location of the former containment. Once Ensolum personnel were able to access the Site, the temporary containment had been removed. Seven soil samples (SS01 through SS07) were collected within and around the release extent from a depth of 0.5 feet bgs to assess the lateral extent of the impacted soil. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips, respectively. The 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 chemicals of conern (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.

Potholes PH01 through PH04 were advanced via backhoe and hydrovac to a depth of 2 feet bgs within the release extent to assess the vertical extent of the release. Delineation soil samples were collected from each pothole at depths of 1-foot and 2 feet bgs. Soil from the delineation potholes was field screened for VOCs and chloride, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for all delineation soil samples indicated concentrations of all COCs were compliant with the Site Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to address the May 14, 2022, release of produced water with FR. Laboratory analytical results for the delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample laboratory analytical results, no remediation was required.

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 NAPP2214547737.

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 Project Manager

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

cc: Garrett Green, XTO
Shelby Pennington, XTO
Janey Paschal

Appendices:

Figure 1	Site Receptor Map
Figure 2	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
Appendix F	SDS for Friction Reducer

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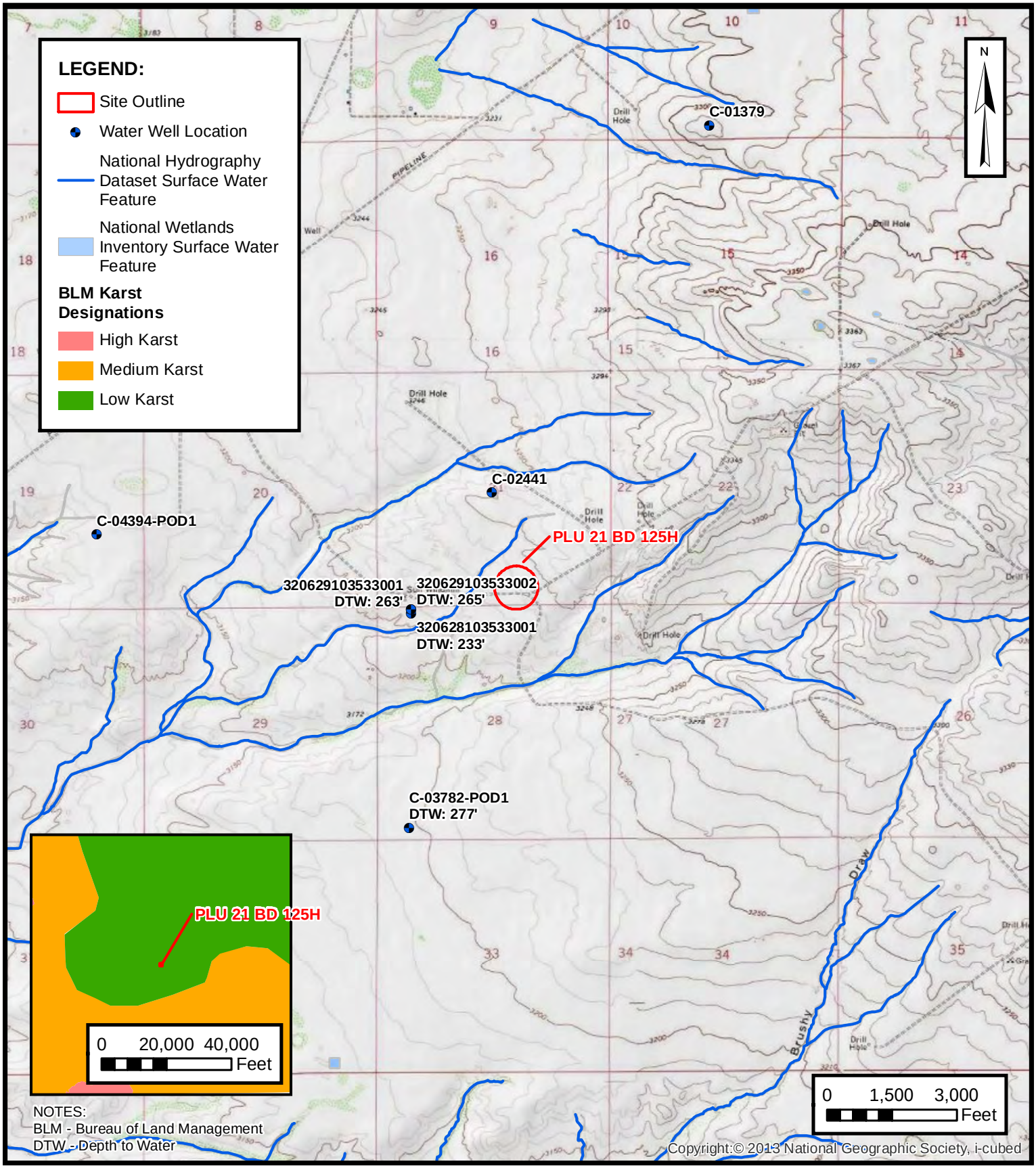
FIGURES

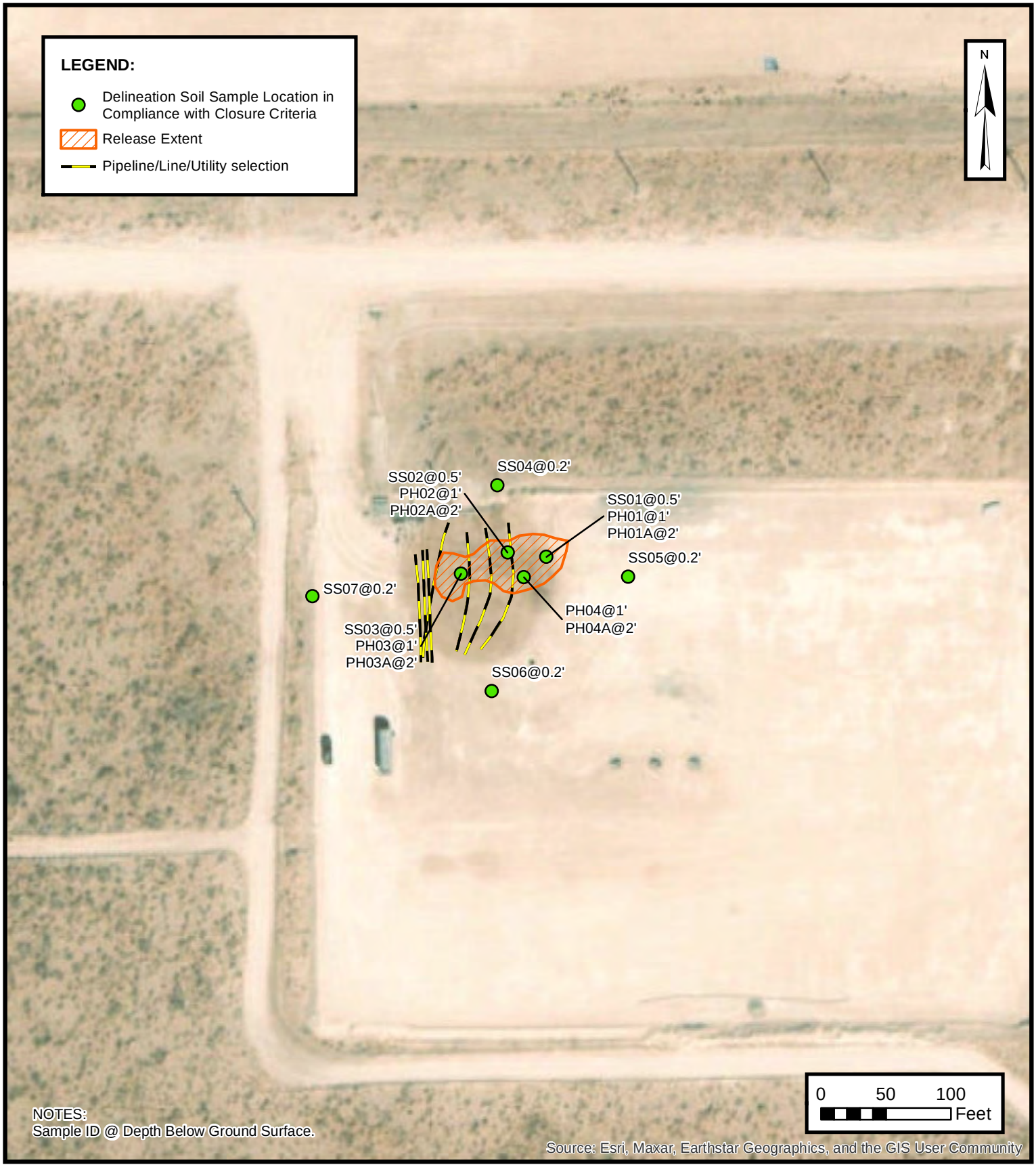


ENSOLUM
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
NAPP2214547737
Unit O, Sec 21, T25S, R30E Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
NAPP2214547737
Unit O, Sec 21, T25S, R30E Eddy County, New Mexico

FIGURE

2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 21 Brushy Draw 125H
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	20,000
Delineation Soil Samples										
SS01	09/27/2022	0.5	<0.00201	<0.00402	<49.9	236	<49.9	236	236	2,760
SS02	09/27/2022	0.5	<0.00200	<0.00401	<49.9	299	<49.9	299	299	3,170
SS03	09/27/2022	0.5	<0.00199	<0.00398	<49.9	594	<49.9	594	594	922
SS04	11/07/2022	0.2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	14.0
SS05	11/07/2022	0.2	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	301
SS06	11/07/2022	0.2	<0.00198	<0.00396	55.1	<50.0	14.4	55.1	69.5	195
SS07	11/07/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	35.8
PH01	10/05/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	152
PH01A	10/05/2022	2	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	57.1
PH02	10/18/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	141
PH02A	10/18/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	35.9
PH03	10/18/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	63.2
PH03A	10/18/2022	2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	32.6
PH04	10/18/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	42.0
PH04A	10/18/2022	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	22.5

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 standard 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

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APPENDIX A

Referenced Well Records

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 320629103533002

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

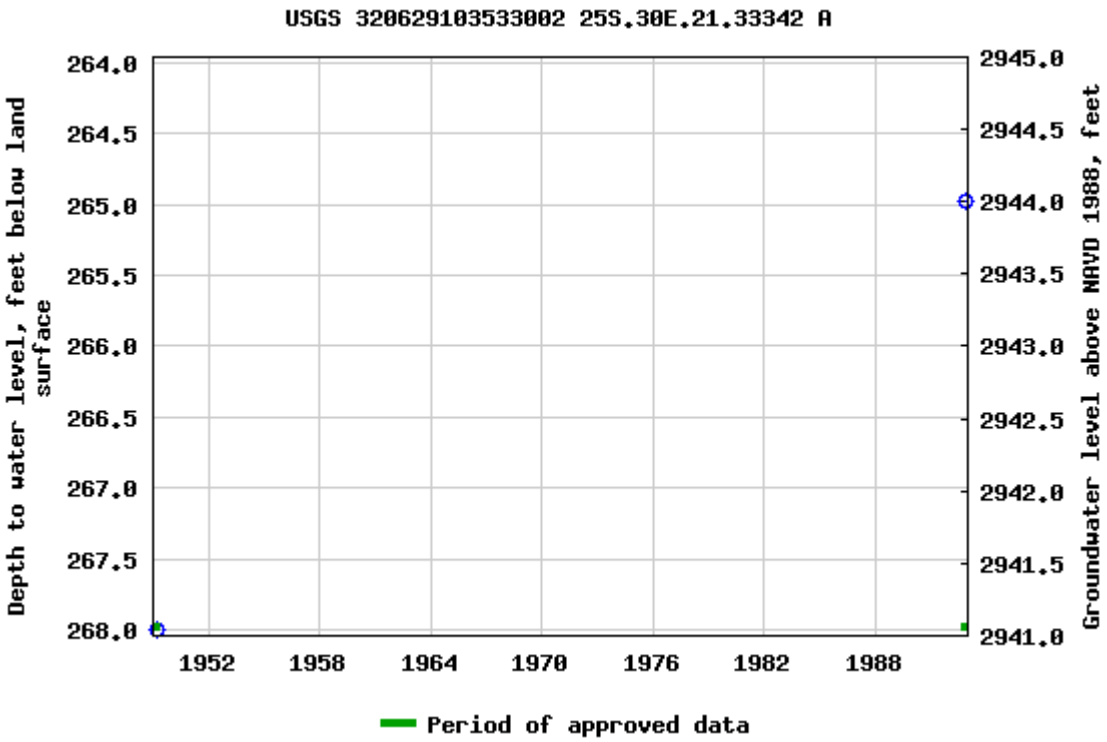
USGS 320629103533002 25S.30E.21.33342 A

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

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°06'29", Longitude 103°53'30" NAD27
Land-surface elevation 3,209 feet above NAVD88
The depth of the well is 280 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) 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

