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	NAPP2207746719
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Adrian Baker	Contact Telephone 432-236-3808
Contact email adrian.baker@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.20815 Longitude -103.77066

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 15 Twin Wells Ranch CTB	Site Type Central Tank Battery
Date Release Discovered 03/04/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	22	24S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 8.36	Volume Recovered (bbls) 8.00
☐ 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)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The packing on the circulation pump leaked fluids both into the pump containment and overflowed onto the ground. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2207746719
District RP	
Facility ID	
Application ID	

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

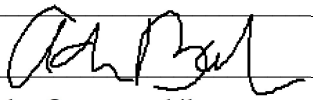
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ 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: Adrian Baker
Title: SSHE Coordinator
Signature: 
Date: 3/18/22
email: adrian.baker@exxonmobil.com
Telephone: 432-236-3808

OCD Only

Received by: Jocelyn Harimon
Date: 03/18/2022

Location:	Poker Lake Unit 15 Twin Wells Ranch CTB	
Spill Date:	3/4/2022	

Area 1		
Approximate Area =	44.92	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	8.00	bbls
Total Produced Water =	0.00	bbls

Area 2		
Approximate Area =	814.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.36	bbls
Total Produced Water =	0.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**8.36**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**8.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

Incident ID	NAPP2207746719
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.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2207746719
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: ____08/10/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 08/10/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2207746719
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Garrett Green Date: 08/10/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 08/10/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Date: 11/22/2022

ENSOLUM

August 10, 2022

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

Re: Deferral Request
Poker Lake Unit 15 Twin Wells Ranch
Incident Numbers NAPP2205638843 and NAPP2207746719
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Deferral Request to document site assessment, delineation and soil sampling activities at the Poker Lake Unit 15 Twin Wells Ranch (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following two incidents of crude oil releasing into a lined containment and onto the wellpad. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Deferral Request, describing site assessment and delineation activities that have occurred and requesting deferral of final remediation for Incident Numbers NAPP2205638843 and NAPP2207746719 until the Site is reconstructed, and/or the well pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in in Unit D, Section 22, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.20815° N, 103.77066°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On February 20, 2022, oil was released from the air eliminator on the oil circulating pump, resulting in the release of approximately 21.39 barrels (bbls) of crude oil into the lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 20.0 bbls of released crude oil were recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on February 25, 2022. The release was assigned Incident Number NAPP2205638843.

On March 4, 2022, the packing on the circulation pump failed, resulting in the release of approximately 8.36 barrels (bbls) of crude oil into the lined containment and onto the pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 8.0 bbls of released crude oil were recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on March 18, 2022. The release was assigned Incident Number NAPP2207746719.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) 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 greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On December 29, 2020, a soil boring (C-4508) was drilled 0.3 miles southeast of the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring C-4508 was drilled to a depth of 111 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activites. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 111 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. All wells used to determing depth to groundwater are depicted on Figure 1. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 14,830 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 1 Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT ACTIVITIES

On April 18, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Four preliminary soil samples (SS01 through SS04) were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the impacted soil. The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins

Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 and SS02 indicated that TPH-GRO/TPH-DRO, and TPH concentrations exceeded the Closure Criteria. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, additional remediation activities were warranted.

A 48-hour advance notice of liner inspection was provided via email to the New Mexico Oil Conservation Division (NMOCD) District II office. A liner integrity inspection was conducted by Ensolum personnel on July 14, 2022 to assess containment of the fluids that collected in the liner. The liner was determined to be in good working condition. Photo documentation was conducted during the liner inspection and a photographic log is included in Appendix B.

DELINEATION SOIL SAMPLING ACTIVITIES

Between July 13, 2022 and July 18, 2022, Ensolum personnel were at the Site to oversee delineation activities. Borehole BH01 and potholes PH01 through PH07 were advanced via hand auger and backhoe, respectively, to a depth of 4 feet bgs within and around the release extent, to assess the lateral and vertical extent of the release. Delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 3 feet bgs. Soil from the delineation borehole and potholes were field screened for volatile aromatic hydrocarbons and chloride using a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the borehole and potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for delineation soil sample PH01 at 2 feet bgs and PH02 at 1 foot indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Laboratory analytical results for all other delineation soil samples indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations are compliant with the strictest Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

Surface scraping of impacted soil was conducted from the release area as indicated by visible staining and laboratory analytical results from the preliminary soil samples. Surface scraping activities were performed using a backhoe and hand tools. The release occurred on the well pad near production equipment and surface pipelines. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site production equipment. The estimated area of remaining impacted soil and delineation soil sample locations are presented on Figure 4. The estimated area of remaining impacted soil measures approximately 780 square feet and, assuming a 1 to 2 feet depth based on the delineation soil sample results listed above, a total of approximately 43 cubic yards of TPH impacted soil remains in place.

DEFFERAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment and surface pipelines surrounding the lined containment preventing full excavation of impacted soil. The impacted soil is limited to the area between two lined containments and active production equipment, where remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by delineation soil samples PH01A and PH02A, both collected at 3 feet bgs. The soil is laterally delineated by delineation soil samples from borehole BH01 and potholes PH03 through PH07.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 100 feet bgs, the majority of the release was contained laterally by the lined containment, the liner was determined to be in good working condition, and the impacted soil remaining in place is limited in areal and vertical extent. Any gross impacts were removed via scraping of the surface soils.

Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Numbers NAPP2205638843 and NAPP2207746719 until final reclamation of the well pad or major construction, whichever comes first.

If you have any questions or comments, please contact Ms. Ashley Ager at (970) 946-1093 or aager@ensolum.com.

Sincerely,
Ensolum, LLC

Ben Belill
Project Geologist

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

cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Deferral Area Map
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Lithologic / Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Sample Notification

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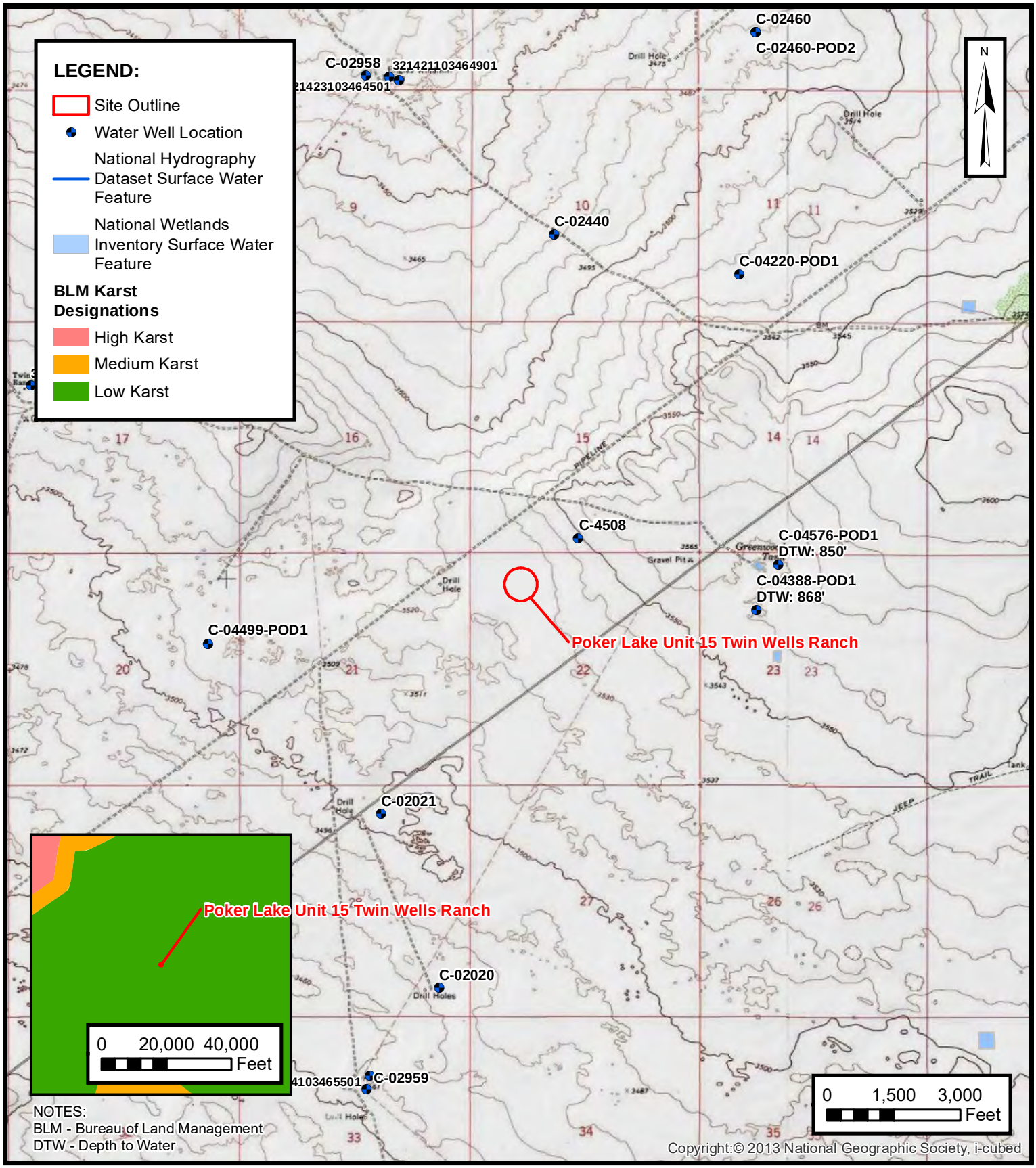
FIGURES



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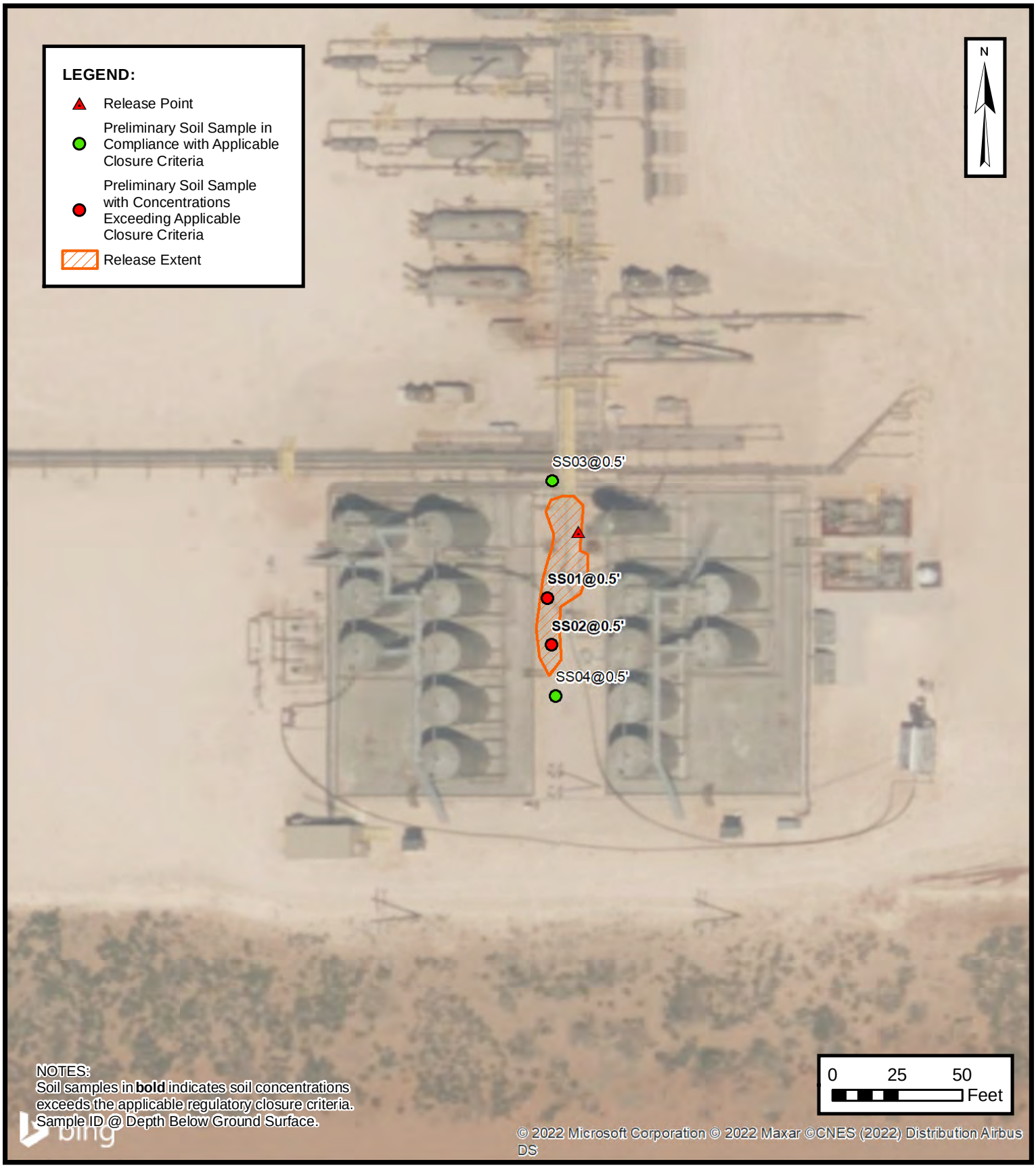
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
POKER LAKE UNIT 15 TWIN WELLS RANCH
NAPP2205638843 and NAPP2207746719
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
1