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-07-05 17:04:41 EDT
0.7 0.64 nadww01

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03782 POD1	4	3	3	28	25S	30E	604526	3551444

Driller License:	331	**Driller Company:**	SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.		
Driller Name:					
Drill Start Date:	01/16/2015	**Drill Finish Date:**	01/17/2015	**Plug Date:**	
Log File Date:	02/19/2015	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	8.63	**Depth Well:**	805 feet	**Depth Water:**	277 feet

Water Bearing Stratifications:	Top	Bottom	Description
	260	320	Sandstone/Gravel/Conglomerate
	320	380	Sandstone/Gravel/Conglomerate
	380	410	Sandstone/Gravel/Conglomerate
	410	530	Shale/Mudstone/Siltstone
	530	590	Shale/Mudstone/Siltstone
	590	600	Shale/Mudstone/Siltstone
	600	630	Shale/Mudstone/Siltstone
	630	650	Shale/Mudstone/Siltstone
	650	700	Shale/Mudstone/Siltstone
	700	710	Shale/Mudstone/Siltstone
	710	760	Shale/Mudstone/Siltstone
	760	770	Shale/Mudstone/Siltstone
	770	780	Shale/Mudstone/Siltstone
	780	790	Shale/Mudstone/Siltstone
	790	805	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	270	805

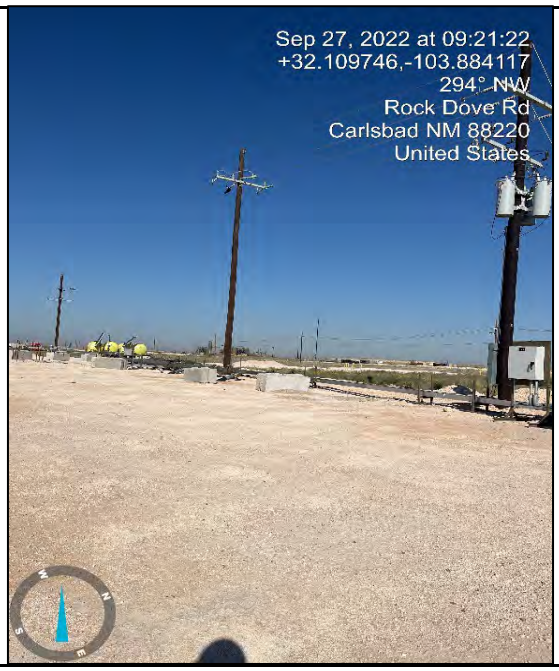
ENSOLUM

APPENDIX B

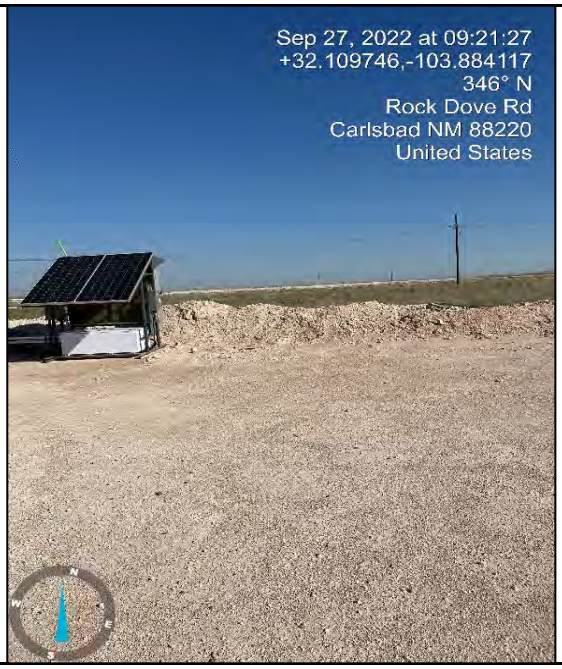
Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 21 Brushy Draw 125H
Incident #: NAPP2214547737



Photograph: 1 Date: 9/27/2022
Description: Area of release post excavation
View: Northwest



Photograph: 2 Date: 9/27/2022
Description: Stockpile of excavated soil
View: North

Photograph: 3 Date: 10/18/2022
Description: PH02
View: Northwest

Photograph: 4 Date: 10/18/2022
Description: Backfilling potholes
View: Southeast

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 10/5/22
	Site Name: PLU 21 BD 125H	
	Incident Number: NAPP2214547737	
	Job Number: 03E1558068	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Backhoe
Coordinates: 32.10974, -103.88422	Hole Diameter: ~3'	Total Depth: 2'

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		
D	ND	0	N	PH01	1	1	GM	Well graded sitly caliche
D	201	0	N	PH01A	2	2	GM	Well graded sitly caliche
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: PH02	Date: 10/18/22
	Site Name: PLU 21 BD 125H	
	Incident Number: NAPP2214547737	
	Job Number: 03E1558068	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Backhoe
Coordinates: 32.10974, -103.88422	Hole Diameter: ~3'	Total Depth: 2'

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		
D	2,296	0	N	PH02	1	1	GM	Well graded sitly caliche
D	1,288	0	N	PH02A	2	2	GM	Well graded sitly caliche
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: PH03	Date: 10/18/22
	Site Name: PLU 21 BD 125H	
	Incident Number: NAPP2214547737	
	Job Number: 03E1558068	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Backhoe
Coordinates: 32.10974, -103.88422	Hole Diameter: ~3'	Total Depth: 2'

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		
D	6,249	0	N	PH03	1	1	GM	Well graded sitly caliche
D	8,596	0	N	PH03A	2	2	GM	Well graded sitly caliche
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: PH04	Date: 10/18/22
	Site Name: PLU 21 BD 125H	
	Incident Number: NAPP2214547737	
	Job Number: 03E1558068	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Backhoe
Coordinates: 32.10974, -103.88422	Hole Diameter: ~3'	Total Depth: 2'

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		
D	8,596	0	N	PH04	1	1	GM	Well graded sitly caliche
D	10,046	0	N	PH04A	2	2	GM	Well graded sitly caliche
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3077-1
Laboratory Sample Delivery Group: 03E1558068
Client Project/Site: PLU 21 BD 125H
Revision: 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/2/2022 9:32:49 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: PLU 21 BD 125H

Laboratory Job ID: 890-3077-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Job ID: 890-3077-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3077-1

REVISION

The report being provided is a revision of the original report sent on 10/8/2022. The report (revision 1) is being revised due to Per clien email, requesting sample depth correction.

Report revision history

Receipt
The samples were received on 9/27/2022 2:51 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 5.0°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36296 and analytical batch 880-36323 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.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS02 (890-3077-2) and (890-3068-A-1-H). 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35711 and analytical batch 880-35736 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
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: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Client Sample ID: SS01
Date Collected: 09/27/22 11:30
Date Received: 09/27/22 14:51
Sample Depth: 0.5'

Lab Sample ID: 890-3077-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/06/22 16:44	10/08/22 00:57	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/06/22 16:44	10/08/22 00:57	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/06/22 16:44	10/08/22 00:57	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/06/22 16:44	10/08/22 00:57	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/06/22 16:44	10/08/22 00:57	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/06/22 16:44	10/08/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*10/06/22 16:44*	*10/08/22 00:57*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/06/22 16:44*	*10/08/22 00:57*	*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			10/08/22 09:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**236**		49.9		mg/Kg			10/03/22 11:24	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		09/29/22 13:24	10/01/22 03:24	1
Diesel Range Organics (Over C10-C28)	**236**		49.9		mg/Kg		09/29/22 13:24	10/01/22 03:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/29/22 13:24	10/01/22 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*09/29/22 13:24*	*10/01/22 03:24*	*1*
o-Terphenyl	*93*		*70 - 130*	*09/29/22 13:24*	*10/01/22 03:24*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2760**		49.8		mg/Kg			09/29/22 23:20	10

Client Sample ID: SS02
Date Collected: 09/27/22 11:35
Date Received: 09/27/22 14:51
Sample Depth: 0.5'

Lab Sample ID: 890-3077-2
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		10/06/22 16:44	10/08/22 02:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/08/22 02:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/08/22 02:21	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/06/22 16:44	10/08/22 02:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/08/22 02:21	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/06/22 16:44	10/08/22 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*10/06/22 16:44*	*10/08/22 02:21*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Client Sample ID: SS02
Date Collected: 09/27/22 11:35
Date Received: 09/27/22 14:51
Sample Depth: 0.5'

Lab Sample ID: 890-3077-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*10/06/22 16:44*	*10/08/22 02:21*	*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			10/08/22 09:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**299**		49.9	mg/Kg			10/03/22 11:24	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		09/29/22 13:24	10/01/22 03:45	1
Diesel Range Organics (Over C10-C28)	**299**		49.9	mg/Kg		09/29/22 13:24	10/01/22 03:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/29/22 13:24	10/01/22 03:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*09/29/22 13:24*	*10/01/22 03:45*	*1*
o-Terphenyl	*112*		*70 - 130*	*09/29/22 13:24*	*10/01/22 03:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3170**		49.9	mg/Kg			09/29/22 23:24	10

Client Sample ID: SS03
Date Collected: 09/27/22 11:40
Date Received: 09/27/22 14:51
Sample Depth: 0.5'

Lab Sample ID: 890-3077-3
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		10/06/22 16:44	10/08/22 02:42	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/06/22 16:44	10/08/22 02:42	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/06/22 16:44	10/08/22 02:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/06/22 16:44	10/08/22 02:42	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/06/22 16:44	10/08/22 02:42	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/06/22 16:44	10/08/22 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*10/06/22 16:44*	*10/08/22 02:42*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*10/06/22 16:44*	*10/08/22 02:42*	*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			10/08/22 09:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**594**		49.9	mg/Kg			10/03/22 11:24	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Client Sample ID: SS03

Date Collected: 09/27/22 11:40
Date Received: 09/27/22 14:51
Sample Depth: 0.5'

Lab Sample ID: 890-3077-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/29/22 13:24	10/01/22 04:07	1
Diesel Range Organics (Over C10-C28)	**594**		49.9		mg/Kg		09/29/22 13:24	10/01/22 04:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/29/22 13:24	10/01/22 04:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/29/22 13:24*	*10/01/22 04:07*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/29/22 13:24*	*10/01/22 04:07*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**922**		25.1		mg/Kg			09/29/22 23:39	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3068-A-1-F MS	Matrix Spike	92	76
890-3068-A-1-G MSD	Matrix Spike Duplicate	105	96
890-3077-1	SS01	123	99
890-3077-2	SS02	113	65 S1-
890-3077-3	SS03	124	105
LCS 880-36296/1-A	Lab Control Sample	94	97
LCSD 880-36296/2-A	Lab Control Sample Dup	95	95
MB 880-36284/5-A	Method Blank	98	82
MB 880-36296/5-A	Method Blank	102	83

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)
890-3077-1	SS01	103	93
890-3077-2	SS02	124	112
890-3077-3	SS03	105	95
890-3080-A-21-C MS	Matrix Spike	106	89
890-3080-A-21-D MSD	Matrix Spike Duplicate	96	80
LCS 880-35711/2-A	Lab Control Sample	118	103
LCSD 880-35711/3-A	Lab Control Sample Dup	109	110
MB 880-35711/1-A	Method Blank	119	109

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36284/5-A
Matrix: Solid
Analysis Batch: 36323

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36284

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/06/22 15:09	10/07/22 10:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/06/22 15:09	10/07/22 10:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/06/22 15:09	10/07/22 10:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/06/22 15:09	10/07/22 10:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/06/22 15:09	10/07/22 10:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/06/22 15:09	10/07/22 10:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/06/22 15:09*	*10/07/22 10:37*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*10/06/22 15:09*	*10/07/22 10:37*	*1*

Lab Sample ID: MB 880-36296/5-A
Matrix: Solid
Analysis Batch: 36323

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36296

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/07/22 21:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/07/22 21:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/07/22 21:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/06/22 16:44	10/07/22 21:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/06/22 16:44	10/07/22 21:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/06/22 16:44	10/07/22 21:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/06/22 16:44*	*10/07/22 21:29*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*10/06/22 16:44*	*10/07/22 21:29*	*1*

Lab Sample ID: LCS 880-36296/1-A
Matrix: Solid
Analysis Batch: 36323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36296

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1000		mg/Kg		100	70 - 130		
Toluene			0.100	0.1030		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09760		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene			0.200	0.2073		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1060		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-36296/2-A
Matrix: Solid
Analysis Batch: 36323

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36296

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1015		mg/Kg		101	70 - 130	1	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

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

Lab Sample ID: LCSD 880-36296/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36323 — **Prep Batch: 36296**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1107		mg/Kg		111	70 - 130	7	35
Ethylbenzene			0.100	0.1022		mg/Kg		102	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2208		mg/Kg		110	70 - 130	6	35
o-Xylene			0.100	0.1109		mg/Kg		111	70 - 130	5	35

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

Lab Sample ID: 890-3068-A-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36323 — **Prep Batch: 36296**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1 F2	0.100	0.02395	F1	mg/Kg		24	70 - 130
Toluene	<0.00200	U F1 F2	0.100	0.03824	F1	mg/Kg		37	70 - 130
Ethylbenzene	<0.00200	U F1	0.100	0.03719	F1	mg/Kg		37	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.201	0.06673	F1	mg/Kg		33	70 - 130
o-Xylene	<0.00200	U F1 F2	0.100	0.03598	F1	mg/Kg		36	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*

Lab Sample ID: 890-3068-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36323 — **Prep Batch: 36296**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0990	0.06384	F1 F2	mg/Kg		64	70 - 130	91	35
Toluene	<0.00200	U F1 F2	0.0990	0.06418	F1 F2	mg/Kg		64	70 - 130	51	35
Ethylbenzene	<0.00200	U F1	0.0990	0.05261	F1	mg/Kg		53	70 - 130	34	35
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.198	0.1138	F1 F2	mg/Kg		57	70 - 130	52	35
o-Xylene	<0.00200	U F1 F2	0.0990	0.05730	F1 F2	mg/Kg		58	70 - 130	46	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

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

Lab Sample ID: MB 880-35711/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35736 — **Prep Batch: 35711**

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		09/29/22 13:24	09/30/22 19:10	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

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

Lab Sample ID: MB 880-35711/1-A
Matrix: Solid
Analysis Batch: 35736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35711

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		09/29/22 13:24	09/30/22 19:10	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/29/22 13:24	09/30/22 19:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*09/29/22 13:24*	*09/30/22 19:10*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/29/22 13:24*	*09/30/22 19:10*	*1*

Lab Sample ID: LCS 880-35711/2-A
Matrix: Solid
Analysis Batch: 35736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35711

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	825.2		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	990.0		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: LCSD 880-35711/3-A
Matrix: Solid
Analysis Batch: 35736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35711

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	929.3		mg/Kg		93	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1053		mg/Kg		105	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: 890-3080-A-21-C MS
Matrix: Solid
Analysis Batch: 35736

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35711

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 F1	998	661.8	F1	mg/Kg		66	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	955.8		mg/Kg		93	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

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

Lab Sample ID: 890-3080-A-21-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35736 — **Prep Batch: 35711**

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 F1	999	693.2	F1	mg/Kg		69	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	867.0		mg/Kg		84	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-35680/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35721

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/29/22 21:43	1

Lab Sample ID: LCS 880-35680/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35721

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.4		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-35680/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35721

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	248.0		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-3076-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35721

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	56.2		248	304.2		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3076-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35721

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	56.2		248	303.8		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

GC VOA

Prep Batch: 36284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36284/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	5035	
890-3077-2	SS02	Total/NA	Solid	5035	
890-3077-3	SS03	Total/NA	Solid	5035	
MB 880-36296/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36296/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36296/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3068-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-3068-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	8021B	36296
890-3077-2	SS02	Total/NA	Solid	8021B	36296
890-3077-3	SS03	Total/NA	Solid	8021B	36296
MB 880-36284/5-A	Method Blank	Total/NA	Solid	8021B	36284
MB 880-36296/5-A	Method Blank	Total/NA	Solid	8021B	36296
LCS 880-36296/1-A	Lab Control Sample	Total/NA	Solid	8021B	36296
LCSD 880-36296/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36296
890-3068-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	36296
890-3068-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36296

Analysis Batch: 36432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	Total BTEX	
890-3077-2	SS02	Total/NA	Solid	Total BTEX	
890-3077-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 35711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	8015NM Prep	
890-3077-2	SS02	Total/NA	Solid	8015NM Prep	
890-3077-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-35711/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-35711/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-35711/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3080-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3080-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 35736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	8015B NM	35711
890-3077-2	SS02	Total/NA	Solid	8015B NM	35711
890-3077-3	SS03	Total/NA	Solid	8015B NM	35711
MB 880-35711/1-A	Method Blank	Total/NA	Solid	8015B NM	35711
LCS 880-35711/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	35711

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

GC Semi VOA (Continued)

Analysis Batch: 35736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-35711/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	35711
890-3080-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	35711
890-3080-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	35711

Analysis Batch: 35966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Total/NA	Solid	8015 NM	
890-3077-2	SS02	Total/NA	Solid	8015 NM	
890-3077-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 35680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Soluble	Solid	DI Leach	
890-3077-2	SS02	Soluble	Solid	DI Leach	
890-3077-3	SS03	Soluble	Solid	DI Leach	
MB 880-35680/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-35680/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-35680/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3076-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3076-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 35721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3077-1	SS01	Soluble	Solid	300.0	35680
890-3077-2	SS02	Soluble	Solid	300.0	35680
890-3077-3	SS03	Soluble	Solid	300.0	35680
MB 880-35680/1-A	Method Blank	Soluble	Solid	300.0	35680
LCS 880-35680/2-A	Lab Control Sample	Soluble	Solid	300.0	35680
LCSD 880-35680/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	35680
890-3076-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	35680
890-3076-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	35680

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Client Sample ID: SS01
Date Collected: 09/27/22 11:30
Date Received: 09/27/22 14:51

Lab Sample ID: 890-3077-1
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			4.97 g	5 mL	36296	10/06/22 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36323	10/08/22 00:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36432	10/08/22 09:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35966	10/03/22 11:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35711	09/29/22 13:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35736	10/01/22 03:24	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	35680	09/29/22 12:00	SMC	EET MID
Soluble	Analysis	300.0		10			35721	09/29/22 23:20	CH	EET MID

Client Sample ID: SS02
Date Collected: 09/27/22 11:35
Date Received: 09/27/22 14:51

Lab Sample ID: 890-3077-2
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			4.99 g	5 mL	36296	10/06/22 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36323	10/08/22 02:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36432	10/08/22 09:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35966	10/03/22 11:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35711	09/29/22 13:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35736	10/01/22 03:45	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	35680	09/29/22 12:00	SMC	EET MID
Soluble	Analysis	300.0		10			35721	09/29/22 23:24	CH	EET MID

Client Sample ID: SS03
Date Collected: 09/27/22 11:40
Date Received: 09/27/22 14:51

Lab Sample ID: 890-3077-3
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			5.02 g	5 mL	36296	10/06/22 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36323	10/08/22 02:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36432	10/08/22 09:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35966	10/03/22 11:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	35711	09/29/22 13:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35736	10/01/22 04:07	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	35680	09/29/22 12:00	SMC	EET MID
Soluble	Analysis	300.0		5			35721	09/29/22 23:39	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: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3077-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3077-1	SS01	Solid	09/27/22 11:30	09/27/22 14:51	0.5'
890-3077-2	SS02	Solid	09/27/22 11:35	09/27/22 14:51	0.5'
890-3077-3	SS03	Solid	09/27/22 11:40	09/27/22 14:51	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:	Kalei 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:	817.683.2503 Email:		kjennings@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:	PLU 21 BD 12H	Turn Around	
Project Number:	32.10774,-103.88422	☑ Routine ☐ Rush	
Project Location:	03E1558068	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:	5.2	
Total Containers:		Corrected Temperature:	5.0	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	TPH	BTEX	Chlorides
SS01	S	9/27/22	1130	0-3"	G	1	X	X	X
SS02	S	9/27/22	1135	0-3"	G	1	X	X	X
SS03	S	9/27/22	1140	0-3"	G	1	X	X	X

890-3077 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 #: NAPP2214547737

Cost Center: 1666421001

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	Amanda Stutz	9/27/22 1451	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3077-1
SDG Number: 03E1558068

Login Number: 3077
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3077-1
SDG Number: 03E1558068

Login Number: 3077
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/29/22 11:12 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: 890-3157-1
Laboratory Sample Delivery Group: 03E1558068
Client Project/Site: PLU 21 BD 125H

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/13/2022 11:08:54 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: PLU 21 BD 125H

Laboratory Job ID: 890-3157-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3157-1
Project/Site: PLU 21 BD 125H SDG: 03E1558068

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
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: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Job ID: 890-3157-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3157-1

Receipt
The samples were received on 10/5/2022 3:26 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 21.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3157-1) and PH01A (890-3157-2).

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

GC Semi VOA
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: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Client Sample ID: PH01

Date Collected: 10/05/22 09:40
Date Received: 10/05/22 15:26
Sample Depth: 1'

Lab Sample ID: 890-3157-1
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 16:29	10/12/22 18:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 18:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 18:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/11/22 16:29	10/12/22 18:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 18:27	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/11/22 16:29	10/12/22 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/11/22 16:29*	*10/12/22 18:27*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 16:29*	*10/12/22 18:27*	*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			10/13/22 11:47	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			10/10/22 12:07	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 07:40	10/07/22 12:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 12:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*10/07/22 07:40*	*10/07/22 12:16*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/07/22 07:40*	*10/07/22 12:16*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**152**		5.02		mg/Kg			10/11/22 14:44	1

Client Sample ID: PH01A

Date Collected: 10/05/22 09:45
Date Received: 10/05/22 15:26
Sample Depth: 2'

Lab Sample ID: 890-3157-2
Matrix: Solid

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		10/11/22 16:29	10/12/22 18:48	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/11/22 16:29	10/12/22 18:48	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/11/22 16:29	10/12/22 18:48	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/11/22 16:29	10/12/22 18:48	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/11/22 16:29	10/12/22 18:48	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/11/22 16:29	10/12/22 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/11/22 16:29*	*10/12/22 18:48*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Client Sample ID: PH01A

Date Collected: 10/05/22 09:45
Date Received: 10/05/22 15:26
Sample Depth: 2'

Lab Sample ID: 890-3157-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/11/22 16:29*	*10/12/22 18:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			10/13/22 11:47	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			10/10/22 12:07	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 07:40	10/07/22 12:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 12:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*10/07/22 07:40*	*10/07/22 12:38*	*1*
o-Terphenyl	*104*		*70 - 130*	*10/07/22 07:40*	*10/07/22 12:38*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**57.1**		4.98		mg/Kg			10/11/22 15:02	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

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)
880-20232-A-1-A MS	Matrix Spike	99	107
880-20232-A-1-B MSD	Matrix Spike Duplicate	77	109
890-3157-1	PH01	97	103
890-3157-2	PH01A	101	104
LCS 880-36699/1-A	Lab Control Sample	100	97
LCSD 880-36699/2-A	Lab Control Sample Dup	103	104
MB 880-36699/5-A	Method Blank	90	112

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)
890-3145-A-2-D MS	Matrix Spike	77	73
890-3145-A-2-E MSD	Matrix Spike Duplicate	89	74
890-3157-1	PH01	95	92
890-3157-2	PH01A	107	104
LCS 880-36321/2-A	Lab Control Sample	102	93
LCSD 880-36321/3-A	Lab Control Sample Dup	102	87
MB 880-36321/1-A	Method Blank	90	89

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36699/5-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36699

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 16:29	10/12/22 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/11/22 16:29*	*10/12/22 11:29*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*10/11/22 16:29*	*10/12/22 11:29*	*1*

Lab Sample ID: LCS 880-36699/1-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36699

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08151		mg/Kg		82	70 - 130		
Toluene			0.100	0.08917		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.07884		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1575		mg/Kg		79	70 - 130		
o-Xylene			0.100	0.07833		mg/Kg		78	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-36699/2-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36699

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09035		mg/Kg		90	70 - 130	10	35
Toluene			0.100	0.09725		mg/Kg		97	70 - 130	9	35
Ethylbenzene			0.100	0.08683		mg/Kg		87	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1722		mg/Kg		86	70 - 130	9	35
o-Xylene			0.100	0.08568		mg/Kg		86	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-20232-A-1-A MS
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09214		mg/Kg		92	70 - 130		
Toluene	<0.00201	U F1	0.100	0.09307		mg/Kg		93	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