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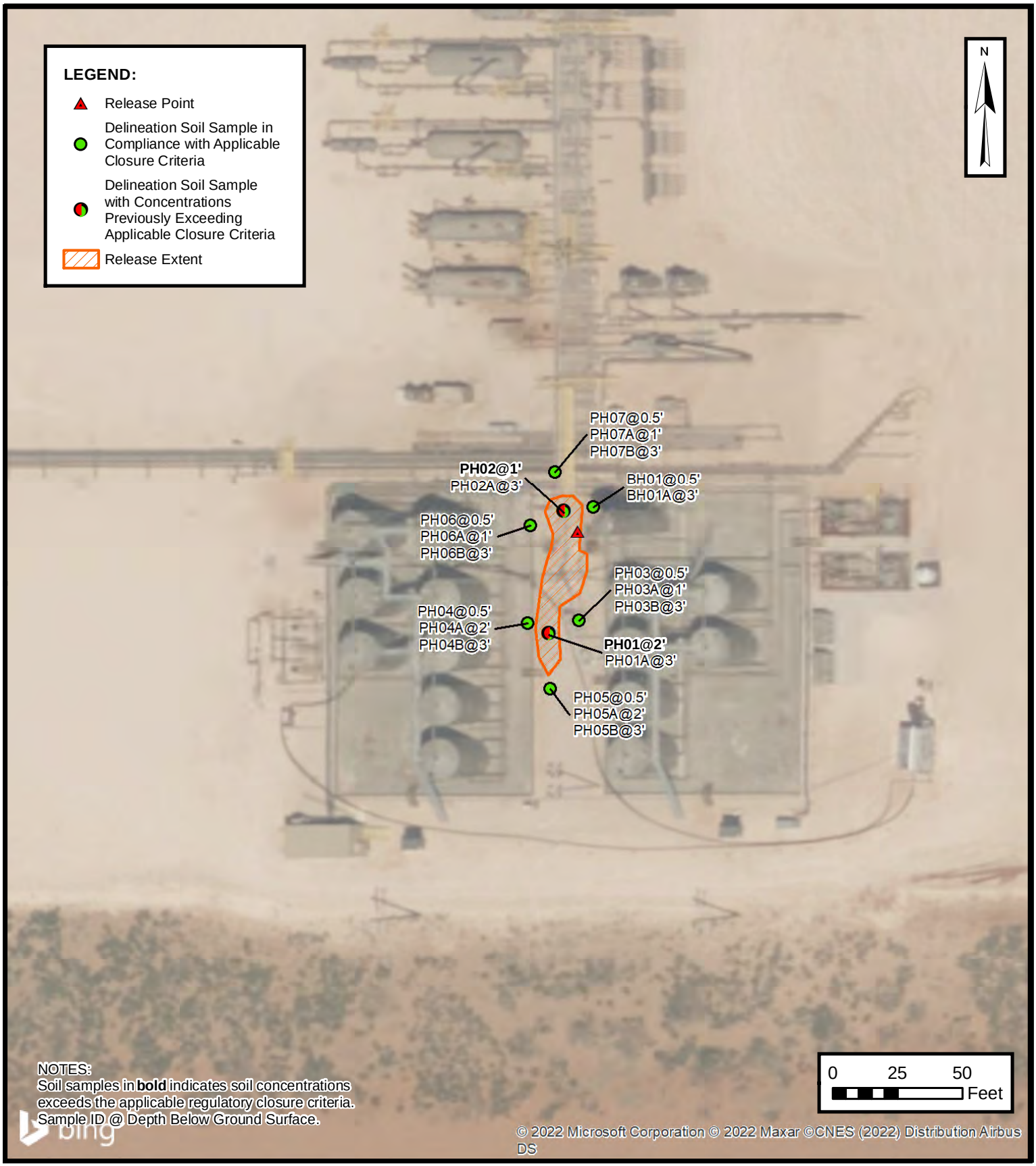
PRELIMINARY SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 15 TWIN WELLS RANCH
NAPP2205638843 and NAPP2207746719
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
2



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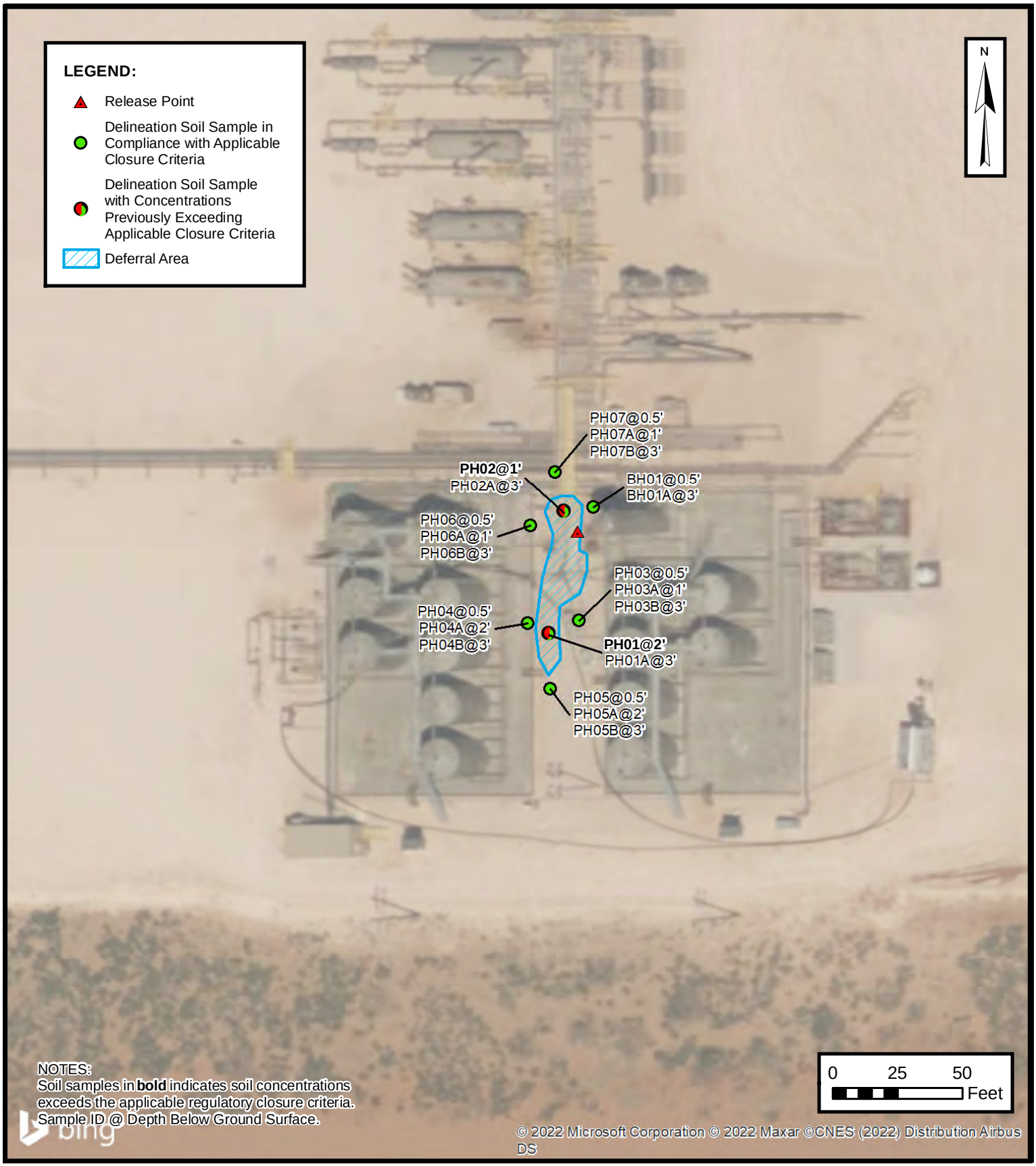
DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 15 TWIN WELLS RANCH
NAPP2205638843 and NAPP2207746719
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
3



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Environmental & Hydrogeologic Consultants

DEFERRAL MAP

XTO ENERGY, INC
POKER LAKE UNIT 15 TWIN WELLS RANCH
NAPP2205638843 and NAPP2207746719
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
XTO Energy, Inc.
Poker Lake Unit 15 Twin Wells Ranch
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**
Preliminary Soil Sample Analytical Results										
SS01	04/18/2022	0.5	<0.101	37.4	1,200	7,380	<50.0	**8,580**	**8,580**	578
SS02	04/18/2022	0.5	<0.0237	44.9	1,150	6,550	<49.9	**7,700**	**7,700**	56.4
SS03	04/18/2022	0.5	<0.00200	0.105	<50.0	69.8	<50.0	69.8	69.8	183
SS04	04/18/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	126
Delineation Soil Sample Analytical Results										
PH01	07/14/2022	2	<0.0106	20.3	1,770	3,850	721	**5,520**	**6,340**	101
PH01A	07/14/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.00	41.9
PH02	07/15/2022	1	<0.00328	26.0	1,110	3,710	707	**4,427**	**5,530**	80.5
PH02A	07/15/2022	3	<0.00200	<0.00399	<.50	<50.0	<50.0	<50.0	<50.0	22.8
PH03	07/15/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	6.55
PH03A	07/15/2022	1	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	32.0
PH03B	07/15/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	154
PH04	07/15/2022	0.5	<0.00201	>0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	<4.99
PH04A	07/15/2022	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	29.0
PH04B	07/15/2022	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	26.9
PH05	07/15/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5.39
PH05A	07/15/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	123
PH05B	07/15/2022	3	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	56.5
PH06	07/15/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	35.8
PH06A	07/15/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	24.9
PH06B	07/15/2022	3	<0.000398	<0.000795	<49.9	<49.9	<49.9	<49.9	<49.9	34.8

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
XTO Energy, Inc.
Poker Lake Unit 15 Twin Wells Ranch
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**
PH07	07/15/2022	0.5	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	24.3
PH07A	07/15/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	131
PH07B	07/15/2022	3	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	112
BH01	07/18/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	179
BH01A	07/18/2022	3	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	36.5

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria for Soils Impacted by a Release

ENSOLUM

APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4508

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	12'	46.69"	N
	LONGITUDE	-103°	45'	55.29"	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

SW SE Sec. 15 T24S R31E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/29/2020	12/29/2020	temporary well material	110	n/a

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

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

3. ANNULAR MATERIAL

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

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

FILE NO. C-4508	POD NO. 1	TRN NO. 686651	
LOCATION Exp 1 24S.31E.15.344		WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	14	14	SAND, medium-fine grain, poorly graded,someclaiche, light-brown-tan,dry	Y ✓ N	
14	15	1	SAND, fine grain, poorly graded,someclaiche, light-brown-tan,dry	Y ✓ N	
15	25	5	CALICHE, moderately consolidated,silty, some gravel, off-white-tan, dry	Y ✓ N	
25	46	21	SILTSTONE, mod. consolidated, some sand, red-brown, dry	Y ✓ N	
46	64	18	CLAYSTONE, mod. consolidated, cohesive, few sand, red-brown, dry	Y ✓ N	
64	72	8	SANDSTONE, high consolidated, medium-grain, well graded,white/lightbrown	Y ✓ N	
72	90	18	CLAYSTONE, high consolidated, cohesive, medium plasticity, few sand, red-br	Y ✓ N	
90	101	11	SANDSTONE, high consolidated, fine grain, few silt,white/offwhite	Y ✓ N	
101	108	7	CLAYSTONE, high consolidated, cohesive, med.-low plasticity, few sand, red-b	Y ✓ N	
108	111	3	SANDSTONE, high consolidated, fine grain, few silt, white/offwhite, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 02/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4508	POD NO. 1	TRN NO. 686651	
LOCATION		WELL TAG ID NO. —	PAGE 2 OF 2

OSE DII FEB 12 2021 PM3:10

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 =

- 321310103482101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

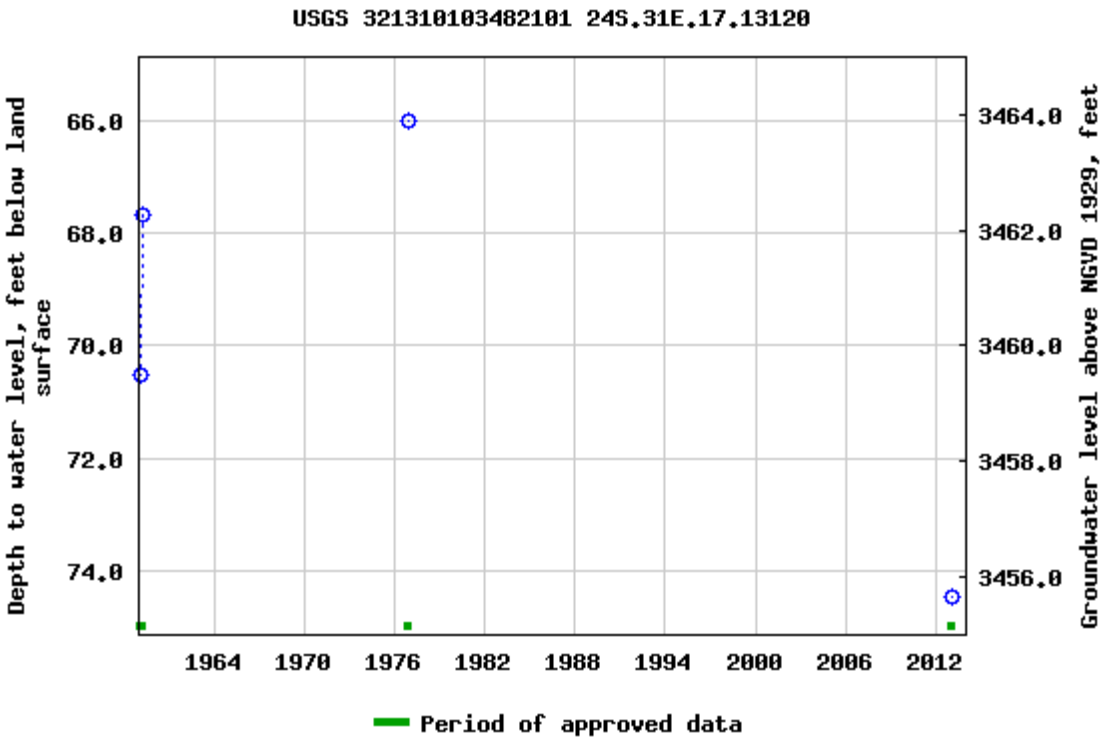
USGS 321310103482101 24S.31E.17.13120

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

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°13'14.1", Longitude 103°48'23.4" NAD83
Land-surface elevation 3,530.00 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) 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: 2022-08-08 14:10:11 EDT
0.55 0.47 nadww01

ENSOLUM

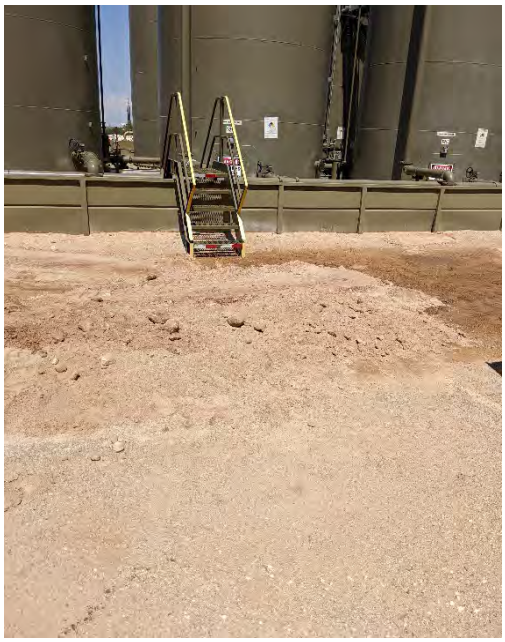
APPENDIX B

Photographic Log

Photographic Log
XTO Energy, Inc.
Poker Lake Unit 15 Twin Wells Ranch
Incident Number nAPP2205638843 &
nAPP2207746719

Photograph 1
Date: April 18, 2022
Description: Site Assessment Activities

Photograph 2
Date: April 18, 2022
Description: Site Assessment Activities

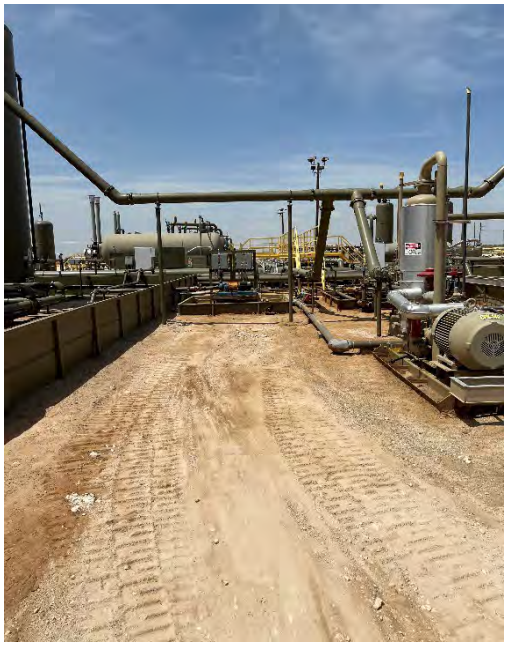


Photograph 3
Date: July 14, 2022
Description: Delineation Activities.

Photograph 4
Date: July 15, 2022
Description: Delineation Activities

ENSOLUM

Photographic Log
XTO Energy, Inc.
Poker Lake Unit 15 Twin Wells Ranch
Incident Number nAPP2205638843 &
nAPP2207746719



Photograph 5
Date: July 15, 2022
Description: Surface Scraping activities.

Photograph 6
Date: July 15, 2022
Description: Surface Scraping activities.

Photograph 7
Date: July 14, 2022
Description: Liner Inspection

Photograph 8
Date: July 14, 2022
Description: Liner Inspection

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 07.14.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843 and NAPP2207746719	
	Job Number: 03E1558017	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Backhoe
Coordinates: 32.20816,-103.77067	Hole Diameter: N/A	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	1508	N			1'	cche	grey-brown caliche
N	ND	1620	N	PH01	2'	2'	cche	grey-brown caliche
N	ND	76.0	N	PH01A	3'	3'	sp-sm	Red-brown sandstone
N	ND	30.0	N			4'	sp-sm	Red-brown sandstone

ENSOLUM	Sample Name: PH02	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843and NAPP2207746719	
	Job Number: 03E1558017	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter: 3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	903	N	PH02	1'	1'	cche	grey-brown caliche
N	ND	860	N			2'	cche	grey-brown caliche
N	ND	73.0	N	PH02A	3'	3'	sp-sm	Red-brown sandstone
N	ND	44.0	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: PH03	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	1.2	N	PH03	0.5'	0.5'	cche	grey-brown caliche
N	ND	1.7	N	PH03A	1'	1'	cche	grey-brown caliche
N	ND	1.6	N			2'	cche	grey-brown caliche
N	ND	0.7	N	PH03B	3'	3'	sp-sm	Red-brown sandstone
N	ND	1.1	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: PH04	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	0.6	N	PH04	0.5'	0.5'	cche	grey-brown caliche
N	ND	0.9	N			1'	cche	grey-brown caliche
N	ND	1.6	N	PH04A	2'	2'	cche	grey-brown caliche
N	ND	1.0	N	PH04B	3'	3'	sp-sm	Red-brown sandstone
N	ND	1.3	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: PH05	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843 and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	0.3	N	PH05	0.5'	0.5'	cche	grey-brown caliche
N	ND	0.5	N			1'	cche	grey-brown caliche
N	ND	0.7	N	PH05A	2'	2'	cche	grey-brown caliche
N	ND	0.6	N	PH05B	3'	3'	sp-sm	Red-brown sandstone
N	ND	0.9	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: PH06	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843 and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	1.3	N	PH06	0.5'	0.5'	cche	grey-brown caliche
N	ND	1.2	N	PH06A	1'	1'	cche	grey-brown caliche
N	ND	0.2	N			2'	cche	grey-brown caliche
N	ND	0.1	N	PH06B	3'	3'	sp-sm	Red-brown sandstone
N	ND	0.7	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: PH07	Date: 07.15.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843 and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	1.4	N	PH07	0.5'	0.5'	cche	grey-brown caliche
N	ND	1.6	N	PH07A	1'	1'	cche	grey-brown caliche
N	ND	0.6	N			2'	cche	grey-brown caliche
N	ND	0.4	N	PH07B	3'	3'	sp-sm	Red-brown sandstone
N	ND	0.4	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

	Sample Name: BH01	Date: 07.18.22
	Site Name: PLU 15 TWR	
	Incident Number: NAPP2205638843 and NAPP2207746719	
	Job Number: 03E1558015	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Hand Auger
Coordinates:32.20816,-103.77067	Hole Diameter:3.5"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	1.1	N	BH01	0.5'	0.5'	cche	grey-brown caliche
N	ND	1.0	N			1'	cche	grey-brown caliche
N	ND	0.0	N			2'	cche	grey-brown caliche
N	ND	0.0	N	BH01A	3'	3'	sp-sm	Red-brown sandstone
N	ND	0.0	N			4'	sp-sm	Red-brown sandstone

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2199-1
Laboratory Sample Delivery Group: 03E1558017
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
4/25/2022 3:58:46 PM

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

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

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

Client: Ensolum
Project/Site: PLU 15 TWR

Laboratory Job ID: 890-2199-1
SDG: 03E1558017

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Lab Chronicle 14
Certification Summary 15
Method Summary 16
Sample Summary 17
Chain of Custody 18
Receipt Checklists 20

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

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 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Job ID: 890-2199-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2199-1

Receipt
The samples were received on 4/19/2022 12:10 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 1.4°C

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 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Client Sample ID: SS03

Lab Sample ID: 890-2199-1
Matrix: Solid
Date Collected: 04/18/22 12:20
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 04:01	1
Toluene	**0.00844**		0.00200		mg/Kg		04/21/22 16:00	04/25/22 04:01	1
Ethylbenzene	**0.00452**		0.00200		mg/Kg		04/21/22 16:00	04/25/22 04:01	1
m-Xylene & p-Xylene	**0.0747**		0.00401		mg/Kg		04/21/22 16:00	04/25/22 04:01	1
o-Xylene	**0.0178**		0.00200		mg/Kg		04/21/22 16:00	04/25/22 04:01	1
Xylenes, Total	**0.0925**		0.00401		mg/Kg		04/21/22 16:00	04/25/22 04:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/21/22 16:00*	*04/25/22 04:01*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/21/22 16:00*	*04/25/22 04:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.105**		0.00401		mg/Kg			04/25/22 16:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**69.8**		50.0		mg/Kg			04/21/22 10:45	1

Method: 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		04/20/22 09:58	04/20/22 15:17	1
Diesel Range Organics (Over C10-C28)	**69.8**		50.0		mg/Kg		04/20/22 09:58	04/20/22 15:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*04/20/22 09:58*	*04/20/22 15:17*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/20/22 09:58*	*04/20/22 15:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**183**		4.95		mg/Kg			04/21/22 21:35	1

Client Sample ID: SS04

Lab Sample ID: 890-2199-2
Matrix: Solid
Date Collected: 04/18/22 12:30
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/21/22 16:00	04/25/22 04:22	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/21/22 16:00	04/25/22 04:22	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/21/22 16:00	04/25/22 04:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/21/22 16:00	04/25/22 04:22	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/21/22 16:00	04/25/22 04:22	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/21/22 16:00	04/25/22 04:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/21/22 16:00*	*04/25/22 04:22*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Client Sample ID: SS04
Date Collected: 04/18/22 12:30
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Lab Sample ID: 890-2199-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/21/22 16:00*	*04/25/22 04:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			04/25/22 16:29	1

Method: 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			04/21/22 10:45	1

Method: 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		04/20/22 09:58	04/20/22 15:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 15:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*04/20/22 09:58*	*04/20/22 15:59*	*1*
o-Terphenyl	*88*		*70 - 130*	*04/20/22 09:58*	*04/20/22 15:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**126**		5.00		mg/Kg			04/21/22 22:01	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-13850-A-27-C MS	Matrix Spike	109	111
880-13850-A-27-D MSD	Matrix Spike Duplicate	79	82
890-2199-1	SS03	110	92
890-2199-2	SS04	109	94
LCS 880-23967/1-A	Lab Control Sample	101	93
LCSD 880-23967/2-A	Lab Control Sample Dup	102	92
MB 880-23967/5-A	Method Blank	105	88

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-13895-A-1-B MS	Matrix Spike	77	81
880-13895-A-1-C MSD	Matrix Spike Duplicate	78	81
890-2199-1	SS03	87	95
890-2199-2	SS04	80	88

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO2	OTPH2
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
LCS 880-23823/2-A	Lab Control Sample	92	108
LCSD 880-23823/3-A	Lab Control Sample Dup	104	125
MB 880-23823/1-A	Method Blank	84	100

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-23967/5-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23967

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/21/22 16:00	04/25/22 01:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/21/22 16:00*	*04/25/22 01:58*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/21/22 16:00*	*04/25/22 01:58*	*1*

Lab Sample ID: LCS 880-23967/1-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23967

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08769		mg/Kg		88	70 - 130		
Toluene			0.100	0.09042		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.09356		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09654		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-23967/2-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23967

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08077		mg/Kg		81	70 - 130	8	35
Toluene			0.100	0.08128		mg/Kg		81	70 - 130	11	35
Ethylbenzene			0.100	0.08200		mg/Kg		82	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1675		mg/Kg		84	70 - 130	14	35
o-Xylene			0.100	0.08663		mg/Kg		87	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-13850-A-27-C MS
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 23967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.1069		mg/Kg		107	70 - 130		
Toluene	<0.00200	U F1	0.0998	0.1327	F1	mg/Kg		133	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

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

Lab Sample ID: 880-13850-A-27-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 24109 — **Prep Batch: 23967**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.1129		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2220		mg/Kg		111	70 - 130
o-Xylene	<0.00200	U	0.0998	0.1165		mg/Kg		117	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-13850-A-27-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 24109 — **Prep Batch: 23967**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.08759		mg/Kg		88	70 - 130	20	35
Toluene	<0.00200	U F1	0.0996	0.1108		mg/Kg		111	70 - 130	18	35
Ethylbenzene	<0.00200	U	0.0996	0.09973		mg/Kg		100	70 - 130	12	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1967		mg/Kg		99	70 - 130	12	35
o-Xylene	<0.00200	U	0.0996	0.09755		mg/Kg		98	70 - 130	18	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

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

Lab Sample ID: MB 880-23823/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 23813 — **Prep Batch: 23823**

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		04/20/22 09:58	04/20/22 10:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 10:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 10:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*04/20/22 09:58*	*04/20/22 10:25*	*1*
o-Terphenyl	*100*		*70 - 130*	*04/20/22 09:58*	*04/20/22 10:25*	*1*

Lab Sample ID: LCS 880-23823/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 23813 — **Prep Batch: 23823**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1021		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)			1000	841.0		mg/Kg		84	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

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

Lab Sample ID: LCS 880-23823/2-A
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23823

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: LCSD 880-23823/3-A
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1035		mg/Kg		104	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	904.3		mg/Kg		90	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	125		70 - 130

Lab Sample ID: 880-13895-A-1-B MS
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 23823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	844.7		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	779.8		mg/Kg		75	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 880-13895-A-1-C MSD
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 23823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	818.6		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	782.3		mg/Kg		76	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	81		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-23840/1-A
Matrix: Solid
Analysis Batch: 23965

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			04/21/22 18:29	1

Lab Sample ID: LCS 880-23840/2-A
Matrix: Solid
Analysis Batch: 23965

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.9		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-23840/3-A
Matrix: Solid
Analysis Batch: 23965

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.1		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-13905-A-21-B MS
Matrix: Solid
Analysis Batch: 23965

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	7.76		248	259.5		mg/Kg		102	90 - 110		

Lab Sample ID: 880-13905-A-21-C MSD
Matrix: Solid
Analysis Batch: 23965

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	7.76		248	261.5		mg/Kg		102	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

GC VOA

Prep Batch: 23967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	5035	
890-2199-2	SS04	Total/NA	Solid	5035	
MB 880-23967/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-23967/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-23967/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-13850-A-27-C MS	Matrix Spike	Total/NA	Solid	5035	
880-13850-A-27-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 24109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	8021B	23967
890-2199-2	SS04	Total/NA	Solid	8021B	23967
MB 880-23967/5-A	Method Blank	Total/NA	Solid	8021B	23967
LCS 880-23967/1-A	Lab Control Sample	Total/NA	Solid	8021B	23967
LCSD 880-23967/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	23967
880-13850-A-27-C MS	Matrix Spike	Total/NA	Solid	8021B	23967
880-13850-A-27-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	23967

Analysis Batch: 24209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	Total BTEX	
890-2199-2	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 23813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	8015B NM	23823
890-2199-2	SS04	Total/NA	Solid	8015B NM	23823
MB 880-23823/1-A	Method Blank	Total/NA	Solid	8015B NM	23823
LCS 880-23823/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	23823
LCSD 880-23823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	23823
880-13895-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	23823
880-13895-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	23823

Prep Batch: 23823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	8015NM Prep	
890-2199-2	SS04	Total/NA	Solid	8015NM Prep	
MB 880-23823/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-23823/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-23823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-13895-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-13895-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 23926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Total/NA	Solid	8015 NM	
890-2199-2	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

HPLC/IC

Leach Batch: 23840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Soluble	Solid	DI Leach	
890-2199-2	SS04	Soluble	Solid	DI Leach	
MB 880-23840/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23840/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23840/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13905-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-13905-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 23965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2199-1	SS03	Soluble	Solid	300.0	23840
890-2199-2	SS04	Soluble	Solid	300.0	23840
MB 880-23840/1-A	Method Blank	Soluble	Solid	300.0	23840
LCS 880-23840/2-A	Lab Control Sample	Soluble	Solid	300.0	23840
LCSD 880-23840/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23840
880-13905-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	23840
880-13905-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23840