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

Lab Sample ID: 880-20232-A-1-A MS
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.100	0.07772		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.201	0.1563		mg/Kg		78	70 - 130
o-Xylene	<0.00201	U F1 F2	0.100	0.07596		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: 880-20232-A-1-B MSD
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.07929		mg/Kg		79	70 - 130	15	35
Toluene	<0.00201	U F1	0.0998	0.06564	F1	mg/Kg		66	70 - 130	35	35
Ethylbenzene	<0.00201	U F1 F2	0.0998	0.05281	F1 F2	mg/Kg		53	70 - 130	38	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.09464	F1 F2	mg/Kg		47	70 - 130	49	35
o-Xylene	<0.00201	U F1 F2	0.0998	0.04674	F1 F2	mg/Kg		46	70 - 130	48	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-36321/1-A
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36321

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 07:40	10/07/22 09:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 09:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 09:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/07/22 07:40*	*10/07/22 09:54*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/07/22 07:40*	*10/07/22 09:54*	*1*

Lab Sample ID: LCS 880-36321/2-A
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36321

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	859.3		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1064		mg/Kg		106	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

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

Lab Sample ID: LCS 880-36321/2-A
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36321

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: LCSD 880-36321/3-A
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	825.5		mg/Kg		83	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	989.6		mg/Kg		99	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-3145-A-2-D MS
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36321

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	816.5		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	810.5		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-3145-A-2-E MSD
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36321

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	847.6		mg/Kg		85	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	830.8		mg/Kg		83	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	74		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36393/1-A
Matrix: Solid
Analysis Batch: 36632

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 14:27	1

Lab Sample ID: LCS 880-36393/2-A
Matrix: Solid
Analysis Batch: 36632

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.3		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36393/3-A
Matrix: Solid
Analysis Batch: 36632

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	246.5		mg/Kg		99	90 - 110	4	20

Lab Sample ID: 890-3157-1 MS
Matrix: Solid
Analysis Batch: 36632

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	152		251	391.7		mg/Kg		95	90 - 110		

Lab Sample ID: 890-3157-1 MSD
Matrix: Solid
Analysis Batch: 36632

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	152		251	418.0		mg/Kg		106	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

GC VOA

Prep Batch: 36699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	5035	
890-3157-2	PH01A	Total/NA	Solid	5035	
MB 880-36699/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36699/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36699/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20232-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-20232-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	8021B	36699
890-3157-2	PH01A	Total/NA	Solid	8021B	36699
MB 880-36699/5-A	Method Blank	Total/NA	Solid	8021B	36699
LCS 880-36699/1-A	Lab Control Sample	Total/NA	Solid	8021B	36699
LCSD 880-36699/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36699
880-20232-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	36699
880-20232-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36699

Analysis Batch: 36874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	Total BTEX	
890-3157-2	PH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	8015B NM	36321
890-3157-2	PH01A	Total/NA	Solid	8015B NM	36321
MB 880-36321/1-A	Method Blank	Total/NA	Solid	8015B NM	36321
LCS 880-36321/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36321
LCSD 880-36321/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36321
890-3145-A-2-D MS	Matrix Spike	Total/NA	Solid	8015B NM	36321
890-3145-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36321

Prep Batch: 36321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	8015NM Prep	
890-3157-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-36321/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36321/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36321/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3145-A-2-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3145-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Total/NA	Solid	8015 NM	
890-3157-2	PH01A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

HPLC/IC

Leach Batch: 36393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Soluble	Solid	DI Leach	
890-3157-2	PH01A	Soluble	Solid	DI Leach	
MB 880-36393/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36393/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36393/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3157-1 MS	PH01	Soluble	Solid	DI Leach	
890-3157-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 36632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3157-1	PH01	Soluble	Solid	300.0	36393
890-3157-2	PH01A	Soluble	Solid	300.0	36393
MB 880-36393/1-A	Method Blank	Soluble	Solid	300.0	36393
LCS 880-36393/2-A	Lab Control Sample	Soluble	Solid	300.0	36393
LCSD 880-36393/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36393
890-3157-1 MS	PH01	Soluble	Solid	300.0	36393
890-3157-1 MSD	PH01	Soluble	Solid	300.0	36393

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Client Sample ID: PH01

Date Collected: 10/05/22 09:40
Date Received: 10/05/22 15:26

Lab Sample ID: 890-3157-1

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	36699	10/11/22 16:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36717	10/12/22 18:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36874	10/13/22 11:47	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36578	10/10/22 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36321	10/07/22 07:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36313	10/07/22 12:16	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36393	10/07/22 15:12	CH	EET MID
Soluble	Analysis	300.0		1			36632	10/11/22 14:44	CH	EET MID

Client Sample ID: PH01A

Date Collected: 10/05/22 09:45
Date Received: 10/05/22 15:26

Lab Sample ID: 890-3157-2

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			5.05 g	5 mL	36699	10/11/22 16:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36717	10/12/22 18:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36874	10/13/22 11:47	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36578	10/10/22 12:07	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36321	10/07/22 07:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36313	10/07/22 12:38	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36393	10/07/22 15:12	CH	EET MID
Soluble	Analysis	300.0		1			36632	10/11/22 15:02	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: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3157-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3157-1	PH01	Solid	10/05/22 09:40	10/05/22 15:26	1'
890-3157-2	PH01A	Solid	10/05/22 09:45	10/05/22 15:26	2'

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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:	Kalei Jennings	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:	PLU 21 BD 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558068	Due Date:	
Project Location:	32.10974, -103.88422	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Kase Parker		
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:	21.4
Total Containers:		Corrected Temperature:	21.2

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	10/5/2022	9:40	1'	G	1		x	x	x
PH01A	S	10/5/2022	9:45	2'	G	1		x	x	x

890-3157 Chain of Custody

Sample Comments

Incident ID: NAPP2214547737
Cost Center: 1666421001
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			10.5.22 1526	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3157-1
SDG Number: 03E1558068

Login Number: 3157
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: 890-3157-1
SDG Number: 03E1558068

Login Number: 3157
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: 890-3245-1
Laboratory Sample Delivery Group: 03E1558068
Client Project/Site: PLU 21 BD 125H

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/26/2022 7:57:52 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: PLU 21 BD 125H

Laboratory Job ID: 890-3245-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3245-1
Project/Site: PLU 21 BD 125H SDG: 03E1558068

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
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: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Job ID: 890-3245-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3245-1

Receipt
The samples were received on 10/20/2022 9:38 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3245-1), PH02A (890-3245-2), PH03 (890-3245-3), PH03A (890-3245-4), PH04 (890-3245-5) and PH04A (890-3245-6).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-37670 and analytical batch 880-37766 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
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: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH02

Date Collected: 10/18/22 10:35
Date Received: 10/20/22 09:38
Sample Depth: 1'

Lab Sample ID: 890-3245-1
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		10/24/22 09:35	10/24/22 11:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 11:40	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 11:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 11:40	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 11:40	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/24/22 09:35*	*10/24/22 11:40*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/24/22 09:35*	*10/24/22 11:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/24/22 16:42	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			10/24/22 12:22	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		10/21/22 13:46	10/21/22 23:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/21/22 23:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/21/22 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*10/21/22 13:46*	*10/21/22 23:31*	*1*
o-Terphenyl	*118*		*70 - 130*	*10/21/22 13:46*	*10/21/22 23:31*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		5.01		mg/Kg			10/23/22 18:14	1

Client Sample ID: PH02A

Date Collected: 10/18/22 10:40
Date Received: 10/20/22 09:38
Sample Depth: 2'

Lab Sample ID: 890-3245-2
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		10/24/22 09:35	10/24/22 12:00	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 12:00	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 12:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 12:00	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 12:00	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:00*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH02A

Lab Sample ID: 890-3245-2
Matrix: Solid
Date Collected: 10/18/22 10:40
Date Received: 10/20/22 09:38
Sample Depth: 2'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:00*	*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			10/24/22 16:42	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			10/24/22 12:22	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		10/21/22 13:46	10/21/22 23:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/21/22 13:46	10/21/22 23:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/21/22 13:46	10/21/22 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*10/21/22 13:46*	*10/21/22 23:52*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/21/22 13:46*	*10/21/22 23:52*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.9**		4.99	mg/Kg			10/23/22 18:28	1

Client Sample ID: PH03

Lab Sample ID: 890-3245-3
Matrix: Solid
Date Collected: 10/18/22 10:50
Date Received: 10/20/22 09:38
Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 12:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 12:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 12:21	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 12:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 12:21	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 12:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:21*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:21*	*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			10/24/22 16:42	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			10/24/22 12:22	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH03

Date Collected: 10/18/22 10:50
Date Received: 10/20/22 09:38
Sample Depth: 1'

Lab Sample ID: 890-3245-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/22/22 00:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/22/22 00:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/22/22 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:14*	*1*
o-Terphenyl	*102*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:14*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**63.2**		4.98		mg/Kg			10/23/22 18:33	1

Client Sample ID: PH03A

Date Collected: 10/18/22 10:55
Date Received: 10/20/22 09:38
Sample Depth: 2'

Lab Sample ID: 890-3245-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/24/22 09:35	10/24/22 12:41	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/24/22 09:35	10/24/22 12:41	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/24/22 09:35	10/24/22 12:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/24/22 09:35	10/24/22 12:41	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/24/22 09:35	10/24/22 12:41	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/24/22 09:35	10/24/22 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:41*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/24/22 09:35*	*10/24/22 12:41*	*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			10/24/22 16:42	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			10/24/22 12:22	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		10/21/22 13:46	10/22/22 00:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/22/22 00:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/22/22 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:35*	*1*
o-Terphenyl	*126*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:35*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH03A

Date Collected: 10/18/22 10:55
Date Received: 10/20/22 09:38
Sample Depth: 2'

Lab Sample ID: 890-3245-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.6		5.03		mg/Kg			10/23/22 18:48	1

Client Sample ID: PH04

Date Collected: 10/18/22 11:00
Date Received: 10/20/22 09:38
Sample Depth: 1'

Lab Sample ID: 890-3245-5
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		10/24/22 09:35	10/24/22 15:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 15:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 15:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 15:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/24/22 09:35	10/24/22 15:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/24/22 09:35	10/24/22 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/24/22 09:35*	*10/24/22 15:46*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*10/24/22 09:35*	*10/24/22 15:46*	*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			10/25/22 12:00	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			10/24/22 12:22	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		10/21/22 13:46	10/22/22 00:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/22/22 00:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/22/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:57*	*1*
o-Terphenyl	*100*		*70 - 130*	*10/21/22 13:46*	*10/22/22 00:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.0		5.04		mg/Kg			10/23/22 18:52	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH04A

Date Collected: 10/18/22 11:05
Date Received: 10/20/22 09:38
Sample Depth: 2'

Lab Sample ID: 890-3245-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U F1	0.00202		mg/Kg		10/24/22 12:42	10/25/22 13:09	1
Toluene	<0.00202	U F1	0.00202		mg/Kg		10/24/22 12:42	10/25/22 13:09	1
Ethylbenzene	<0.00202	U F1	0.00202		mg/Kg		10/24/22 12:42	10/25/22 13:09	1
m-Xylene & p-Xylene	<0.00403	U F1	0.00403		mg/Kg		10/24/22 12:42	10/25/22 13:09	1
o-Xylene	<0.00202	U F1	0.00202		mg/Kg		10/24/22 12:42	10/25/22 13:09	1
Xylenes, Total	<0.00403	U F1	0.00403		mg/Kg		10/24/22 12:42	10/25/22 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*10/24/22 12:42*	*10/25/22 13:09*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*10/24/22 12:42*	*10/25/22 13:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			10/25/22 16:54	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			10/24/22 12:22	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		10/21/22 13:46	10/22/22 01:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/22/22 01:18	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/21/22 13:46	10/22/22 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/21/22 13:46*	*10/22/22 01:18*	*1*
o-Terphenyl	*96*		*70 - 130*	*10/21/22 13:46*	*10/22/22 01:18*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.5**		4.98		mg/Kg			10/23/22 18:57	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3211-A-3-E MS	Matrix Spike	105	107
890-3211-A-3-F MSD	Matrix Spike Duplicate	122	90
890-3245-1	PH02	94	93
890-3245-2	PH02A	117	81
890-3245-3	PH03	96	93
890-3245-4	PH03A	99	94
890-3245-5	PH04	87	75
890-3245-6	PH04A	110	87
890-3245-6 MS	PH04A	96	97
890-3245-6 MSD	PH04A	99	94
LCS 880-37622/1-A	Lab Control Sample	100	103
LCS 880-37670/1-A	Lab Control Sample	116	108
LCSD 880-37622/2-A	Lab Control Sample Dup	117	95
LCSD 880-37670/2-A	Lab Control Sample Dup	119	107
MB 880-37622/5-A	Method Blank	87	93
MB 880-37670/5-A	Method Blank	77	101