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Client Sample ID: SS03

Date Collected: 04/18/22 12:20
Date Received: 04/19/22 12:10

Lab Sample ID: 890-2199-1

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	23967	04/21/22 16:00	MR	XEN MID
Total/NA	Analysis	8021B		1			24109	04/25/22 04:01	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24209	04/25/22 16:29	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			23926	04/21/22 10:45	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	23823	04/20/22 09:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			23813	04/20/22 15:17	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	23840	04/20/22 12:38	SC	XEN MID
Soluble	Analysis	300.0		1			23965	04/21/22 21:35	CH	XEN MID

Client Sample ID: SS04

Date Collected: 04/18/22 12:30
Date Received: 04/19/22 12:10

Lab Sample ID: 890-2199-2

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			4.98 g	5 mL	23967	04/21/22 16:00	MR	XEN MID
Total/NA	Analysis	8021B		1			24109	04/25/22 04:22	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24209	04/25/22 16:29	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			23926	04/21/22 10:45	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	23823	04/20/22 09:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			23813	04/20/22 15:59	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	23840	04/20/22 12:38	SC	XEN MID
Soluble	Analysis	300.0		1			23965	04/21/22 22:01	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

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	T104704400-21-22	06-30-22

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 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2199-1
SDG: 03E1558017

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2199-1	SS03	Solid	04/18/22 12:20	04/19/22 12:10	0.5
890-2199-2	SS04	Solid	04/18/22 12:30	04/19/22 12:10	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: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	2351 W Northwest Hwy Suite 1203A	Address:	3104 E. Green Street
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	

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 15 TWR	Turn Around	
Project Number:	03E1558017	☒ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Ben Belill	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	NAPP2207746719		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR Gun 007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.6
Total Containers:		Corrected Temperature:	1.4

ANALYSIS REQUEST

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	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS03 SS02	S	4/18/22	12:20	0.5'	G	1		X	X	X	cc: 202771100
SS04 SS03	↓	↓	12:30	0.5'	G	1		X	X	X	

890-2199 Chain of Custody

SS3 4/18/22

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	Alex Cruz 4.19.22	4/19/22 @ 1210	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020 2

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-712.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2199-1
Address: 1211 W Florida Ave	Due Date Requested: 4/25/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 15 TWR	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS03 (890-2199-1)	4/18/22	12 20 Mountain		Solid			X	X	X	X	X	1	
SS04 (890-2199-2)	4/18/22	12 30 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by:	4/19/22		Received by:	4/20/22	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2199-1
SDG Number: 03E1558017

Login Number: 2199
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2199-1
SDG Number: 03E1558017

Login Number: 2199
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 04/20/22 10:37 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2200-1
Laboratory Sample Delivery Group: 03E1558017
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
4/25/2022 4:03:49 PM

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

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

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

Client: Ensolum
Project/Site: PLU 15 TWR

Laboratory Job ID: 890-2200-1
SDG: 03E1558017

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Eurofins Carlsbad
4/25/2022

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Job ID: 890-2200-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2200-1

Receipt
The samples were received on 4/19/2022 12:10 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 1.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-24111 and analytical batch 880-24110 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-2200-1) and SS02 (890-2200-2). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Client Sample ID: SS01

Lab Sample ID: 890-2200-1
Matrix: Solid
Date Collected: 04/18/22 12:00
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.101	U	0.101		mg/Kg		04/21/22 16:00	04/25/22 05:03	50
Toluene	**3.92**		0.101		mg/Kg		04/21/22 16:00	04/25/22 05:03	50
Ethylbenzene	**3.89**		0.101		mg/Kg		04/21/22 16:00	04/25/22 05:03	50
m-Xylene & p-Xylene	**23.5**		0.202		mg/Kg		04/21/22 16:00	04/25/22 05:03	50
o-Xylene	**6.12**		0.101		mg/Kg		04/21/22 16:00	04/25/22 05:03	50
Xylenes, Total	**29.6**		0.202		mg/Kg		04/21/22 16:00	04/25/22 05:03	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*04/21/22 16:00*	*04/25/22 05:03*	*50*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/21/22 16:00*	*04/25/22 05:03*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**37.4**		0.202		mg/Kg			04/25/22 12:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**8580**		50.0		mg/Kg			04/21/22 10:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**1200**		50.0		mg/Kg		04/20/22 09:58	04/20/22 17:23	1
Diesel Range Organics (Over C10-C28)	**7380**		50.0		mg/Kg		04/20/22 09:58	04/20/22 17:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*04/20/22 09:58*	*04/20/22 17:23*	*1*
o-Terphenyl	*147*	*S1+*	*70 - 130*	*04/20/22 09:58*	*04/20/22 17:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**578**		25.3		mg/Kg			04/21/22 22:10	5

Client Sample ID: SS02

Lab Sample ID: 890-2200-2
Matrix: Solid
Date Collected: 04/18/22 12:10
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0237**		0.00200		mg/Kg		04/21/22 16:00	04/25/22 04:42	1
Toluene	**4.06**		0.201		mg/Kg		04/24/22 22:21	04/25/22 10:59	100
Ethylbenzene	**3.68**		0.201		mg/Kg		04/24/22 22:21	04/25/22 10:59	100
m-Xylene & p-Xylene	**29.4**		0.402		mg/Kg		04/24/22 22:21	04/25/22 10:59	100
o-Xylene	**7.78**		0.201		mg/Kg		04/24/22 22:21	04/25/22 10:59	100
Xylenes, Total	**37.2**		0.402		mg/Kg		04/24/22 22:21	04/25/22 10:59	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*403*	*S1+*	*70 - 130*	*04/21/22 16:00*	*04/25/22 04:42*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Client Sample ID: SS02
Date Collected: 04/18/22 12:10
Date Received: 04/19/22 12:10
Sample Depth: 0.5

Lab Sample ID: 890-2200-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/21/22 16:00*	*04/25/22 04:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**44.9**		0.402		mg/Kg			04/25/22 12:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**7700**		49.9		mg/Kg			04/21/22 10:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**1150**		49.9		mg/Kg		04/20/22 09:58	04/20/22 17:45	1
Diesel Range Organics (Over C10-C28)	**6550**		49.9		mg/Kg		04/20/22 09:58	04/20/22 17:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/20/22 09:58	04/20/22 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*04/20/22 09:58*	*04/20/22 17:45*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*04/20/22 09:58*	*04/20/22 17:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.4**		4.99		mg/Kg			04/21/22 22:19	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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)
880-13850-A-1-H MS	Matrix Spike	102	95
880-13850-A-1-I MSD	Matrix Spike Duplicate	97	99
880-13850-A-27-C MS	Matrix Spike	109	111
880-13850-A-27-D MSD	Matrix Spike Duplicate	79	82
890-2200-1	SS01	126	94
890-2200-2	SS02	403 S1+	99
LCS 880-23967/1-A	Lab Control Sample	101	93
LCS 880-24111/1-A	Lab Control Sample	97	95
LCSD 880-23967/2-A	Lab Control Sample Dup	102	92
LCSD 880-24111/2-A	Lab Control Sample Dup	99	99
MB 880-23967/5-A	Method Blank	105	88
MB 880-24111/5-A	Method Blank	99	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-13895-A-1-B MS	Matrix Spike	77	81
880-13895-A-1-C MSD	Matrix Spike Duplicate	78	81
890-2200-1	SS01	116	147 S1+
890-2200-2	SS02	115	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-23823/2-A	Lab Control Sample	92	108
LCSD 880-23823/3-A	Lab Control Sample Dup	104	125
MB 880-23823/1-A	Method Blank	84	100

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-23967/5-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23967

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/21/22 16:00	04/25/22 01:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/21/22 16:00	04/25/22 01:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/21/22 16:00*	*04/25/22 01:58*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/21/22 16:00*	*04/25/22 01:58*	*1*

Lab Sample ID: LCS 880-23967/1-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23967

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08769		mg/Kg		88	70 - 130		
Toluene			0.100	0.09042		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.09356		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09654		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-23967/2-A
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23967

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08077		mg/Kg		81	70 - 130	8	35
Toluene			0.100	0.08128		mg/Kg		81	70 - 130	11	35
Ethylbenzene			0.100	0.08200		mg/Kg		82	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1675		mg/Kg		84	70 - 130	14	35
o-Xylene			0.100	0.08663		mg/Kg		87	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-13850-A-27-C MS
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 23967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.1069		mg/Kg		107	70 - 130		
Toluene	<0.00200	U F1	0.0998	0.1327	F1	mg/Kg		133	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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

Lab Sample ID: 880-13850-A-27-C MS
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 23967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.1129		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2220		mg/Kg		111	70 - 130
o-Xylene	<0.00200	U	0.0998	0.1165		mg/Kg		117	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-13850-A-27-D MSD
Matrix: Solid
Analysis Batch: 24109

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 23967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.08759		mg/Kg		88	70 - 130	20	35
Toluene	<0.00200	U F1	0.0996	0.1108		mg/Kg		111	70 - 130	18	35
Ethylbenzene	<0.00200	U	0.0996	0.09973		mg/Kg		100	70 - 130	12	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1967		mg/Kg		99	70 - 130	12	35
o-Xylene	<0.00200	U	0.0996	0.09755		mg/Kg		98	70 - 130	18	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: MB 880-24111/5-A
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 24111

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/24/22 22:21	04/25/22 01:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/24/22 22:21	04/25/22 01:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/24/22 22:21	04/25/22 01:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/24/22 22:21	04/25/22 01:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/24/22 22:21	04/25/22 01:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/24/22 22:21	04/25/22 01:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/24/22 22:21*	*04/25/22 01:09*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*04/24/22 22:21*	*04/25/22 01:09*	*1*

Lab Sample ID: LCS 880-24111/1-A
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07124		mg/Kg		71	70 - 130
Toluene	0.100	0.09089		mg/Kg		91	70 - 130
Ethylbenzene	0.100	0.09549		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	0.200	0.1938		mg/Kg		97	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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

Lab Sample ID: LCS 880-24111/1-A
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 24111

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.09767		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-24111/2-A
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 24111

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07926		mg/Kg		79	70 - 130	11	35
Toluene			0.100	0.09758		mg/Kg		98	70 - 130	7	35
Ethylbenzene			0.100	0.1017		mg/Kg		102	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2056		mg/Kg		103	70 - 130	6	35
o-Xylene			0.100	0.1035		mg/Kg		104	70 - 130	6	35

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

Lab Sample ID: 880-13850-A-1-H MS
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 24111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.09875		mg/Kg		99	70 - 130		
Toluene	<0.00200	U F1	0.100	0.1308	F1	mg/Kg		131	70 - 130		
Ethylbenzene	<0.00200	U	0.100	0.1271		mg/Kg		127	70 - 130		
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.2702	F1	mg/Kg		135	70 - 130		
o-Xylene	<0.00200	U	0.100	0.1254		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-13850-A-1-I MSD
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 24111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.1096		mg/Kg		110	70 - 130	10	35
Toluene	<0.00200	U F1	0.0996	0.1232		mg/Kg		124	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0996	0.1164		mg/Kg		117	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.2439		mg/Kg		122	70 - 130	10	35
o-Xylene	<0.00200	U	0.0996	0.1147		mg/Kg		115	70 - 130	9	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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

Lab Sample ID: 880-13850-A-1-I MSD
Matrix: Solid
Analysis Batch: 24110

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 24111

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-23823/1-A
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23823

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		04/20/22 09:58	04/20/22 10:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 10:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/20/22 09:58	04/20/22 10:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*84*		*70 - 130*	*04/20/22 09:58*	*04/20/22 10:25*	*1*
o-Terphenyl	*100*		*70 - 130*	*04/20/22 09:58*	*04/20/22 10:25*	*1*

Lab Sample ID: LCS 880-23823/2-A
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1021		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	841.0		mg/Kg		84	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: LCSD 880-23823/3-A
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23823

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1035		mg/Kg		104	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	904.3		mg/Kg		90	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*125*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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

Lab Sample ID: 880-13895-A-1-B MS
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 23823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	844.7		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	779.8		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 880-13895-A-1-C MSD
Matrix: Solid
Analysis Batch: 23813

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 23823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	818.6		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	782.3		mg/Kg		76	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-23840/1-A
Matrix: Solid
Analysis Batch: 23965

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			04/21/22 18:29	1

Lab Sample ID: LCS 880-23840/2-A
Matrix: Solid
Analysis Batch: 23965

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	255.9		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-23840/3-A
Matrix: Solid
Analysis Batch: 23965

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.1		mg/Kg		102	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-13905-A-21-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	7.76		248	259.5		mg/Kg		102	90 - 110

Lab Sample ID: 880-13905-A-21-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.76		248	261.5		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-2198-A-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	155	F1	1250	1543	F1	mg/Kg		111	90 - 110

Lab Sample ID: 890-2198-A-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	155	F1	1250	1514		mg/Kg		109	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

GC VOA

Prep Batch: 23967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	5035	
890-2200-2	SS02	Total/NA	Solid	5035	
MB 880-23967/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-23967/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-23967/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-13850-A-27-C MS	Matrix Spike	Total/NA	Solid	5035	
880-13850-A-27-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 24109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	8021B	23967
890-2200-2	SS02	Total/NA	Solid	8021B	23967
MB 880-23967/5-A	Method Blank	Total/NA	Solid	8021B	23967
LCS 880-23967/1-A	Lab Control Sample	Total/NA	Solid	8021B	23967
LCSD 880-23967/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	23967
880-13850-A-27-C MS	Matrix Spike	Total/NA	Solid	8021B	23967
880-13850-A-27-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	23967

Analysis Batch: 24110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-2	SS02	Total/NA	Solid	8021B	24111
MB 880-24111/5-A	Method Blank	Total/NA	Solid	8021B	24111
LCS 880-24111/1-A	Lab Control Sample	Total/NA	Solid	8021B	24111
LCSD 880-24111/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	24111
880-13850-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	24111
880-13850-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	24111

Prep Batch: 24111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-2	SS02	Total/NA	Solid	5035	
MB 880-24111/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-24111/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-24111/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-13850-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-13850-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 24178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	Total BTEX	
890-2200-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 23813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	8015B NM	23823
890-2200-2	SS02	Total/NA	Solid	8015B NM	23823
MB 880-23823/1-A	Method Blank	Total/NA	Solid	8015B NM	23823
LCS 880-23823/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	23823
LCSD 880-23823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	23823
880-13895-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	23823

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

GC Semi VOA (Continued)

Analysis Batch: 23813 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13895-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	23823

Prep Batch: 23823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	8015NM Prep	
890-2200-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-23823/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-23823/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-23823/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-13895-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-13895-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 23927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Total/NA	Solid	8015 NM	
890-2200-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 23840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Soluble	Solid	DI Leach	
890-2200-2	SS02	Soluble	Solid	DI Leach	
MB 880-23840/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23840/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23840/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13905-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-13905-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2198-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2198-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 23965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2200-1	SS01	Soluble	Solid	300.0	23840
890-2200-2	SS02	Soluble	Solid	300.0	23840
MB 880-23840/1-A	Method Blank	Soluble	Solid	300.0	23840
LCS 880-23840/2-A	Lab Control Sample	Soluble	Solid	300.0	23840
LCSD 880-23840/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23840
880-13905-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	23840
880-13905-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23840
890-2198-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	23840
890-2198-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23840

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Client Sample ID: SS01

Date Collected: 04/18/22 12:00
Date Received: 04/19/22 12:10

Lab Sample ID: 890-2200-1

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			4.96 g	5 mL	23967	04/21/22 16:00	MR	XEN MID
Total/NA	Analysis	8021B		50			24109	04/25/22 05:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24178	04/25/22 12:21	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			23927	04/21/22 10:45	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	23823	04/20/22 09:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			23813	04/20/22 17:23	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	23840	04/20/22 12:38	SC	XEN MID
Soluble	Analysis	300.0		5			23965	04/21/22 22:10	CH	XEN MID

Client Sample ID: SS02

Date Collected: 04/18/22 12:10
Date Received: 04/19/22 12:10

Lab Sample ID: 890-2200-2

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			4.98 g	5 mL	24111	04/24/22 22:21	MR	XEN MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	24110	04/25/22 10:59	MR	XEN MID
Total/NA	Prep	5035			4.99 g	5 mL	23967	04/21/22 16:00	MR	XEN MID
Total/NA	Analysis	8021B		1			24109	04/25/22 04:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24178	04/25/22 12:21	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			23927	04/21/22 10:45	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	23823	04/20/22 09:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			23813	04/20/22 17:45	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	23840	04/20/22 12:38	SC	XEN MID
Soluble	Analysis	300.0		1			23965	04/21/22 22:19	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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	T104704400-21-22	06-30-22

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 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2200-1
SDG: 03E1558017

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2200-1	SS01	Solid	04/18/22 12:00	04/19/22 12:10	0.5
890-2200-2	SS02	Solid	04/18/22 12:10	04/19/22 12:10	0.5

eurofins

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:	Ben Belill	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	2351 W Northwest Hwy Suite 1203A	Address:	3104 E. Green Street
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852 Email:		

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 15 TWR	Turn Around	
Project Number:	03E1558017	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Ben Belill	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	NAPP2207746719		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.6
Total Containers:		Corrected Temperature:	1.4

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS01	S	4/18/22	1200	0.5'	G	1		X	X	X	CC: 2027711001
SS02	S	4/18/22	1210	0.5'	G	1		X	X	X	

890-2200 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	4-19-22	4/19/22 1610	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-712 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2200-1
Address: 1211 W Florida Ave	Due Date Requested: 4/25/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 15 TWR	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
SS01 (890-2200-1)	4/18/22	12 00 Mountain		Solid			X	X	X	X	X	1	
SS02 (890-2200-2)	4/18/22	12 10 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	4/19/22			4/20/22	
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2200-1
SDG Number: 03E1558017

Login Number: 2200
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2200-1
SDG Number: 03E1558017

Login Number: 2200
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 04/20/22 10:37 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2569-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 10:38:42 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 15 TWR

Laboratory Job ID: 890-2569-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Job ID: 890-2569-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2569-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: PH01 (890-2569-1) and PH01A (890-2569-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30267 and analytical batch 880-30326 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH01 (890-2569-1) and (880-17211-A-1-C). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-30080/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH01 (890-2569-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30080 and analytical batch 880-30146 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-30080 and analytical batch 880-30146 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Client Sample ID: PH01

Date Collected: 07/14/22 10:25
Date Received: 07/18/22 12:12
Sample Depth: 2'

Lab Sample ID: 890-2569-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0106		0.00200		mg/Kg		07/21/22 09:27	07/21/22 14:27	1
Toluene	0.854		0.199		mg/Kg		07/21/22 13:37	07/22/22 22:33	100
Ethylbenzene	4.26		0.199		mg/Kg		07/21/22 13:37	07/22/22 22:33	100
m-Xylene & p-Xylene	9.98		0.398		mg/Kg		07/21/22 13:37	07/22/22 22:33	100
o-Xylene	5.19		0.199		mg/Kg		07/21/22 13:37	07/22/22 22:33	100
Xylenes, Total	15.2		0.398		mg/Kg		07/21/22 13:37	07/22/22 22:33	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*758*	*S1+*	*70 - 130*	*07/21/22 09:27*	*07/21/22 14:27*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*07/21/22 09:27*	*07/21/22 14:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	20.3		0.398		mg/Kg			07/21/22 15:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	6340		50.0		mg/Kg			07/21/22 12:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	1770	*1 *+	50.0		mg/Kg		07/19/22 16:15	07/20/22 22:21	1
Diesel Range Organics (Over C10-C28)	3850	*1 *+	50.0		mg/Kg		07/19/22 16:15	07/20/22 22:21	1
Oil Range Organics (Over C28-C36)	721		50.0		mg/Kg		07/19/22 16:15	07/20/22 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*07/19/22 16:15*	*07/20/22 22:21*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/19/22 16:15*	*07/20/22 22:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	101		5.00		mg/Kg			07/22/22 09:17	1

Client Sample ID: PH01A

Date Collected: 07/14/22 10:30
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2569-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:27	07/21/22 14:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:27	07/21/22 14:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:27	07/21/22 14:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 09:27	07/21/22 14:06	1
o-Xylene	0.00222		0.00199		mg/Kg		07/21/22 09:27	07/21/22 14:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 09:27	07/21/22 14:06	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Client Sample ID: PH01A

Date Collected: 07/14/22 10:30
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2569-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*07/21/22 09:27*	*07/21/22 14:06*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*07/21/22 09:27*	*07/21/22 14:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/21/22 15:53	1

Method: 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			07/21/22 12:58	1

Method: 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		07/19/22 16:15	07/20/22 22:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	50.0		mg/Kg		07/19/22 16:15	07/20/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/19/22 16:15	07/20/22 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*07/19/22 16:15*	*07/20/22 22:42*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/19/22 16:15*	*07/20/22 22:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**41.9**		4.99		mg/Kg			07/22/22 09:45	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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)										
880-16985-A-1-H MS	Matrix Spike	107	87										
880-16985-A-1-I MSD	Matrix Spike Duplicate	118	94										
880-17211-A-1-A MS	Matrix Spike	101	99										
880-17211-A-1-B MSD	Matrix Spike Duplicate	111	90										
890-2569-1	PH01	758 S1+	102										
890-2569-2	PH01A	154 S1+	97										
LCS 880-30209/1-A	Lab Control Sample	116	93										
LCS 880-30267/1-A	Lab Control Sample	120	96										
LCSD 880-30209/2-A	Lab Control Sample Dup	96	104										
LCSD 880-30267/2-A	Lab Control Sample Dup	94	105										
MB 880-30209/5-A	Method Blank	101	104										
MB 880-30267/5-A	Method Blank	97	109										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
880-17086-A-11-C MS	Matrix Spike	87	85										
880-17086-A-11-D MSD	Matrix Spike Duplicate	88	87										
890-2569-1	PH01	134 S1+	120										
890-2569-2	PH01A	106	120										
LCS 880-30080/2-A	Lab Control Sample	150 S1+	149 S1+										
LCSD 880-30080/3-A	Lab Control Sample Dup	114	115										
MB 880-30080/1-A	Method Blank	141 S1+	168 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30209/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30192 — **Prep Batch: 30209**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:27	07/21/22 11:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:27	07/21/22 11:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:27	07/21/22 11:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:27	07/21/22 11:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:27	07/21/22 11:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:27	07/21/22 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*07/21/22 09:27*	*07/21/22 11:20*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*07/21/22 09:27*	*07/21/22 11:20*	*1*

Lab Sample ID: LCS 880-30209/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30192 — **Prep Batch: 30209**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08401		mg/Kg		84	70 - 130		
Toluene			0.100	0.09906		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1113		mg/Kg		111	70 - 130		
m-Xylene & p-Xylene			0.200	0.2318		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1269		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-30209/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30192 — **Prep Batch: 30209**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1030		mg/Kg		103	70 - 130	20	35
Toluene			0.100	0.09343		mg/Kg		93	70 - 130	6	35
Ethylbenzene			0.100	0.09535		mg/Kg		95	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1889		mg/Kg		94	70 - 130	20	35
o-Xylene			0.100	0.1032		mg/Kg		103	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-16985-A-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30192 — **Prep Batch: 30209**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.07821		mg/Kg		78	70 - 130		
Toluene	<0.00201	U	0.0998	0.09070		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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

Lab Sample ID: 880-16985-A-1-H MS
Matrix: Solid
Analysis Batch: 30192

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.09555		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1898		mg/Kg		95	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1013		mg/Kg		102	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 880-16985-A-1-I MSD
Matrix: Solid
Analysis Batch: 30192

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30209

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.08560		mg/Kg		85	70 - 130	9	35
Toluene	<0.00201	U	0.100	0.09653		mg/Kg		96	70 - 130	6	35
Ethylbenzene	<0.00201	U	0.100	0.1057		mg/Kg		105	70 - 130	10	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2190		mg/Kg		109	70 - 130	14	35
o-Xylene	<0.00201	U	0.100	0.1191		mg/Kg		119	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30267/5-A
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30267

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:37	07/22/22 11:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:37	07/22/22 11:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:37	07/22/22 11:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 13:37	07/22/22 11:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:37	07/22/22 11:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 13:37	07/22/22 11:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*07/21/22 13:37*	*07/22/22 11:11*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*07/21/22 13:37*	*07/22/22 11:11*	*1*

Lab Sample ID: LCS 880-30267/1-A
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30267

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08370		mg/Kg		84	70 - 130
Toluene	0.100	0.09615		mg/Kg		96	70 - 130
Ethylbenzene	0.100	0.1058		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2262		mg/Kg		113	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30267/1-A
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30267

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1266		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-30267/2-A
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30267

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1006		mg/Kg		101	70 - 130	18	35
Toluene			0.100	0.08529		mg/Kg		85	70 - 130	12	35
Ethylbenzene			0.100	0.08257		mg/Kg		83	70 - 130	25	35
m-Xylene & p-Xylene			0.200	0.1615		mg/Kg		81	70 - 130	33	35
o-Xylene			0.100	0.09189		mg/Kg		92	70 - 130	32	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-17211-A-1-A MS
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30267

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.0998	0.03468	F1	mg/Kg		34	70 - 130		
Toluene	<0.00200	U F1 F2	0.0998	0.03720	F1	mg/Kg		37	70 - 130		
Ethylbenzene	<0.00200	U F1 F2	0.0998	0.03732	F1	mg/Kg		37	70 - 130		
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.200	0.07597	F1	mg/Kg		37	70 - 130		
o-Xylene	<0.00200	U F1 F2	0.0998	0.04442	F1	mg/Kg		45	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-17211-A-1-B MSD
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30267

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	0.100	0.07374	F2	mg/Kg		73	70 - 130	72	35
Toluene	<0.00200	U F1 F2	0.100	0.08333	F2	mg/Kg		82	70 - 130	77	35
Ethylbenzene	<0.00200	U F1 F2	0.100	0.08673	F2	mg/Kg		86	70 - 130	80	35
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.201	0.1786	F2	mg/Kg		88	70 - 130	81	35
o-Xylene	<0.00200	U F1 F2	0.100	0.09829	F2	mg/Kg		98	70 - 130	75	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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

Lab Sample ID: 880-17211-A-1-B MSD
Matrix: Solid
Analysis Batch: 30326

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30267

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

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

Lab Sample ID: MB 880-30080/1-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30080

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		07/19/22 16:15	07/20/22 15:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/19/22 16:15	07/20/22 15:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/19/22 16:15	07/20/22 15:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*07/19/22 16:15*	*07/20/22 15:46*	*1*
o-Terphenyl	*168*	*S1+*	*70 - 130*	*07/19/22 16:15*	*07/20/22 15:46*	*1*

Lab Sample ID: LCS 880-30080/2-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30080

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1334	*+	mg/Kg		133	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1530	*+	mg/Kg		153	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*150*	*S1+*	*70 - 130*
o-Terphenyl	*149*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-30080/3-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30080

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1032	*1	mg/Kg		103	70 - 130	26	20
Diesel Range Organics (Over C10-C28)			1000	1144	*1	mg/Kg		114	70 - 130	29	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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

Lab Sample ID: 880-17086-A-11-C MS
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30080

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 *1 *+	1000	983.6		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	1000	843.1		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: 880-17086-A-11-D MSD
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30080

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 *1 *+	999	989.4		mg/Kg		97	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	999	863.0		mg/Kg		86	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	267.1		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2569-1 MS
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	101		250	370.4		mg/Kg		108	90 - 110		

Lab Sample ID: 890-2569-1 MSD
Matrix: Solid
Analysis Batch: 30226

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	101		250	371.7		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	8021B	30209
890-2569-2	PH01A	Total/NA	Solid	8021B	30209
MB 880-30209/5-A	Method Blank	Total/NA	Solid	8021B	30209
LCS 880-30209/1-A	Lab Control Sample	Total/NA	Solid	8021B	30209
LCSD 880-30209/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30209
880-16985-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	30209
880-16985-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30209

Prep Batch: 30209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	5035	
890-2569-2	PH01A	Total/NA	Solid	5035	
MB 880-30209/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30209/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30209/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16985-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-16985-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	5035	
MB 880-30267/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30267/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30267/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17211-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-17211-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	Total BTEX	
890-2569-2	PH01A	Total/NA	Solid	Total BTEX	

Analysis Batch: 30326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	8021B	30267
MB 880-30267/5-A	Method Blank	Total/NA	Solid	8021B	30267
LCS 880-30267/1-A	Lab Control Sample	Total/NA	Solid	8021B	30267
LCSD 880-30267/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30267
880-17211-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	30267
880-17211-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30267

GC Semi VOA

Prep Batch: 30080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	8015NM Prep	
890-2569-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-30080/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30080/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17086-A-11-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

GC Semi VOA (Continued)