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)
890-3237-A-1-B MS	Matrix Spike	84	91
890-3237-A-1-C MSD	Matrix Spike Duplicate	83	89
890-3245-1	PH02	102	118
890-3245-2	PH02A	83	98
890-3245-3	PH03	86	102
890-3245-4	PH03A	110	126
890-3245-5	PH04	84	100
890-3245-6	PH04A	82	96
LCS 880-37501/2-A	Lab Control Sample	97	120
LCSD 880-37501/3-A	Lab Control Sample Dup	96	116
MB 880-37501/1-A	Method Blank	90	108

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37622/5-A
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37622

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/24/22 09:35	10/24/22 10:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/24/22 09:35	10/24/22 10:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/24/22 09:35	10/24/22 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/24/22 09:35*	*10/24/22 10:58*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/24/22 09:35*	*10/24/22 10:58*	*1*

Lab Sample ID: LCS 880-37622/1-A
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37622

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09878		mg/Kg		99	70 - 130		
Toluene			0.100	0.09273		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09307		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1928		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09522		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-37622/2-A
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37622

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1046		mg/Kg		105	70 - 130	6	35
Toluene			0.100	0.1043		mg/Kg		104	70 - 130	12	35
Ethylbenzene			0.100	0.1118		mg/Kg		112	70 - 130	18	35
m-Xylene & p-Xylene			0.200	0.2373		mg/Kg		119	70 - 130	21	35
o-Xylene			0.100	0.1176		mg/Kg		118	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3211-A-3-E MS
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37622

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.09725		mg/Kg		97	70 - 130		
Toluene	<0.00200	U	0.0998	0.08867		mg/Kg		89	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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

Lab Sample ID: 890-3211-A-3-E MS
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37622

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.08819		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1815		mg/Kg		91	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08871		mg/Kg		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3211-A-3-F MSD
Matrix: Solid
Analysis Batch: 37616

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37622

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	0.08785		mg/Kg		89	70 - 130	10	35
Toluene	<0.00200	U	0.0990	0.08833		mg/Kg		89	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.0990	0.09287		mg/Kg		94	70 - 130	5	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1989		mg/Kg		100	70 - 130	9	35
o-Xylene	<0.00200	U	0.0990	0.09869		mg/Kg		100	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: MB 880-37670/5-A
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37670

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/24/22 12:42	10/25/22 12:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/24/22 12:42	10/25/22 12:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/24/22 12:42	10/25/22 12:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/24/22 12:42	10/25/22 12:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/24/22 12:42	10/25/22 12:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/24/22 12:42	10/25/22 12:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*10/24/22 12:42*	*10/25/22 12:43*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*10/24/22 12:42*	*10/25/22 12:43*	*1*

Lab Sample ID: LCS 880-37670/1-A
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1123		mg/Kg		112	70 - 130
Toluene	0.100	0.09322		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.1074		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2065		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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

Lab Sample ID: LCS 880-37670/1-A
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37670

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1048		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-37670/2-A
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37670

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1079		mg/Kg		108	70 - 130	4	35
Toluene			0.100	0.1010		mg/Kg		101	70 - 130	8	35
Ethylbenzene			0.100	0.1096		mg/Kg		110	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2105		mg/Kg		105	70 - 130	2	35
o-Xylene			0.100	0.1041		mg/Kg		104	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3245-6 MS
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: PH04A
Prep Type: Total/NA
Prep Batch: 37670

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.100	0.07948		mg/Kg		79	70 - 130		
Toluene	<0.00202	U F1	0.100	0.05553	F1	mg/Kg		55	70 - 130		
Ethylbenzene	<0.00202	U F1	0.100	0.06373	F1	mg/Kg		63	70 - 130		
m-Xylene & p-Xylene	<0.00403	U F1	0.201	0.1228	F1	mg/Kg		61	70 - 130		
o-Xylene	<0.00202	U F1	0.100	0.06434	F1	mg/Kg		64	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3245-6 MSD
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: PH04A
Prep Type: Total/NA
Prep Batch: 37670

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0990	0.06153	F1	mg/Kg		62	70 - 130	25	35
Toluene	<0.00202	U F1	0.0990	0.06050	F1	mg/Kg		61	70 - 130	9	35
Ethylbenzene	<0.00202	U F1	0.0990	0.06411	F1	mg/Kg		65	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U F1	0.198	0.1216	F1	mg/Kg		61	70 - 130	1	35
o-Xylene	<0.00202	U F1	0.0990	0.05910	F1	mg/Kg		60	70 - 130	8	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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

Lab Sample ID: 890-3245-6 MSD
Matrix: Solid
Analysis Batch: 37766

Client Sample ID: PH04A
Prep Type: Total/NA
Prep Batch: 37670

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

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

Lab Sample ID: MB 880-37501/1-A
Matrix: Solid
Analysis Batch: 37440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37501

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		10/21/22 13:46	10/21/22 20:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/21/22 20:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/21/22 13:46	10/21/22 20:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	10/21/22 13:46	10/21/22 20:18	1
o-Terphenyl	108		70 - 130	10/21/22 13:46	10/21/22 20:18	1

Lab Sample ID: LCS 880-37501/2-A
Matrix: Solid
Analysis Batch: 37440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37501

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1112		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1053		mg/Kg		105	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: LCSD 880-37501/3-A
Matrix: Solid
Analysis Batch: 37440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37501

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	950.0		mg/Kg		95	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	1029		mg/Kg		103	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	116		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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

Lab Sample ID: 890-3237-A-1-B MS
Matrix: Solid
Analysis Batch: 37440

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37501

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	1078		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	133		998	1006		mg/Kg		87	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-3237-A-1-C MSD
Matrix: Solid
Analysis Batch: 37440

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37501

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	1136		mg/Kg		111	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	133		998	1003		mg/Kg		87	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37510/1-A
Matrix: Solid
Analysis Batch: 37597

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			10/23/22 16:51	1

Lab Sample ID: LCS 880-37510/2-A
Matrix: Solid
Analysis Batch: 37597

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	258.4		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-37510/3-A
Matrix: Solid
Analysis Batch: 37597

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	255.9		mg/Kg		102	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3245-1 MS
Matrix: Solid
Analysis Batch: 37597

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	141		251	406.8		mg/Kg		106	90 - 110		

Lab Sample ID: 890-3245-1 MSD
Matrix: Solid
Analysis Batch: 37597

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	141		251	405.1		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

GC VOA

Analysis Batch: 37616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	8021B	37622
890-3245-2	PH02A	Total/NA	Solid	8021B	37622
890-3245-3	PH03	Total/NA	Solid	8021B	37622
890-3245-4	PH03A	Total/NA	Solid	8021B	37622
890-3245-5	PH04	Total/NA	Solid	8021B	37622
MB 880-37622/5-A	Method Blank	Total/NA	Solid	8021B	37622
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	8021B	37622
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37622
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	8021B	37622
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37622

Prep Batch: 37622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	5035	
890-3245-2	PH02A	Total/NA	Solid	5035	
890-3245-3	PH03	Total/NA	Solid	5035	
890-3245-4	PH03A	Total/NA	Solid	5035	
890-3245-5	PH04	Total/NA	Solid	5035	
MB 880-37622/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 37670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-6	PH04A	Total/NA	Solid	5035	
MB 880-37670/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37670/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37670/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3245-6 MS	PH04A	Total/NA	Solid	5035	
890-3245-6 MSD	PH04A	Total/NA	Solid	5035	

Analysis Batch: 37727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	Total BTEX	
890-3245-2	PH02A	Total/NA	Solid	Total BTEX	
890-3245-3	PH03	Total/NA	Solid	Total BTEX	
890-3245-4	PH03A	Total/NA	Solid	Total BTEX	
890-3245-5	PH04	Total/NA	Solid	Total BTEX	
890-3245-6	PH04A	Total/NA	Solid	Total BTEX	

Analysis Batch: 37766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-6	PH04A	Total/NA	Solid	8021B	37670
MB 880-37670/5-A	Method Blank	Total/NA	Solid	8021B	37670
LCS 880-37670/1-A	Lab Control Sample	Total/NA	Solid	8021B	37670
LCSD 880-37670/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37670
890-3245-6 MS	PH04A	Total/NA	Solid	8021B	37670
890-3245-6 MSD	PH04A	Total/NA	Solid	8021B	37670

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

GC Semi VOA

Analysis Batch: 37440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	8015B NM	37501
890-3245-2	PH02A	Total/NA	Solid	8015B NM	37501
890-3245-3	PH03	Total/NA	Solid	8015B NM	37501
890-3245-4	PH03A	Total/NA	Solid	8015B NM	37501
890-3245-5	PH04	Total/NA	Solid	8015B NM	37501
890-3245-6	PH04A	Total/NA	Solid	8015B NM	37501
MB 880-37501/1-A	Method Blank	Total/NA	Solid	8015B NM	37501
LCS 880-37501/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37501
LCSD 880-37501/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37501
890-3237-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	37501
890-3237-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37501

Prep Batch: 37501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	8015NM Prep	
890-3245-2	PH02A	Total/NA	Solid	8015NM Prep	
890-3245-3	PH03	Total/NA	Solid	8015NM Prep	
890-3245-4	PH03A	Total/NA	Solid	8015NM Prep	
890-3245-5	PH04	Total/NA	Solid	8015NM Prep	
890-3245-6	PH04A	Total/NA	Solid	8015NM Prep	
MB 880-37501/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37501/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37501/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3237-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3237-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Total/NA	Solid	8015 NM	
890-3245-2	PH02A	Total/NA	Solid	8015 NM	
890-3245-3	PH03	Total/NA	Solid	8015 NM	
890-3245-4	PH03A	Total/NA	Solid	8015 NM	
890-3245-5	PH04	Total/NA	Solid	8015 NM	
890-3245-6	PH04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Soluble	Solid	DI Leach	
890-3245-2	PH02A	Soluble	Solid	DI Leach	
890-3245-3	PH03	Soluble	Solid	DI Leach	
890-3245-4	PH03A	Soluble	Solid	DI Leach	
890-3245-5	PH04	Soluble	Solid	DI Leach	
890-3245-6	PH04A	Soluble	Solid	DI Leach	
MB 880-37510/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37510/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37510/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3245-1 MS	PH02	Soluble	Solid	DI Leach	
890-3245-1 MSD	PH02	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

HPLC/IC

Analysis Batch: 37597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3245-1	PH02	Soluble	Solid	300.0	37510
890-3245-2	PH02A	Soluble	Solid	300.0	37510
890-3245-3	PH03	Soluble	Solid	300.0	37510
890-3245-4	PH03A	Soluble	Solid	300.0	37510
890-3245-5	PH04	Soluble	Solid	300.0	37510
890-3245-6	PH04A	Soluble	Solid	300.0	37510
MB 880-37510/1-A	Method Blank	Soluble	Solid	300.0	37510
LCS 880-37510/2-A	Lab Control Sample	Soluble	Solid	300.0	37510
LCSD 880-37510/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37510
890-3245-1 MS	PH02	Soluble	Solid	300.0	37510
890-3245-1 MSD	PH02	Soluble	Solid	300.0	37510

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH02
Date Collected: 10/18/22 10:35
Date Received: 10/20/22 09:38

Lab Sample ID: 890-3245-1
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	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 11:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/24/22 16:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 23:31	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:14	CH	EET MID

Client Sample ID: PH02A
Date Collected: 10/18/22 10:40
Date Received: 10/20/22 09:38

Lab Sample ID: 890-3245-2
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	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 12:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/24/22 16:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 23:52	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:28	CH	EET MID

Client Sample ID: PH03
Date Collected: 10/18/22 10:50
Date Received: 10/20/22 09:38

Lab Sample ID: 890-3245-3
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			5.01 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 12:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/24/22 16:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/22/22 00:14	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:33	CH	EET MID

Client Sample ID: PH03A
Date Collected: 10/18/22 10:55
Date Received: 10/20/22 09:38

Lab Sample ID: 890-3245-4
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			4.97 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 12:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/24/22 16:42	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Client Sample ID: PH03A

Lab Sample ID: 890-3245-4
Matrix: Solid
Date Collected: 10/18/22 10:55
Date Received: 10/20/22 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/22/22 00:35	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:48	CH	EET MID

Client Sample ID: PH04

Lab Sample ID: 890-3245-5
Matrix: Solid
Date Collected: 10/18/22 11:00
Date Received: 10/20/22 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 15:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/22/22 00:57	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:52	CH	EET MID