Prep Batch: 30080 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17086-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	8015B NM	30080
890-2569-2	PH01A	Total/NA	Solid	8015B NM	30080
MB 880-30080/1-A	Method Blank	Total/NA	Solid	8015B NM	30080
LCS 880-30080/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30080
LCSD 880-30080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30080
880-17086-A-11-C MS	Matrix Spike	Total/NA	Solid	8015B NM	30080
880-17086-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30080

Analysis Batch: 30254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Total/NA	Solid	8015 NM	
890-2569-2	PH01A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Soluble	Solid	DI Leach	
890-2569-2	PH01A	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2569-1 MS	PH01	Soluble	Solid	DI Leach	
890-2569-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2569-1	PH01	Soluble	Solid	300.0	30059
890-2569-2	PH01A	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2569-1 MS	PH01	Soluble	Solid	300.0	30059
890-2569-1 MSD	PH01	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Client Sample ID: PH01

Date Collected: 07/14/22 10:25
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2569-1

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	30209	07/21/22 09:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30192	07/21/22 14:27	MR	XEN MID
Total/NA	Prep	5035			5.03 g	5 mL	30267	07/21/22 13:37	MR	XEN MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	30326	07/22/22 22:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30295	07/21/22 15:53	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30254	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30080	07/19/22 16:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30146	07/20/22 22:21	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 09:17	SMC	XEN MID

Client Sample ID: PH01A

Date Collected: 07/14/22 10:30
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2569-2

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	30209	07/21/22 09:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30192	07/21/22 14:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30295	07/21/22 15:53	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30254	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30080	07/19/22 16:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30146	07/20/22 22:42	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 09:45	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2569-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2569-1	PH01	Solid	07/14/22 10:25	07/18/22 12:12	2'
890-2569-2	PH01A	Solid	07/14/22 10:30	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558015	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT	Temp Blank: (Yes) No	Wet Ice: (Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TM-03
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	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH01	S	7/15/2022	1025	2'	Comp	1		X	X	X	
PH01A	S	7/15/2022	1030	3'	Comp	1		X	X	X	
PH01B	S	7/15/2022	1040	4'	Comp	1		X	X	X	*HOLD Pending 3' sample
		7/14/2022									

Parameters

890-2569 Chain of Custody

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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 CS	Amanda Stuff	7/15/22 1312	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2569-1
SDG Number: 03E1558015

Login Number: 2569
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2569-1
SDG Number: 03E1558015

Login Number: 2569
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2570-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 10:33:12 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 15 TWR

Laboratory Job ID: 890-2570-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Job ID: 890-2570-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2570-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH02 (890-2570-1). 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: PH02 (890-2570-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-30080/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30080 and analytical batch 880-30146 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-30080 and analytical batch 880-30146 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Client Sample ID: PH02

Date Collected: 07/15/22 09:00
Date Received: 07/18/22 12:12
Sample Depth: 1'

Lab Sample ID: 890-2570-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00328		0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:56	1
Toluene	0.102		0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:56	1
Ethylbenzene	0.0307		0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:56	1
m-Xylene & p-Xylene	17.4		0.398		mg/Kg		07/23/22 18:30	07/24/22 17:14	100
o-Xylene	8.45		0.199		mg/Kg		07/23/22 18:30	07/24/22 17:14	100
Xylenes, Total	25.9		0.398		mg/Kg		07/23/22 18:30	07/24/22 17:14	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*614*	*S1+*	*70 - 130*	*07/21/22 09:25*	*07/21/22 12:56*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:56*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	26.0		0.398		mg/Kg			07/22/22 16:06	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5530		50.0		mg/Kg			07/21/22 12:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	1110	*1 *+	50.0		mg/Kg		07/19/22 16:15	07/20/22 23:03	1
Diesel Range Organics (Over C10-C28)	3710	*1 *+	50.0		mg/Kg		07/19/22 16:15	07/20/22 23:03	1
Oil Range Organics (Over C28-C36)	707		50.0		mg/Kg		07/19/22 16:15	07/20/22 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*07/19/22 16:15*	*07/20/22 23:03*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/19/22 16:15*	*07/20/22 23:03*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.5		4.98		mg/Kg			07/22/22 09:54	1

Client Sample ID: PH02A

Date Collected: 07/15/22 10:40
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2570-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 16:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 16:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 16:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/23/22 18:30	07/24/22 16:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 16:13	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/23/22 18:30	07/24/22 16:13	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Client Sample ID: PH02A

Date Collected: 07/15/22 10:40
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2570-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/23/22 18:30*	*07/24/22 16:13*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/23/22 18:30*	*07/24/22 16:13*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 12:58	1

Method: 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		07/19/22 16:15	07/20/22 23:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	50.0	mg/Kg		07/19/22 16:15	07/20/22 23:23	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/19/22 16:15	07/20/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*07/19/22 16:15*	*07/20/22 23:23*	*1*
o-Terphenyl	*109*		*70 - 130*	*07/19/22 16:15*	*07/20/22 23:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.8**		4.97	mg/Kg			07/22/22 10:04	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-17264-A-22-C MS	Matrix Spike	100	88										
880-17264-A-22-D MSD	Matrix Spike Duplicate	101	96										
890-2566-A-1-G MS	Matrix Spike	83	100										
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99										
890-2570-1	PH02	614 S1+	108										
890-2570-2	PH02A	109	93										
LCS 880-30208/1-A	Lab Control Sample	96	97										
LCS 880-30478/1-A	Lab Control Sample	106	98										
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92										
LCSD 880-30478/2-A	Lab Control Sample Dup	105	97										
MB 880-30208/5-A	Method Blank	79	95										
MB 880-30478/5-A	Method Blank	98	86										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-17086-A-11-C MS	Matrix Spike	87	85										
880-17086-A-11-D MSD	Matrix Spike Duplicate	88	87										
890-2570-1	PH02	118	110										
890-2570-2	PH02A	94	109										
LCS 880-30080/2-A	Lab Control Sample	150 S1+	149 S1+										
LCSD 880-30080/3-A	Lab Control Sample Dup	114	115										
MB 880-30080/1-A	Method Blank	141 S1+	168 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 880-30478/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30478

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 14:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/23/22 18:30	07/24/22 14:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/23/22 18:30	07/24/22 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*

Lab Sample ID: LCS 880-30478/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30478

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.1098		mg/Kg		110	70 - 130
Toluene			0.100	0.1086		mg/Kg		109	70 - 130
Ethylbenzene			0.100	0.1126		mg/Kg		113	70 - 130
m-Xylene & p-Xylene			0.200	0.2291		mg/Kg		115	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30478/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30478

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1252		mg/Kg		125	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-30478/2-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30478

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1024		mg/Kg		102	70 - 130	7	35
Toluene			0.100	0.1005		mg/Kg		101	70 - 130	8	35
Ethylbenzene			0.100	0.1036		mg/Kg		104	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2101		mg/Kg		105	70 - 130	9	35
o-Xylene			0.100	0.1148		mg/Kg		115	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-17264-A-22-C MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.07613		mg/Kg		76	70 - 130		
Toluene	<0.00200	U	0.100	0.08980		mg/Kg		89	70 - 130		
Ethylbenzene	<0.00200	U	0.100	0.09841		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1966		mg/Kg		98	70 - 130		
o-Xylene	<0.00200	U	0.100	0.1051		mg/Kg		105	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 880-17264-A-22-D MSD
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.09261		mg/Kg		93	70 - 130	20	35
Toluene	<0.00200	U	0.0998	0.09185		mg/Kg		92	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.0998	0.09454		mg/Kg		95	70 - 130	4	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1915		mg/Kg		96	70 - 130	3	35
o-Xylene	<0.00200	U	0.0998	0.1034		mg/Kg		104	70 - 130	2	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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

Lab Sample ID: 880-17264-A-22-D MSD
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30478

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-30080/1-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30080

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		07/19/22 16:15	07/20/22 15:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/19/22 16:15	07/20/22 15:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/19/22 16:15	07/20/22 15:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	141	S1+	70 - 130	07/19/22 16:15	07/20/22 15:46	1
o-Terphenyl	168	S1+	70 - 130	07/19/22 16:15	07/20/22 15:46	1

Lab Sample ID: LCS 880-30080/2-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30080

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1334	*+	mg/Kg		133	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1530	*+	mg/Kg		153	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	150	S1+	70 - 130
o-Terphenyl	149	S1+	70 - 130

Lab Sample ID: LCSD 880-30080/3-A
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30080

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1032	*1	mg/Kg		103	70 - 130	26	20
Diesel Range Organics (Over C10-C28)			1000	1144	*1	mg/Kg		114	70 - 130	29	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	115		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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

Lab Sample ID: 880-17086-A-11-C MS
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30080

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 *1 *+	1000	983.6		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	1000	843.1		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: 880-17086-A-11-D MSD
Matrix: Solid
Analysis Batch: 30146

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30080

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 *1 *+	999	989.4		mg/Kg		97	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1 *+	999	863.0		mg/Kg		86	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	267.1		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2569-A-1-B MS
Matrix: Solid
Analysis Batch: 30226

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	101		250	370.4		mg/Kg		108	90 - 110

Lab Sample ID: 890-2569-A-1-C MSD
Matrix: Solid
Analysis Batch: 30226

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	101		250	371.7		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	Total BTEX	
890-2570-2	PH02A	Total/NA	Solid	Total BTEX	

Prep Batch: 30478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	5035	
890-2570-2	PH02A	Total/NA	Solid	5035	
MB 880-30478/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30478/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30478/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17264-A-22-C MS	Matrix Spike	Total/NA	Solid	5035	
880-17264-A-22-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	8021B	30478
890-2570-2	PH02A	Total/NA	Solid	8021B	30478
MB 880-30478/5-A	Method Blank	Total/NA	Solid	8021B	30478
LCS 880-30478/1-A	Lab Control Sample	Total/NA	Solid	8021B	30478
LCSD 880-30478/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30478
880-17264-A-22-C MS	Matrix Spike	Total/NA	Solid	8021B	30478
880-17264-A-22-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30478

GC Semi VOA

Prep Batch: 30080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	8015NM Prep	
890-2570-2	PH02A	Total/NA	Solid	8015NM Prep	
MB 880-30080/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30080/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17086-A-11-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

GC Semi VOA (Continued)

Prep Batch: 30080 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17086-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	8015B NM	30080
890-2570-2	PH02A	Total/NA	Solid	8015B NM	30080
MB 880-30080/1-A	Method Blank	Total/NA	Solid	8015B NM	30080
LCS 880-30080/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30080
LCSD 880-30080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30080
880-17086-A-11-C MS	Matrix Spike	Total/NA	Solid	8015B NM	30080
880-17086-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30080

Analysis Batch: 30255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Total/NA	Solid	8015 NM	
890-2570-2	PH02A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Soluble	Solid	DI Leach	
890-2570-2	PH02A	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2570-1	PH02	Soluble	Solid	300.0	30059
890-2570-2	PH02A	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30059
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Client Sample ID: PH02

Date Collected: 07/15/22 09:00
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2570-1

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	30478	07/23/22 18:30	MR	XEN MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	30484	07/24/22 17:14	MR	XEN MID
Total/NA	Prep	5035			4.99 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 12:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30438	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30255	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30080	07/19/22 16:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30146	07/20/22 23:03	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 09:54	SMC	XEN MID

Client Sample ID: PH02A

Date Collected: 07/15/22 10:40
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2570-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30478	07/23/22 18:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30484	07/24/22 16:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30438	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30255	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30080	07/19/22 16:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30146	07/20/22 23:23	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 10:04	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2570-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2570-1	PH02	Solid	07/15/22 09:00	07/18/22 12:12	1'
890-2570-2	PH02A	Solid	07/15/22 10:40	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	
Project Number:	03E1558015	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	T nm 007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.0
Total Containers:		Corrected Temperature:	5.2

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH02	S	7/15/2022	900	1'	Comp	1		X	X	X	
PH02A	S	7/15/2022	1040	3'	Comp	1		X	X	X	
PH02B	S	7/15/2022	1045	4'	Comp	1		X	X	X	*HOLD Pending 3' sample

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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	Amanda Stark	7/18/22 1213	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2570-1
SDG Number: 03E1558015

Login Number: 2570
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2570-1
SDG Number: 03E1558015

Login Number: 2570
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2571-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR
Revision: 1

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

Attn: Ben Belill

JKramer

Authorized for release by:
8/1/2022 10:58:24 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 15 TWR

Laboratory Job ID: 890-2571-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Job ID: 890-2571-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2571-1

REVISION

The report being provided is a revision of the original report sent on 7/25/2022. The report (revision 1) is being revised due to Per client email, requesting TPH re runs on all samples.