Client Sample ID: PH04A

Lab Sample ID: 890-3245-6
Matrix: Solid
Date Collected: 10/18/22 11:05
Date Received: 10/20/22 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	37670	10/24/22 12:42	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37766	10/25/22 13:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37727	10/25/22 16:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			37666	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/22/22 01:18	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 18:57	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: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3245-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3245-1	PH02	Solid	10/18/22 10:35	10/20/22 09:38	1'
890-3245-2	PH02A	Solid	10/18/22 10:40	10/20/22 09:38	2'
890-3245-3	PH03	Solid	10/18/22 10:50	10/20/22 09:38	1'
890-3245-4	PH03A	Solid	10/18/22 10:55	10/20/22 09:38	2'
890-3245-5	PH04	Solid	10/18/22 11:00	10/20/22 09:38	1'
890-3245-6	PH04A	Solid	10/18/22 11:05	10/20/22 09:38	2'

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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:	Kalei Jennings	Bill to: (if different)	Garrett 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:	Garrett.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:	PLU 21 BD 125H	Turn Around	☒ Routine ☐ Rush
Project Number:	03E1558068	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
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:	3.8	
Total Containers:		Corrected Temperature:	3.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH02	S	10/18/2022	10:35	1'	G	1		x	x	x
PH02A	S	10/18/2022	10:40	2'	G	1		x	x	x
PH03	S	10/18/2022	10:50	1'	G	1		x	x	x
PH03A	S	10/18/2022	10:55	2'	G	1		x	x	x
PH04	S	10/18/2022	11:00	1'	G	1		x	x	x
PH04A	S	10/18/2022	11:05	2'	G	1		x	x	x

ANALYSIS REQUEST — Parameters

890-3245 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:
NAPP2214547737
Cost Center:
1666421001
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			10/20/22 935			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3245-1
SDG Number: 03E1558068

Login Number: 3245
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: 890-3245-1
SDG Number: 03E1558068

Login Number: 3245
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/21/22 10:46 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

PREPARED FOR

Attn: Kalei Jennings
Ensolum
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/21/2022 2:58:31 PM Revision 1

JOB DESCRIPTION

PLU 21 BD 125H
SDG NUMBER 03E1558068

JOB NUMBER

890-3402-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

my EOL

Client: Ensolum
Project/Site: PLU 21 BD 125H

Laboratory Job ID: 890-3402-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Job ID: 890-3402-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3402-1

REVISION

The report being provided is a revision of the original report sent on 11/14/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID name edit.

Report revision history

Receipt
The sample was received on 11/7/2022 2:17 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 5.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3402-1).

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 surrogate recovery for the blank associated with preparation batch 880-39172 and analytical batch 880-39269 was outside the upper control limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-39172 and analytical batch 880-39269 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Client Sample ID: SS06
Date Collected: 11/07/22 12:05
Date Received: 11/07/22 14:17
Sample Depth: 0.2'

Lab Sample ID: 890-3402-1
Matrix: Solid

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		11/09/22 13:56	11/10/22 13:00	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/09/22 13:56	11/10/22 13:00	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/09/22 13:56	11/10/22 13:00	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/09/22 13:56	11/10/22 13:00	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/09/22 13:56	11/10/22 13:00	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/09/22 13:56	11/10/22 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*11/09/22 13:56*	*11/10/22 13:00*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/09/22 13:56*	*11/10/22 13:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/10/22 13:49	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**69.5**		50.0		mg/Kg			11/11/22 14:06	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	**55.1**	***1**	50.0		mg/Kg		11/10/22 08:48	11/11/22 11:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 11:58	1
Oil Range Organics (Over C28-C36)	**14.4**		50.0		mg/Kg		11/10/22 08:48	11/11/22 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*11/10/22 08:48*	*11/11/22 11:58*	*1*
o-Terphenyl	*118*		*70 - 130*	*11/10/22 08:48*	*11/11/22 11:58*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**195**		4.97		mg/Kg			11/12/22 03:11	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3374-A-1-C MS	Matrix Spike	117	94
890-3374-A-1-D MSD	Matrix Spike Duplicate	115	100
890-3402-1	SS06	109	107
LCS 880-39013/1-A	Lab Control Sample	119	99
LCSD 880-39013/2-A	Lab Control Sample Dup	112	96
MB 880-39013/5-A	Method Blank	87	96
MB 880-39079/5-A	Method Blank	83	100

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)
890-3402-1	SS06	70	118
890-3402-1 MS	SS06	86	79
890-3402-1 MSD	SS06	82	73
LCS 880-39172/2-A	Lab Control Sample	94	97
LCSD 880-39172/3-A	Lab Control Sample Dup	107	109
MB 880-39172/1-A	Method Blank	119	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39013/5-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39013

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 13:56	11/10/22 03:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*11/08/22 13:56*	*11/10/22 03:41*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/08/22 13:56*	*11/10/22 03:41*	*1*

Lab Sample ID: LCS 880-39013/1-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39013

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09861		mg/Kg		99	70 - 130		
Toluene			0.100	0.1075		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.1070		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.1883		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09621		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-39013/2-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39013

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09159		mg/Kg		92	70 - 130	7	35
Toluene			0.100	0.1006		mg/Kg		101	70 - 130	7	35
Ethylbenzene			0.100	0.09712		mg/Kg		97	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1715		mg/Kg		86	70 - 130	9	35
o-Xylene			0.100	0.08615		mg/Kg		86	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-3374-A-1-C MS
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.07004		mg/Kg		70	70 - 130		
Toluene	<0.00200	U	0.0996	0.08341		mg/Kg		84	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

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

Lab Sample ID: 890-3374-A-1-C MS
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1464		mg/Kg		73	70 - 130
o-Xylene	<0.00200	U	0.0996	0.07491		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-3374-A-1-D MSD
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.09453		mg/Kg		95	70 - 130	30	35
Toluene	<0.00200	U	0.0994	0.1030		mg/Kg		104	70 - 130	21	35
Ethylbenzene	<0.00200	U	0.0994	0.09726		mg/Kg		98	70 - 130	18	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1707		mg/Kg		86	70 - 130	15	35
o-Xylene	<0.00200	U	0.0994	0.08657		mg/Kg		87	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-39079/5-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39079

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/09/22 09:54	11/09/22 15:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*11/09/22 09:54*	*11/09/22 15:45*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*11/09/22 09:54*	*11/09/22 15:45*	*1*

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*

Lab Sample ID: LCS 880-39172/2-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	815.5		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	846.7		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-39172/3-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1003	*1	mg/Kg		100	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	950.2		mg/Kg		95	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-3402-1 MS
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 39172

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	55.1	*1	997	1007		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	861.7		mg/Kg		84	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

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

Lab Sample ID: 890-3402-1 MSD — **Client Sample ID: SS06**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39269 — **Prep Batch: 39172**

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	55.1	*1	999	978.6		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	796.8		mg/Kg		77	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39126/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/12/22 02:56	1

Lab Sample ID: LCS 880-39126/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39126/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	258.9		mg/Kg		104	90 - 110	3	20

Lab Sample ID: 890-3402-1 MS — **Client Sample ID: SS06**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	195		249	466.5		mg/Kg		109	90 - 110		

Lab Sample ID: 890-3402-1 MSD — **Client Sample ID: SS06**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	195		249	456.2		mg/Kg		105	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

GC VOA

Prep Batch: 39013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	5035	
MB 880-39013/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39013/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39013/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3374-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3374-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 39079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39079/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	8021B	39013
MB 880-39013/5-A	Method Blank	Total/NA	Solid	8021B	39013
MB 880-39079/5-A	Method Blank	Total/NA	Solid	8021B	39079
LCS 880-39013/1-A	Lab Control Sample	Total/NA	Solid	8021B	39013
LCSD 880-39013/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39013
890-3374-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	39013
890-3374-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39013

Analysis Batch: 39248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 39172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3402-1 MS	SS06	Total/NA	Solid	8015NM Prep	
890-3402-1 MSD	SS06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	8015B NM	39172
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015B NM	39172
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39172
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39172
890-3402-1 MS	SS06	Total/NA	Solid	8015B NM	39172
890-3402-1 MSD	SS06	Total/NA	Solid	8015B NM	39172

Analysis Batch: 39337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

HPLC/IC

Leach Batch: 39126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Soluble	Solid	DI Leach	
MB 880-39126/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3402-1 MS	SS06	Soluble	Solid	DI Leach	
890-3402-1 MSD	SS06	Soluble	Solid	DI Leach	

Analysis Batch: 39335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3402-1	SS06	Soluble	Solid	300.0	39126
MB 880-39126/1-A	Method Blank	Soluble	Solid	300.0	39126
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	300.0	39126
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39126
890-3402-1 MS	SS06	Soluble	Solid	300.0	39126
890-3402-1 MSD	SS06	Soluble	Solid	300.0	39126

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Client Sample ID: SS06

Date Collected: 11/07/22 12:05
Date Received: 11/07/22 14:17

Lab Sample ID: 890-3402-1

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			5.05 g	5 mL	39013	11/09/22 13:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39086	11/10/22 13:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39248	11/10/22 13:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			39337	11/11/22 14:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39172	11/10/22 08:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39269	11/11/22 11:58	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	39126	11/09/22 15:04	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	39335	11/12/22 03:11	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: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3402-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3402-1	SS06	Solid	11/07/22 12:05	11/07/22 14:17	0.2'

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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: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Garret Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	601 N. Marienfeld Street, Suite 400	Address:	3104 E. Greene Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com, bbelill@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 21 BD 125H	Turn Around	
Project Number:	03E1558068	☑ Routine ☐ Rush	
Project Location:	32.10974, -103.88422	Due Date:	
Sampler's Name:	Julianna Falcomata	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:	TM002
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	6.0
Total Containers:		Corrected Temperature:	5.8

ANALYSIS REQUEST

Pres. Code | Parameters: BTEX, TPH, CHLORIDES

890-3402 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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	CHLORIDES	Sample Comments
FS06	S	11-7-22	1205	.2'	C	1	X	X	X	

Cost Center: 1666421001
nAPP2214547737

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 Falcomata		11-7-22 1417	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3402-1
SDG Number: 03E1558068

Login Number: 3402
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: 890-3402-1
SDG Number: 03E1558068

Login Number: 3402
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 AM

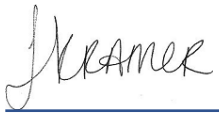
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 Carlsbad

Job Notes

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

Authorization



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11/21/2022 2:58:31 PM
Revision 1

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/21/2022 2:59:29 PM Revision 1

JOB DESCRIPTION

PLU 21 BD 125H
SDG NUMBER 03E1558068

JOB NUMBER

890-3403-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Client: Ensolum
Project/Site: PLU 21 BD 125H

Laboratory Job ID: 890-3403-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Job ID: 890-3403-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3403-1

REVISION

The report being provided is a revision of the original report sent on 11/14/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID name edit.

Report revision history

Receipt
The sample was received on 11/7/2022 2:17 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 5.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3403-1).