Report revision history

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-30992 and analytical batch 880-31051 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Client Sample ID: PH03

Date Collected: 07/15/22 12:10
Date Received: 07/18/22 12:12
Sample Depth: 0.5'

Lab Sample ID: 890-2571-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 13:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 13:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 13:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 13:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 13:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*07/21/22 09:25*	*07/21/22 13:49*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 13:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 12:58	1

Method: 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		07/29/22 11:03	07/30/22 18:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		07/29/22 11:03	07/30/22 18:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/29/22 11:03	07/30/22 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*07/29/22 11:03*	*07/30/22 18:25*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/29/22 11:03*	*07/30/22 18:25*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.55**		5.00		mg/Kg			07/22/22 10:13	1

Client Sample ID: PH03A

Date Collected: 07/15/22 12:15
Date Received: 07/18/22 12:12
Sample Depth: 1'

Lab Sample ID: 890-2571-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 14:15	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 14:15	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 14:15	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/21/22 09:25	07/21/22 14:15	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 14:15	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/21/22 09:25	07/21/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/21/22 09:25*	*07/21/22 14:15*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Client Sample ID: PH03A
Date Collected: 07/15/22 12:15
Date Received: 07/18/22 12:12
Sample Depth: 1'

Lab Sample ID: 890-2571-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*07/21/22 09:25*	*07/21/22 14:15*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 12:58	1

Method: 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		07/29/22 11:03	07/30/22 18:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		07/29/22 11:03	07/30/22 18:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/29/22 11:03	07/30/22 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*07/29/22 11:03*	*07/30/22 18:46*	*1*
o-Terphenyl	*128*		*70 - 130*	*07/29/22 11:03*	*07/30/22 18:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32.0**		4.95		mg/Kg			07/22/22 10:40	1

Client Sample ID: PH03B
Date Collected: 07/15/22 12:25
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2571-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 14:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 14:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 14:41	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/21/22 09:25	07/21/22 14:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 14:41	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/21/22 09:25	07/21/22 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*07/21/22 09:25*	*07/21/22 14:41*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/21/22 09:25*	*07/21/22 14:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 12:58	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Client Sample ID: PH03B
Date Collected: 07/15/22 12:25
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2571-3
Matrix: Solid

Method: 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		07/29/22 11:03	07/30/22 19:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		07/29/22 11:03	07/30/22 19:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 11:03	07/30/22 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*07/29/22 11:03*	*07/30/22 19:08*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/29/22 11:03*	*07/30/22 19:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**154**		5.05		mg/Kg			07/22/22 10:50	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

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)
890-2566-A-1-G MS	Matrix Spike	83	100
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99
890-2571-1	PH03	86	79
890-2571-2	PH03A	106	91
890-2571-3	PH03B	101	98
LCS 880-30208/1-A	Lab Control Sample	96	97
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92
MB 880-30208/5-A	Method Blank	79	95

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)
890-2571-1	PH03	77	97
890-2571-2	PH03A	97	128
890-2571-3	PH03B	95	120
890-2663-A-1-B MS	Matrix Spike	81	93
890-2663-A-1-C MSD	Matrix Spike Duplicate	85	98
LCS 880-30992/2-A	Lab Control Sample	115	110
LCSD 880-30992/3-A	Lab Control Sample Dup	118	117
MB 880-30992/1-A	Method Blank	101	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30191 — **Prep Batch: 30208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30191 — **Prep Batch: 30208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-30992/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31051 — **Prep Batch: 30992**

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		07/29/22 11:03	07/30/22 10:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/29/22 11:03	07/30/22 10:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/29/22 11:03	07/30/22 10:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/29/22 11:03*	*07/30/22 10:06*	*1*
o-Terphenyl	*115*		*70 - 130*	*07/29/22 11:03*	*07/30/22 10:06*	*1*

Lab Sample ID: LCS 880-30992/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31051 — **Prep Batch: 30992**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1068		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1467	*+	mg/Kg		147	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30992/2-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30992

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	115		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-30992/3-A
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30992

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1074		mg/Kg		107	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1539	*+	mg/Kg		154	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: 890-2663-A-1-B MS
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30992

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	701.4		mg/Kg		70	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U *+	999	868.3		mg/Kg		85	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 890-2663-A-1-C MSD
Matrix: Solid
Analysis Batch: 31051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30992

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	732.4		mg/Kg		73	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U *+	999	919.9		mg/Kg		90	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.1		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2569-A-1-B MS
Matrix: Solid
Analysis Batch: 30226

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	101		250	370.4		mg/Kg		108	90 - 110		

Lab Sample ID: 890-2569-A-1-C MSD
Matrix: Solid
Analysis Batch: 30226

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	101		250	371.7		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	8021B	30208
890-2571-2	PH03A	Total/NA	Solid	8021B	30208
890-2571-3	PH03B	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	5035	
890-2571-2	PH03A	Total/NA	Solid	5035	
890-2571-3	PH03B	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	Total BTEX	
890-2571-2	PH03A	Total/NA	Solid	Total BTEX	
890-2571-3	PH03B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	8015 NM	
890-2571-2	PH03A	Total/NA	Solid	8015 NM	
890-2571-3	PH03B	Total/NA	Solid	8015 NM	

Prep Batch: 30992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	8015NM Prep	
890-2571-2	PH03A	Total/NA	Solid	8015NM Prep	
890-2571-3	PH03B	Total/NA	Solid	8015NM Prep	
MB 880-30992/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30992/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2663-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Total/NA	Solid	8015B NM	30992
890-2571-2	PH03A	Total/NA	Solid	8015B NM	30992
890-2571-3	PH03B	Total/NA	Solid	8015B NM	30992
MB 880-30992/1-A	Method Blank	Total/NA	Solid	8015B NM	30992

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

GC Semi VOA (Continued)

Analysis Batch: 31051 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-30992/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30992
LCSD 880-30992/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30992
890-2663-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	30992
890-2663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30992

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Soluble	Solid	DI Leach	
890-2571-2	PH03A	Soluble	Solid	DI Leach	
890-2571-3	PH03B	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2571-1	PH03	Soluble	Solid	300.0	30059
890-2571-2	PH03A	Soluble	Solid	300.0	30059
890-2571-3	PH03B	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30059
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Client Sample ID: PH03
Date Collected: 07/15/22 12:10
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2571-1
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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 13:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30439	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30256	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 18:25	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 10:13	SMC	XEN MID

Client Sample ID: PH03A
Date Collected: 07/15/22 12:15
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2571-2
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			4.96 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 14:15	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30439	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30256	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 18:46	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 10:40	SMC	XEN MID

Client Sample ID: PH03B
Date Collected: 07/15/22 12:25
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2571-3
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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 14:41	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30439	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30256	07/21/22 12:58	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30992	07/29/22 11:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			31051	07/30/22 19:08	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 10:50	SMC	XEN MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2571-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2571-1	PH03	Solid	07/15/22 12:10	07/18/22 12:12	0.5'
890-2571-2	PH03A	Solid	07/15/22 12:15	07/18/22 12:12	1'
890-2571-3	PH03B	Solid	07/15/22 12:25	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558015	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM-00
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

890-2571 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH03	S	7/15/2022	1210	0.5	Grab/	1	X	X	X	
PH03A	S	7/15/2022	1215	1	Grab/	1	X	X	X	
PH03B	S	7/15/2022	1225	3'	Grab/	1	X	X	X	
PH03C	S	7/15/2022	1230	4'	Grab/	1	X	X	X	*HOLD Pending 3' sample

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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 Stuff	7/18/22 1252			
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2571-1
SDG Number: 03E1558015

Login Number: 2571
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2571-1
SDG Number: 03E1558015

Login Number: 2571
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2572-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 8:03:30 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 15 TWR

Laboratory Job ID: 890-2572-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

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

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 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Job ID: 890-2572-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2572-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30164 and analytical batch 880-30098 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30164 and analytical batch 880-30098 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: PH04 (890-2572-1) The matrix spike duplicate (MSD) recoveries for preparation batch 880-30059 and analytical batch 880-30226 were outside control limits. Non-homogeneity is 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.

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Client Sample ID: PH04

Date Collected: 07/15/22 12:35
Date Received: 07/18/22 12:12
Sample Depth: 0.5'

Lab Sample ID: 890-2572-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 15:07	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 15:07	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 15:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/21/22 09:25	07/21/22 15:07	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 15:07	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/21/22 09:25	07/21/22 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:07*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:07*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 00:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 00:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:15*	*1*
o-Terphenyl	*106*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg			07/22/22 10:59	1

Client Sample ID: PH04A

Date Collected: 07/15/22 12:45
Date Received: 07/18/22 12:12
Sample Depth: 2'

Lab Sample ID: 890-2572-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 15:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 15:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 15:33	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 15:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 15:33	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:33*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Client Sample ID: PH04A

Lab Sample ID: 890-2572-2
Matrix: Solid
Date Collected: 07/15/22 12:45
Date Received: 07/18/22 12:12
Sample Depth: 2'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 00:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 00:36	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:36*	*1*
o-Terphenyl	*109*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:36*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.0**		5.04	mg/Kg			07/22/22 11:08	1

Client Sample ID: PH04B

Lab Sample ID: 890-2572-3
Matrix: Solid
Date Collected: 07/15/22 12:50
Date Received: 07/18/22 12:12
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/21/22 09:25	07/21/22 15:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/21/22 09:25	07/21/22 15:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/21/22 09:25	07/21/22 15:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/21/22 09:25	07/21/22 15:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/21/22 09:25	07/21/22 15:59	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/21/22 09:25	07/21/22 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:59*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*07/21/22 09:25*	*07/21/22 15:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Client Sample ID: PH04B

Date Collected: 07/15/22 12:50
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2572-3

Matrix: Solid

Method: 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		07/20/22 15:31	07/21/22 00:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 00:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:57*	*1*
o-Terphenyl	*100*		*70 - 130*	*07/20/22 15:31*	*07/21/22 00:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.9**		4.98		mg/Kg			07/22/22 11:18	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2566-A-1-G MS	Matrix Spike	83	100
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99
890-2572-1	PH04	115	101
890-2572-2	PH04A	112	94
890-2572-3	PH04B	107	90
LCS 880-30208/1-A	Lab Control Sample	96	97
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92
MB 880-30208/5-A	Method Blank	79	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17129-A-13-E MS	Matrix Spike	82	85
880-17129-A-13-F MSD	Matrix Spike Duplicate	81	85
890-2572-1	PH04	99	106
890-2572-2	PH04A	100	109
890-2572-3	PH04B	93	100
LCS 880-30164/2-A	Lab Control Sample	102	114
MB 880-30164/1-A	Method Blank	137 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID		
LCSD 880-30164/3-A	Lab Control Sample Dup		

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-30164/1-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30164

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		07/20/22 15:31	07/20/22 20:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1206		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)			1000	882.5		mg/Kg		88	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-30164/3-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1236		mg/Kg					
Diesel Range Organics (Over C10-C28)			1000	871.6		mg/Kg					

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Lab Sample ID: 880-17129-A-13-E MS
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30164

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 F2	1000	1016		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	868.3		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-17129-A-13-F MSD
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30164

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 F2	999	1285	F2	mg/Kg		129	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	876.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	85		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.1		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2569-A-1-B MS
Matrix: Solid
Analysis Batch: 30226

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	101		250	370.4		mg/Kg		108	90 - 110		

Lab Sample ID: 890-2569-A-1-C MSD
Matrix: Solid
Analysis Batch: 30226

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	101		250	371.7		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	8021B	30208
890-2572-2	PH04A	Total/NA	Solid	8021B	30208
890-2572-3	PH04B	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	5035	
890-2572-2	PH04A	Total/NA	Solid	5035	
890-2572-3	PH04B	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	Total BTEX	
890-2572-2	PH04A	Total/NA	Solid	Total BTEX	
890-2572-3	PH04B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	8015B NM	30164
890-2572-2	PH04A	Total/NA	Solid	8015B NM	30164
890-2572-3	PH04B	Total/NA	Solid	8015B NM	30164
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015B NM	30164
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30164
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30164
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015B NM	30164
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30164

Prep Batch: 30164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	8015NM Prep	
890-2572-2	PH04A	Total/NA	Solid	8015NM Prep	
890-2572-3	PH04B	Total/NA	Solid	8015NM Prep	
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

GC Semi VOA

Analysis Batch: 30272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Total/NA	Solid	8015 NM	
890-2572-2	PH04A	Total/NA	Solid	8015 NM	
890-2572-3	PH04B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Soluble	Solid	DI Leach	
890-2572-2	PH04A	Soluble	Solid	DI Leach	
890-2572-3	PH04B	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2572-1	PH04	Soluble	Solid	300.0	30059
890-2572-2	PH04A	Soluble	Solid	300.0	30059
890-2572-3	PH04B	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2569-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30059
890-2569-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Client Sample ID: PH04

Date Collected: 07/15/22 12:35
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2572-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 15:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30440	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30272	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 00:15	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 10:59	SMC	XEN MID

Client Sample ID: PH04A

Date Collected: 07/15/22 12:45
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2572-2

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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 15:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30440	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30272	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 00:36	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 11:08	SMC	XEN MID

Client Sample ID: PH04B

Date Collected: 07/15/22 12:50
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2572-3

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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 15:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30440	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30272	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 00:57	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 11:18	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2572-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2572-1	PH04	Solid	07/15/22 12:35	07/18/22 12:12	0.5'
890-2572-2	PH04A	Solid	07/15/22 12:45	07/18/22 12:12	2'
890-2572-3	PH04B	Solid	07/15/22 12:50	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852 Email:	bbelill@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 15 TWR	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558015	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT	Temp Blank: Yes No	Wet Ice: Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR-7
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	6.2
Total Containers:		Corrected Temperature:	6.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH04	S	7/15/2022	1235	0.5	Grab/	1		X	X	X
PH04A	S	7/15/2022	1245	2'	Grab/	1		X	X	X
PH04B	S	7/15/2022	1250	3'	Grab/	1		X	X	X
PH04C	S	7/15/2022	055	4'	Grab/	1		X	X	X

Parameters

890-2572 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

*HOLD Pending 3' sample

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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 Stuff	7/18/22 1212	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2572-1
SDG Number: 03E1558015

Login Number: 2572
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2572-1
SDG Number: 03E1558015

Login Number: 2572
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2573-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 8:04:34 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 15 TWR

Laboratory Job ID: 890-2573-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Job ID: 890-2573-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2573-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30164 and analytical batch 880-30098 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30164 and analytical batch 880-30098 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: PH05A (890-2573-2), PH05B (890-2573-3) and (890-2573-A-1-C MSD) The matrix spike duplicate (MSD) recoveries for preparation batch 880-30059 and analytical batch 880-30226 were outside control limits. Non-homogeneity is 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.