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 surrogate recovery for the blank associated with preparation batch 880-39172 and analytical batch 880-39269 was outside the upper control limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-39172 and analytical batch 880-39269 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Client Sample ID: SS05

Date Collected: 11/07/22 12:00
Date Received: 11/07/22 14:17
Sample Depth: 0.2'

Lab Sample ID: 890-3403-1

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		11/09/22 13:56	11/10/22 13:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:56	11/10/22 13:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:56	11/10/22 13:21	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/09/22 13:56	11/10/22 13:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:56	11/10/22 13:21	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/09/22 13:56	11/10/22 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/09/22 13:56*	*11/10/22 13:21*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/09/22 13:56*	*11/10/22 13:21*	*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			11/10/22 14:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/14/22 09:30	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		11/10/22 08:48	11/11/22 15:07	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/10/22 08:48	11/11/22 15:07	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/10/22 08:48	11/11/22 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:07*	*1*
o-Terphenyl	*95*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:07*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**301**		4.96		mg/Kg			11/12/22 03:25	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3374-A-1-C MS	Matrix Spike	117	94
890-3374-A-1-D MSD	Matrix Spike Duplicate	115	100
890-3403-1	SS05	105	96
LCS 880-39013/1-A	Lab Control Sample	119	99
LCSD 880-39013/2-A	Lab Control Sample Dup	112	96
MB 880-39013/5-A	Method Blank	87	96
MB 880-39079/5-A	Method Blank	83	100

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)
890-3402-A-1-G MS	Matrix Spike	86	79
890-3402-A-1-H MSD	Matrix Spike Duplicate	82	73
890-3403-1	SS05	96	95
LCS 880-39172/2-A	Lab Control Sample	94	97
LCSD 880-39172/3-A	Lab Control Sample Dup	107	109
MB 880-39172/1-A	Method Blank	119	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39013/5-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39013

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 13:56	11/10/22 03:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 13:56	11/10/22 03:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*11/08/22 13:56*	*11/10/22 03:41*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/08/22 13:56*	*11/10/22 03:41*	*1*

Lab Sample ID: LCS 880-39013/1-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39013

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09861		mg/Kg		99	70 - 130		
Toluene			0.100	0.1075		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.1070		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.1883		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09621		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-39013/2-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39013

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09159		mg/Kg		92	70 - 130	7	35
Toluene			0.100	0.1006		mg/Kg		101	70 - 130	7	35
Ethylbenzene			0.100	0.09712		mg/Kg		97	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1715		mg/Kg		86	70 - 130	9	35
o-Xylene			0.100	0.08615		mg/Kg		86	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-3374-A-1-C MS
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.07004		mg/Kg		70	70 - 130		
Toluene	<0.00200	U	0.0996	0.08341		mg/Kg		84	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

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

Lab Sample ID: 890-3374-A-1-C MS
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.08100		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1464		mg/Kg		73	70 - 130
o-Xylene	<0.00200	U	0.0996	0.07491		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-3374-A-1-D MSD
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39013

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.09453		mg/Kg		95	70 - 130	30	35
Toluene	<0.00200	U	0.0994	0.1030		mg/Kg		104	70 - 130	21	35
Ethylbenzene	<0.00200	U	0.0994	0.09726		mg/Kg		98	70 - 130	18	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1707		mg/Kg		86	70 - 130	15	35
o-Xylene	<0.00200	U	0.0994	0.08657		mg/Kg		87	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-39079/5-A
Matrix: Solid
Analysis Batch: 39086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39079

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/09/22 09:54	11/09/22 15:45	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/09/22 09:54	11/09/22 15:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*11/09/22 09:54*	*11/09/22 15:45*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*11/09/22 09:54*	*11/09/22 15:45*	*1*

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*

Lab Sample ID: LCS 880-39172/2-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	815.5		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	846.7		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-39172/3-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1003	*1	mg/Kg		100	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	950.2		mg/Kg		95	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-3402-A-1-G MS
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39172

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	55.1	*1	997	1007		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	861.7		mg/Kg		84	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

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

Lab Sample ID: 890-3402-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39269 — **Prep Batch: 39172**

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	55.1	*1	999	978.6		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	796.8		mg/Kg		77	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39126/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/12/22 02:56	1

Lab Sample ID: LCS 880-39126/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39126/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	258.9		mg/Kg		104	90 - 110	3	20

Lab Sample ID: 890-3402-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	195		249	466.5		mg/Kg		109	90 - 110		

Lab Sample ID: 890-3402-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	195		249	456.2		mg/Kg		105	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

GC VOA

Prep Batch: 39013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	5035	
MB 880-39013/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39013/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39013/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3374-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3374-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 39079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39079/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	8021B	39013
MB 880-39013/5-A	Method Blank	Total/NA	Solid	8021B	39013
MB 880-39079/5-A	Method Blank	Total/NA	Solid	8021B	39079
LCS 880-39013/1-A	Lab Control Sample	Total/NA	Solid	8021B	39013
LCSD 880-39013/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39013
890-3374-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	39013
890-3374-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39013

Analysis Batch: 39252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 39172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	8015B NM	39172
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015B NM	39172
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39172
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39172
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	39172
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39172

Analysis Batch: 39399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

HPLC/IC

Leach Batch: 39126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Soluble	Solid	DI Leach	
MB 880-39126/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3403-1	SS05	Soluble	Solid	300.0	39126
MB 880-39126/1-A	Method Blank	Soluble	Solid	300.0	39126
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	300.0	39126
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39126
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	39126
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39126

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Client Sample ID: SS05
Date Collected: 11/07/22 12:00
Date Received: 11/07/22 14:17

Lab Sample ID: 890-3403-1
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	39013	11/09/22 13:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39086	11/10/22 13:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39252	11/10/22 14:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			39399	11/14/22 09:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	39172	11/10/22 08:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39269	11/11/22 15:07	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	39126	11/09/22 15:04	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	39335	11/12/22 03:25	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: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3403-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3403-1	SS05	Solid	11/07/22 12:00	11/07/22 14:17	0.2'

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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:	Kalei Jennings	Bill to: (if different)	Garret Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	601 N. Marienfeld Street, Suite 400	Address:	3104 E. Greene Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com, bbelill@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 21 BD 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558068	Due Date:	
Project Location:	32.10974, -103.88422	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	NM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	6.0
Total Containers:		Corrected Temperature:	5.8

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES	Sample Comments
FSDS	S	11-7-22	1200	.2'	C	1		X	X	X	

890-3403 Chain of Custody

Cost Center: 1666421001
nAPP2214547737

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 Falcomata		11-7-20 12:17	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3403-1
SDG Number: 03E1558068

Login Number: 3403
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: 890-3403-1
SDG Number: 03E1558068

Login Number: 3403
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 AM

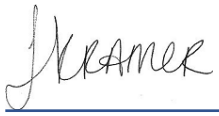
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 Carlsbad

Job Notes

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

Authorization



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Revision 1

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/21/2022 3:00:35 PM Revision 1

JOB DESCRIPTION

PLU 21 BD 125H
SDG NUMBER 03E1558068

JOB NUMBER

890-3404-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

my EOL

Client: Ensolum
Project/Site: PLU 21 BD 125H

Laboratory Job ID: 890-3404-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Job ID: 890-3404-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3404-1

REVISION

The report being provided is a revision of the original report sent on 11/14/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID name edit.

Report revision history

Receipt
The sample was received on 11/7/2022 2:17 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 5.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-3404-1).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-38960/1-A) and (LCSD 880-38960/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-21141-A-21-E MS) and (880-21141-A-21-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-38960/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21141-A-21-G). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-3404-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39022 and analytical batch 880-39343 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39138 and analytical batch 880-39343 was outside the upper control 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 surrogate recovery for the blank associated with preparation batch 880-39172 and analytical batch 880-39269 was outside the upper control limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-39172 and analytical batch 880-39269 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Job ID: 890-3404-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Client Sample ID: SS04

Date Collected: 11/07/22 11:55
Date Received: 11/07/22 14:17
Sample Depth: 0.2'

Lab Sample ID: 890-3404-1

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		11/08/22 09:56	11/10/22 22:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/08/22 09:56	11/10/22 22:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/08/22 09:56	11/10/22 22:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/08/22 09:56	11/10/22 22:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/08/22 09:56	11/10/22 22:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/08/22 09:56	11/10/22 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*238*	*S1+*	*70 - 130*	*11/08/22 09:56*	*11/10/22 22:29*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*11/08/22 09:56*	*11/10/22 22:29*	*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			11/11/22 09:54	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			11/14/22 09:30	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		11/10/22 08:48	11/11/22 15:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/10/22 08:48	11/11/22 15:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/10/22 08:48	11/11/22 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:28*	*1*
o-Terphenyl	*94*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:28*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14.0**		5.00		mg/Kg			11/12/22 03:30	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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)
880-21141-A-21-E MS	Matrix Spike	227 S1+	87
880-21141-A-21-F MSD	Matrix Spike Duplicate	216 S1+	92
890-3392-A-1-C MS	Matrix Spike	95	111
890-3392-A-1-D MSD	Matrix Spike Duplicate	89	115
890-3404-1	SS04	238 S1+	69 S1-
LCS 880-38960/1-A	Lab Control Sample	171 S1+	72
LCS 880-39138/1-A	Lab Control Sample	93	112
LCSD 880-38960/2-A	Lab Control Sample Dup	156 S1+	70
LCSD 880-39138/2-A	Lab Control Sample Dup	108	112
MB 880-38960/5-A	Method Blank	140 S1+	74
MB 880-39022/5-A	Method Blank	60 S1-	99
MB 880-39138/5-A	Method Blank	59 S1-	99

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)
890-3402-A-1-G MS	Matrix Spike	86	79
890-3402-A-1-H MSD	Matrix Spike Duplicate	82	73
890-3404-1	SS04	91	94
LCS 880-39172/2-A	Lab Control Sample	94	97
LCSD 880-39172/3-A	Lab Control Sample Dup	107	109
MB 880-39172/1-A	Method Blank	119	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38960/5-A
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38960

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 09:56	11/10/22 15:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 09:56	11/10/22 15:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 09:56	11/10/22 15:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 09:56	11/10/22 15:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 09:56	11/10/22 15:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 09:56	11/10/22 15:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*	*11/08/22 09:56*	*11/10/22 15:54*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*11/08/22 09:56*	*11/10/22 15:54*	*1*

Lab Sample ID: LCS 880-38960/1-A
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38960

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1206		mg/Kg		121	70 - 130		
Toluene			0.100	0.1189		mg/Kg		119	70 - 130		
Ethylbenzene			0.100	0.1271		mg/Kg		127	70 - 130		
m-Xylene & p-Xylene			0.200	0.2552		mg/Kg		128	70 - 130		
o-Xylene			0.100	0.1256		mg/Kg		126	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*171*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*

Lab Sample ID: LCSD 880-38960/2-A
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38960

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1171		mg/Kg		117	70 - 130	3	35
Toluene			0.100	0.1087		mg/Kg		109	70 - 130	9	35
Ethylbenzene			0.100	0.1197		mg/Kg		120	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2402		mg/Kg		120	70 - 130	6	35
o-Xylene			0.100	0.1216		mg/Kg		122	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*156*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*

Lab Sample ID: 880-21141-A-21-E MS
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.100	0.1425	F1	mg/Kg		142	70 - 130		
Toluene	<0.00201	U	0.100	0.1263		mg/Kg		126	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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

Lab Sample ID: 880-21141-A-21-E MS
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.100	0.1354	F1	mg/Kg		135	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.2734	F1	mg/Kg		136	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.1399	F1	mg/Kg		140	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*227*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 880-21141-A-21-F MSD
Matrix: Solid
Analysis Batch: 39229

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0990	0.1280		mg/Kg		129	70 - 130	11	35
Toluene	<0.00201	U	0.0990	0.1220		mg/Kg		123	70 - 130	3	35
Ethylbenzene	<0.00201	U F1	0.0990	0.1185		mg/Kg		120	70 - 130	13	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.2403		mg/Kg		121	70 - 130	13	35
o-Xylene	<0.00201	U F1	0.0990	0.1268		mg/Kg		128	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*216*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-39022/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39022

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/08/22 15:10	11/11/22 18:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/08/22 15:10	11/11/22 18:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/08/22 15:10	11/11/22 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*

Lab Sample ID: MB 880-39138/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39138

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 08:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/09/22 15:29	11/12/22 08:23	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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

Lab Sample ID: MB 880-39138/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*

Lab Sample ID: LCS 880-39138/1-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09491		mg/Kg		95	70 - 130		
Toluene			0.100	0.09455		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.08730		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09563		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08952		mg/Kg		90	70 - 130	6	35
Toluene			0.100	0.09075		mg/Kg		91	70 - 130	4	35
Ethylbenzene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2057		mg/Kg		103	70 - 130	7	35
o-Xylene			0.100	0.1104		mg/Kg		110	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-3392-A-1-C MS
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.08927		mg/Kg		89	70 - 130		
Toluene	<0.00201	U	0.100	0.08382		mg/Kg		83	70 - 130		
Ethylbenzene	<0.00201	U	0.100	0.07488		mg/Kg		75	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1635		mg/Kg		81	70 - 130		
o-Xylene	<0.00201	U	0.100	0.08493		mg/Kg		85	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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

Lab Sample ID: 890-3392-A-1-C MS
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39138

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 890-3392-A-1-D MSD
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39138

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	0.07916		mg/Kg		80	70 - 130	12	35
Toluene	<0.00201	U	0.0990	0.07843		mg/Kg		79	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.07188		mg/Kg		73	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1570		mg/Kg		79	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08045		mg/Kg		81	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 09:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 09:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	11/10/22 08:48	11/11/22 09:30	1
o-Terphenyl	134	S1+	70 - 130	11/10/22 08:48	11/11/22 09:30	1

Lab Sample ID: LCS 880-39172/2-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	815.5		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	846.7		mg/Kg		85	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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

Lab Sample ID: LCSD 880-39172/3-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1003	*1	mg/Kg		100	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	950.2		mg/Kg		95	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-3402-A-1-G MS
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39172

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	55.1	*1	997	1007		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	861.7		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: 890-3402-A-1-H MSD
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39172

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	55.1	*1	999	978.6		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	796.8		mg/Kg		77	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39126/1-A
Matrix: Solid
Analysis Batch: 39335

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			11/12/22 02:56	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-39126/2-A
Matrix: Solid
Analysis Batch: 39335

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39126/3-A
Matrix: Solid
Analysis Batch: 39335

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	258.9		mg/Kg		104	90 - 110	3	20

Lab Sample ID: 890-3402-A-1-D MS
Matrix: Solid
Analysis Batch: 39335

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	195		249	466.5		mg/Kg		109	90 - 110		

Lab Sample ID: 890-3402-A-1-E MSD
Matrix: Solid
Analysis Batch: 39335

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	195		249	456.2		mg/Kg		105	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

GC VOA

Prep Batch: 38960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	5035	
MB 880-38960/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38960/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38960/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21141-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-21141-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 39022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39022/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 39138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39138/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 39229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	8021B	38960
MB 880-38960/5-A	Method Blank	Total/NA	Solid	8021B	38960
LCS 880-38960/1-A	Lab Control Sample	Total/NA	Solid	8021B	38960
LCSD 880-38960/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38960
880-21141-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	38960
880-21141-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38960

Analysis Batch: 39309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	Total BTEX	

Analysis Batch: 39343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39022/5-A	Method Blank	Total/NA	Solid	8021B	39022
MB 880-39138/5-A	Method Blank	Total/NA	Solid	8021B	39138
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	8021B	39138
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39138
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	39138
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39138

GC Semi VOA

Prep Batch: 39172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

GC Semi VOA

Analysis Batch: 39269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	8015B NM	39172
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015B NM	39172
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39172
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39172
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	39172
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39172

Analysis Batch: 39400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 39126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Soluble	Solid	DI Leach	
MB 880-39126/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3404-1	SS04	Soluble	Solid	300.0	39126
MB 880-39126/1-A	Method Blank	Soluble	Solid	300.0	39126
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	300.0	39126
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39126
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	39126
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39126

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Client Sample ID: SS04
Date Collected: 11/07/22 11:55
Date Received: 11/07/22 14:17

Lab Sample ID: 890-3404-1
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	38960	11/08/22 09:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39229	11/10/22 22:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39309	11/11/22 09:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			39400	11/14/22 09:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39172	11/10/22 08:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39269	11/11/22 15:28	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	39126	11/09/22 15:04	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	39335	11/12/22 03:30	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: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3404-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3404-1	SS04	Solid	11/07/22 11:55	11/07/22 14:17	0.2'

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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: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Garret Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	601 N. Marienfeld Street, Suite 400	Address:	3104 E. Greene Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com, bbeliil@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 21 BD 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558068	Due Date:	
Project Location:	32.10974, -103.88422	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
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:	16.0
Total Containers:		Corrected Temperature:	5.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES
FS04	S	11-7-22	1105	2'	C	1		X	X	X

Parameters

ANALYSIS REQUEST

890-3404 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

Cost Center: 1666421001
nAPP2214547737

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 Julianna Falcomata		11-7-22 1417	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3404-1
SDG Number: 03E1558068

Login Number: 3404
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: 890-3404-1
SDG Number: 03E1558068

Login Number: 3404
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 AM

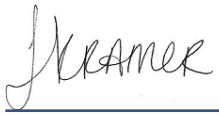
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 Carlsbad

Job Notes

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

Authorization



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Revision 1

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/23/2022 9:17:53 AM Revision 1

JOB DESCRIPTION

PLU 21 BD 125H
SDG NUMBER 03E1558068

JOB NUMBER

890-3405-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

my EOL

Client: Ensolum
Project/Site: PLU 21 BD 125H

Laboratory Job ID: 890-3405-1
SDG: 03E1558068

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Job ID: 890-3405-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3405-1

REVISION

The report being provided is a revision of the original report sent on 11/14/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID name edit.

Report revision history

Receipt
The sample was received on 11/7/2022 2:17 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 5.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS07 (890-3405-1).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39022 and analytical batch 880-39343 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39138 and analytical batch 880-39343 was outside the upper control 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 surrogate recovery for the blank associated with preparation batch 880-39172 and analytical batch 880-39269 was outside the upper control limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-39172 and analytical batch 880-39269 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Client Sample ID: SS07

Date Collected: 11/07/22 12:10
Date Received: 11/07/22 14:17
Sample Depth: 0.2'

Lab Sample ID: 890-3405-1

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		11/09/22 15:29	11/12/22 17:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 17:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 17:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 17:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 17:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*11/09/22 15:29*	*11/12/22 17:37*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/09/22 15:29*	*11/12/22 17:37*	*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			11/14/22 12:31	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			11/14/22 09:30	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		11/10/22 08:48	11/11/22 15:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 15:50	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:50*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/10/22 08:48*	*11/11/22 15:50*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.8**		5.03		mg/Kg			11/12/22 03:35	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3392-A-1-C MS	Matrix Spike	95	111
890-3392-A-1-D MSD	Matrix Spike Duplicate	89	115
890-3405-1	SS07	93	104
LCS 880-39138/1-A	Lab Control Sample	93	112
LCSD 880-39138/2-A	Lab Control Sample Dup	108	112
MB 880-39022/5-A	Method Blank	60 S1-	99
MB 880-39138/5-A	Method Blank	59 S1-	99

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)
890-3402-A-1-G MS	Matrix Spike	86	79
890-3402-A-1-H MSD	Matrix Spike Duplicate	82	73
890-3405-1	SS07	93	96
LCS 880-39172/2-A	Lab Control Sample	94	97
LCSD 880-39172/3-A	Lab Control Sample Dup	107	109
MB 880-39172/1-A	Method Blank	119	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39022/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39022

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*

Lab Sample ID: MB 880-39138/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*

Lab Sample ID: LCS 880-39138/1-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09491		mg/Kg		95	70 - 130		
Toluene			0.100	0.09455		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.08730		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09563		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08952		mg/Kg		90	70 - 130	6	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

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

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09075		mg/Kg		91	70 - 130	4	35
Ethylbenzene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2057		mg/Kg		103	70 - 130	7	35
o-Xylene			0.100	0.1104		mg/Kg		110	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-3392-A-1-C MS
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.08927		mg/Kg		89	70 - 130
Toluene	<0.00201	U	0.100	0.08382		mg/Kg		83	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.07488		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1635		mg/Kg		81	70 - 130
o-Xylene	<0.00201	U	0.100	0.08493		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3392-A-1-D MSD
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39138

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	0.07916		mg/Kg		80	70 - 130	12	35
Toluene	<0.00201	U	0.0990	0.07843		mg/Kg		79	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.07188		mg/Kg		73	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1570		mg/Kg		79	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08045		mg/Kg		81	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

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

Lab Sample ID: MB 880-39172/1-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39172

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		11/10/22 08:48	11/11/22 09:30	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/10/22 08:48	11/11/22 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*11/10/22 08:48*	*11/11/22 09:30*	*1*

Lab Sample ID: LCS 880-39172/2-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	815.5		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	846.7		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-39172/3-A
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1003	*1	mg/Kg		100	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	950.2		mg/Kg		95	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-3402-A-1-G MS
Matrix: Solid
Analysis Batch: 39269

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39172

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	55.1	*1	997	1007		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	861.7		mg/Kg		84	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

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

Lab Sample ID: 890-3402-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39269 — **Prep Batch: 39172**

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	55.1	*1	999	978.6		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	796.8		mg/Kg		77	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39126/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/12/22 02:56	1

Lab Sample ID: LCS 880-39126/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39126/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	258.9		mg/Kg		104	90 - 110	3	20

Lab Sample ID: 890-3402-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	195		249	466.5		mg/Kg		109	90 - 110		

Lab Sample ID: 890-3402-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	195		249	456.2		mg/Kg		105	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

GC VOA

Prep Batch: 39022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39022/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 39138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	5035	
MB 880-39138/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 39343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	8021B	39138
MB 880-39022/5-A	Method Blank	Total/NA	Solid	8021B	39022
MB 880-39138/5-A	Method Blank	Total/NA	Solid	8021B	39138
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	8021B	39138
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39138
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	39138
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39138

Analysis Batch: 39481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 39172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	8015NM Prep	
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	8015B NM	39172
MB 880-39172/1-A	Method Blank	Total/NA	Solid	8015B NM	39172
LCS 880-39172/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39172
LCSD 880-39172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39172
890-3402-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	39172
890-3402-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39172

Analysis Batch: 39401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

HPLC/IC

Leach Batch: 39126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Soluble	Solid	DI Leach	
MB 880-39126/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3405-1	SS07	Soluble	Solid	300.0	39126
MB 880-39126/1-A	Method Blank	Soluble	Solid	300.0	39126
LCS 880-39126/2-A	Lab Control Sample	Soluble	Solid	300.0	39126
LCSD 880-39126/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39126
890-3402-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	39126
890-3402-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39126

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Client Sample ID: SS07

Date Collected: 11/07/22 12:10
Date Received: 11/07/22 14:17

Lab Sample ID: 890-3405-1

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	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 17:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39481	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39401	11/14/22 09:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39172	11/10/22 08:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39269	11/11/22 15:50	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	39126	11/09/22 15:04	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	39335	11/12/22 03:35	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: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

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: PLU 21 BD 125H

Job ID: 890-3405-1
SDG: 03E1558068

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3405-1	SS07	Solid	11/07/22 12:10	11/07/22 14:17	0.2'

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:	Kalei Jennings	Bill to: (if different)	Garret Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	601 N. Marienfeld Street, Suite 400	Address:	3104 E. Greene Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com, bbelill@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 21 BD 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558068	Due Date:	
Project Location:	32.10974, -103.88422	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWM007
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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES
FS07	S	11-7-22	1210	.2'	C	1		X	X	X

Parameters

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

Cost Center: 1666421001
nAPP2214547737

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 Julianna Falcomata	Cle Cp	11.7.22 1417	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3405-1
SDG Number: 03E1558068

Login Number: 3405
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: 890-3405-1
SDG Number: 03E1558068

Login Number: 3405
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 AM

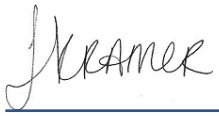
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 Carlsbad

Job Notes

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

Authorization



Generated
11/23/2022 9:17:53 AM
Revision 1

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From:	Tacoma Morrissey
To:	garrett.green@exxonmobil.com; Collins, Melanie
Cc:	DelawareSpills@exxonmobil.com; Ashley Ager; Ben Belill; Kalei Jennings; Stuart Hyde
Subject:	RE: XTO - Sampling Notification (Week of 10/17/22 - 10/21/22)
Date:	Sunday, October 16, 2022 10:30:26 AM
Attachments:	image001.png image002.png image003.png image004.png

Hi Garrett,

Please see the below email for NMOCD sampling notification for the week of Oct 17, 2022, if you would like to provide an update.

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 17, 2022.

Monday

- BEU 29W Vader 100H / nAPP2102831345

Tuesday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 21 BD 125H/ nAPP2214547737

Wednesday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301

Thursday

- PLU 30 Big Sinks/ nAPP2209137379, nAPP2208351954, nAPP2206853301
- JRU 108 / nAPP2217931599
- JRU 106 / nAPP2212344322

Thank you!

Tacoma Morrissey
Senior Geologist
337-257-8307
Ensolum, LLC

Kalei Jennings

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, September 30, 2022 1:59 PM
To: ocd.enviro@emnrd.nm.gov; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 10/03/22 - 10/07/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 3, 2022.

Monday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 25 Brushy Draw Satellite / nAPP2219648561

Tuesday
- BEU 29W Vader 100H / nAPP2102831345
- ADU 624 / NAPP2123634554
- ADU 641/ NAPP2215449179

Wednesday
- BEU 29W Vader 100H / nAPP2102831345
- ADU 624 / NAPP2123634554
- ADU 641/ NAPP2215449179
- PLU 21 BD 125, 126, 905 / nAPP2215147527, nAPP2214547737, nAPP2214342255
-

Thursday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 21 BD 125, 126, 905 / nAPP2215147527, nAPP2214547737, nAPP2214342255
- PLU 78 SWD / NAPP2126639352

Friday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 78 SWD / NAPP2126639352

Thanks,

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

ENSOLUM

APPENDIX F

SDS for Friction Reducer

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque	**Physical state** Liquid	**Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards	2	Flammability	2	Instability	0	Physical and chemical properties -
HMIS	Health hazards	2	Flammability	2	Physical hazards	0	Personal protection X

Issuing Date	01-Aug-2019
Revision Date	01-Aug-2019
Revision Note	No information available.

Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PfP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

End of Safety Data Sheet

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 162392

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 162392
	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 #NAPP2214547737 PLU 21 BRUSHY DRAW 125H, thank you. This closure is approved. Please be aware that any contaminants left on pad above reclamation standards will need to be addressed at the time the site/facility is plugged and abandoned.	2/22/2023