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Client Sample ID: PH05

Date Collected: 07/15/22 12:55
Date Received: 07/18/22 12:12
Sample Depth: 0.5'

Lab Sample ID: 890-2573-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 16:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 16:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 16:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 16:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 16:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*07/21/22 09:25*	*07/21/22 16:25*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/21/22 09:25*	*07/21/22 16:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 01:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 01:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*07/20/22 15:31*	*07/21/22 01:18*	*1*
o-Terphenyl	*116*		*70 - 130*	*07/20/22 15:31*	*07/21/22 01:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.39**	**F1**	4.97		mg/Kg			07/22/22 11:27	1

Client Sample ID: PH05A

Date Collected: 07/15/22 13:05
Date Received: 07/18/22 12:12
Sample Depth: 2'

Lab Sample ID: 890-2573-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 18:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 18:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 18:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 18:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/21/22 09:25	07/21/22 18:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 09:25	07/21/22 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/21/22 09:25*	*07/21/22 18:37*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Client Sample ID: PH05A

Lab Sample ID: 890-2573-2
Matrix: Solid
Date Collected: 07/15/22 13:05
Date Received: 07/18/22 12:12
Sample Depth: 2'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/21/22 09:25*	*07/21/22 18:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 01:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 01:39	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 01:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*07/20/22 15:31*	*07/21/22 01:39*	*1*
o-Terphenyl	*125*		*70 - 130*	*07/20/22 15:31*	*07/21/22 01:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**123**		5.01	mg/Kg			07/22/22 11:54	1

Client Sample ID: PH05B

Lab Sample ID: 890-2573-3
Matrix: Solid
Date Collected: 07/15/22 13:10
Date Received: 07/18/22 12:12
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		07/21/22 09:25	07/21/22 19:03	1
Toluene	<0.00201	U	0.00201	mg/Kg		07/21/22 09:25	07/21/22 19:03	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/21/22 09:25	07/21/22 19:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/21/22 09:25	07/21/22 19:03	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/21/22 09:25	07/21/22 19:03	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/21/22 09:25	07/21/22 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:03*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Client Sample ID: PH05B
Date Collected: 07/15/22 13:10
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2573-3
Matrix: Solid

Method: 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		07/20/22 15:31	07/21/22 02:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 02:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 02:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/20/22 15:31*	*07/21/22 02:00*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/20/22 15:31*	*07/21/22 02:00*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.5**		4.98		mg/Kg			07/22/22 12:04	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2566-A-1-G MS	Matrix Spike	83	100
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99
890-2573-1	PH05	112	93
890-2573-2	PH05A	109	94
890-2573-3	PH05B	94	88
LCS 880-30208/1-A	Lab Control Sample	96	97
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92
MB 880-30208/5-A	Method Blank	79	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17129-A-13-E MS	Matrix Spike	82	85
880-17129-A-13-F MSD	Matrix Spike Duplicate	81	85
890-2573-1	PH05	105	116
890-2573-2	PH05A	115	125
890-2573-3	PH05B	101	110
LCS 880-30164/2-A	Lab Control Sample	102	114
MB 880-30164/1-A	Method Blank	137 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID		
LCSD 880-30164/3-A	Lab Control Sample Dup		

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30191 — **Prep Batch: 30208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30191 — **Prep Batch: 30208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-30164/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30098 — **Prep Batch: 30164**

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		07/20/22 15:31	07/20/22 20:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/20/22 15:31	07/20/22 20:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/20/22 15:31	07/20/22 20:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*

Lab Sample ID: LCS 880-30164/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30098 — **Prep Batch: 30164**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1206		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)	1000	882.5		mg/Kg		88	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-30164/3-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1236		mg/Kg					
Diesel Range Organics (Over C10-C28)			1000	871.6		mg/Kg					

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Lab Sample ID: 880-17129-A-13-E MS
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30164

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 F2	1000	1016		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	868.3		mg/Kg		87	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-17129-A-13-F MSD
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30164

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 F2	999	1285	F2	mg/Kg		129	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	876.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	85		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.1		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2573-1 MS
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: PH05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5.39	F1	249	277.7		mg/Kg		110	90 - 110		

Lab Sample ID: 890-2573-1 MSD
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: PH05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.39	F1	249	280.4	F1	mg/Kg		111	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	8021B	30208
890-2573-2	PH05A	Total/NA	Solid	8021B	30208
890-2573-3	PH05B	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	5035	
890-2573-2	PH05A	Total/NA	Solid	5035	
890-2573-3	PH05B	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	Total BTEX	
890-2573-2	PH05A	Total/NA	Solid	Total BTEX	
890-2573-3	PH05B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	8015B NM	30164
890-2573-2	PH05A	Total/NA	Solid	8015B NM	30164
890-2573-3	PH05B	Total/NA	Solid	8015B NM	30164
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015B NM	30164
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30164
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30164
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015B NM	30164
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30164

Prep Batch: 30164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	8015NM Prep	
890-2573-2	PH05A	Total/NA	Solid	8015NM Prep	
890-2573-3	PH05B	Total/NA	Solid	8015NM Prep	
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

GC Semi VOA

Analysis Batch: 30273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Total/NA	Solid	8015 NM	
890-2573-2	PH05A	Total/NA	Solid	8015 NM	
890-2573-3	PH05B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Soluble	Solid	DI Leach	
890-2573-2	PH05A	Soluble	Solid	DI Leach	
890-2573-3	PH05B	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2573-1 MS	PH05	Soluble	Solid	DI Leach	
890-2573-1 MSD	PH05	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2573-1	PH05	Soluble	Solid	300.0	30059
890-2573-2	PH05A	Soluble	Solid	300.0	30059
890-2573-3	PH05B	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2573-1 MS	PH05	Soluble	Solid	300.0	30059
890-2573-1 MSD	PH05	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Client Sample ID: PH05

Date Collected: 07/15/22 12:55
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2573-1

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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 16:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30441	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30273	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 01:18	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 11:27	SMC	XEN MID

Client Sample ID: PH05A

Date Collected: 07/15/22 13:05
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2573-2

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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 18:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30441	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30273	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 01:39	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 11:54	SMC	XEN MID

Client Sample ID: PH05B

Date Collected: 07/15/22 13:10
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2573-3

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			4.97 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 19:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30441	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30273	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 02:00	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 12:04	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2573-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2573-1	PH05	Solid	07/15/22 12:55	07/18/22 12:12	0.5'
890-2573-2	PH05A	Solid	07/15/22 13:05	07/18/22 12:12	2'
890-2573-3	PH05B	Solid	07/15/22 13:10	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558015	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	Thm 007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	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	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH05	S	7/15/2022	1255	0.5	Grab/	1	X	X	X	
PH05A	S	7/15/2022	1305	2'	Grab/	1	X	X	X	
PH05B	S	7/15/2022	1310	3'	Grab/	1	X	X	X	
PH05C	S	7/15/2022	1315	4'	Grab/	1	X	X	X	*HOLD Pending 3' sample

890-2573 Chain of Custody

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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 Stefan	7/15/22 1212			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2573-1
SDG Number: 03E1558015

Login Number: 2573
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2573-1
SDG Number: 03E1558015

Login Number: 2573
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2574-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 8:04:33 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 15 TWR

Laboratory Job ID: 890-2574-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Job ID: 890-2574-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2574-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30164 and analytical batch 880-30098 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30164 and analytical batch 880-30098 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: PH06 (890-2574-1), PH06A (890-2574-2), PH06B (890-2574-3) and (890-2573-A-1-C MSD) The matrix spike duplicate (MSD) recoveries for preparation batch 880-30059 and 880-30059 and analytical batch 880-30226 were outside control limits. Non-homogeneity is 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.

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Client Sample ID: PH06

Date Collected: 07/15/22 13:30
Date Received: 07/18/22 12:12
Sample Depth: 0.5'

Lab Sample ID: 890-2574-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 19:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:29	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:29*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:29*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 02:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 02:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*07/20/22 15:31*	*07/21/22 02:21*	*1*
o-Terphenyl	*112*		*70 - 130*	*07/20/22 15:31*	*07/21/22 02:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.8**		4.95		mg/Kg			07/22/22 12:40	1

Client Sample ID: PH06A

Date Collected: 07/15/22 13:35
Date Received: 07/18/22 12:12
Sample Depth: 1'

Lab Sample ID: 890-2574-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:55	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/21/22 09:25	07/21/22 19:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 19:55	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/21/22 09:25	07/21/22 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:55*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Client Sample ID: PH06A

Lab Sample ID: 890-2574-2
Matrix: Solid
Date Collected: 07/15/22 13:35
Date Received: 07/18/22 12:12
Sample Depth: 1'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/21/22 09:25*	*07/21/22 19:55*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 03:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 03:02	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/20/22 15:31	07/21/22 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:02*	*1*
o-Terphenyl	*128*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.9**		5.04	mg/Kg			07/22/22 13:36	1

Client Sample ID: PH06B

Lab Sample ID: 890-2574-3
Matrix: Solid
Date Collected: 07/15/22 13:55
Date Received: 07/18/22 12:12
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000398	U	0.000398	mg/Kg		07/21/22 09:25	07/21/22 20:21	1
Toluene	<0.000398	U	0.000398	mg/Kg		07/21/22 09:25	07/21/22 20:21	1
Ethylbenzene	<0.000398	U	0.000398	mg/Kg		07/21/22 09:25	07/21/22 20:21	1
m-Xylene & p-Xylene	<0.000795	U	0.000795	mg/Kg		07/21/22 09:25	07/21/22 20:21	1
o-Xylene	<0.000398	U	0.000398	mg/Kg		07/21/22 09:25	07/21/22 20:21	1
Xylenes, Total	<0.000795	U	0.000795	mg/Kg		07/21/22 09:25	07/21/22 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*07/21/22 09:25*	*07/21/22 20:21*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*07/21/22 09:25*	*07/21/22 20:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000795	U	0.000795	mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Client Sample ID: PH06B

Date Collected: 07/15/22 13:55
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2574-3

Matrix: Solid

Method: 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		07/20/22 15:31	07/21/22 03:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 03:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:23*	*1*
o-Terphenyl	*113*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.8**		4.95		mg/Kg			07/22/22 12:50	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2566-A-1-G MS	Matrix Spike	83	100
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99
890-2574-1	PH06	122	99
890-2574-2	PH06A	114	92
890-2574-3	PH06B	121	105
LCS 880-30208/1-A	Lab Control Sample	96	97
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92
MB 880-30208/5-A	Method Blank	79	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17129-A-13-E MS	Matrix Spike	82	85
880-17129-A-13-F MSD	Matrix Spike Duplicate	81	85
890-2574-1	PH06	102	112
890-2574-2	PH06A	117	128
890-2574-3	PH06B	102	113
LCS 880-30164/2-A	Lab Control Sample	102	114
MB 880-30164/1-A	Method Blank	137 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID		
LCSD 880-30164/3-A	Lab Control Sample Dup		

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-30164/1-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30164

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		07/20/22 15:31	07/20/22 20:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1206		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)			1000	882.5		mg/Kg		88	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-30164/3-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1236		mg/Kg					
Diesel Range Organics (Over C10-C28)			1000	871.6		mg/Kg					

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Lab Sample ID: 880-17129-A-13-E MS
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30164

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 F2	1000	1016		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	868.3		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-17129-A-13-F MSD
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30164

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 F2	999	1285	F2	mg/Kg		129	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	876.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	85		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.1		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2573-A-1-B MS
Matrix: Solid
Analysis Batch: 30226

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	5.39	F1	249	277.7		mg/Kg		110	90 - 110		

Lab Sample ID: 890-2573-A-1-C MSD
Matrix: Solid
Analysis Batch: 30226

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	5.39	F1	249	280.4	F1	mg/Kg		111	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	8021B	30208
890-2574-2	PH06A	Total/NA	Solid	8021B	30208
890-2574-3	PH06B	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	5035	
890-2574-2	PH06A	Total/NA	Solid	5035	
890-2574-3	PH06B	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	Total BTEX	
890-2574-2	PH06A	Total/NA	Solid	Total BTEX	
890-2574-3	PH06B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	8015B NM	30164
890-2574-2	PH06A	Total/NA	Solid	8015B NM	30164
890-2574-3	PH06B	Total/NA	Solid	8015B NM	30164
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015B NM	30164
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30164
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30164
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015B NM	30164
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30164

Prep Batch: 30164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	8015NM Prep	
890-2574-2	PH06A	Total/NA	Solid	8015NM Prep	
890-2574-3	PH06B	Total/NA	Solid	8015NM Prep	
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

GC Semi VOA

Analysis Batch: 30274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Total/NA	Solid	8015 NM	
890-2574-2	PH06A	Total/NA	Solid	8015 NM	
890-2574-3	PH06B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Soluble	Solid	DI Leach	
890-2574-2	PH06A	Soluble	Solid	DI Leach	
890-2574-3	PH06B	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2573-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2573-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2574-1	PH06	Soluble	Solid	300.0	30059
890-2574-2	PH06A	Soluble	Solid	300.0	30059
890-2574-3	PH06B	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2573-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30059
890-2573-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Client Sample ID: PH06

Date Collected: 07/15/22 13:30
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2574-1

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	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 19:29	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30442	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30274	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 02:21	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 12:40	SMC	XEN MID

Client Sample ID: PH06A

Date Collected: 07/15/22 13:35
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2574-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 19:55	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30442	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30274	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 03:02	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 13:36	SMC	XEN MID

Client Sample ID: PH06B

Date Collected: 07/15/22 13:55
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2574-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	1.0 mL	30191	07/21/22 20:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30442	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30274	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 03:23	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 12:50	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2574-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2574-1	PH06	Solid	07/15/22 13:30	07/18/22 12:12	0.5'
890-2574-2	PH06A	Solid	07/15/22 13:35	07/18/22 12:12	1'
890-2574-3	PH06B	Solid	07/15/22 13:55	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	**Turn Around**	
Project Number:	03E1558015	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Conner Shore	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 #9
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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Parameters	Sample Comments
PH06	S	7/15/2022	1320	0.5	Grab/	1		X	X	X		
PH06A	S	7/15/2022	1335	1'	Grab/	1		X	X	X		
PH06B	S	7/15/2022	1355	3'	Grab/	1		X	X	X		
PH06C	S	7/15/2022	1400	4'	Grab/	1		X	X	X		*HOLD Pending 3' sample
												Cost Center: 2027711001
												Incident Numbers: nAPP2205638843, nAPP2207746719

890-2574 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

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 Stuyt	7/18/22 1212	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2574-1
SDG Number: 03E1558015

Login Number: 2574
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2574-1
SDG Number: 03E1558015

Login Number: 2574
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2575-1
Laboratory Sample Delivery Group: 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 8:04:33 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 15 TWR

Laboratory Job ID: 890-2575-1
SDG: 03E1558015

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Job ID: 890-2575-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2575-1

Receipt
The samples were received on 7/18/2022 12:12 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30208 and analytical batch 880-30191 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-30164 and analytical batch 880-30098 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30164 and analytical batch 880-30098 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: PH07 (890-2575-1), PH07A (890-2575-2), PH07B (890-2575-3) and (890-2573-A-1-C MSD) The matrix spike duplicate (MSD) recoveries for preparation batch 880-30059 and 880-30059 and analytical batch 880-30226 were outside control limits. Non-homogeneity is 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.

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Client Sample ID: PH07

Date Collected: 07/15/22 14:40
Date Received: 07/18/22 12:12
Sample Depth: 0.5'

Lab Sample ID: 890-2575-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 20:47	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 20:47	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 20:47	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/21/22 09:25	07/21/22 20:47	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/21/22 09:25	07/21/22 20:47	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/21/22 09:25	07/21/22 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*07/21/22 09:25*	*07/21/22 20:47*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*07/21/22 09:25*	*07/21/22 20:47*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 03:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 03:44	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 03:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:44*	*1*
o-Terphenyl	*112*		*70 - 130*	*07/20/22 15:31*	*07/21/22 03:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.3**		5.00		mg/Kg			07/22/22 12:59	1

Client Sample ID: PH07A

Date Collected: 07/15/22 14:45
Date Received: 07/18/22 12:12
Sample Depth: 1'

Lab Sample ID: 890-2575-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 21:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 21:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 21:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/21/22 09:25	07/21/22 21:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/21/22 09:25	07/21/22 21:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/21/22 09:25	07/21/22 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*07/21/22 09:25*	*07/21/22 21:12*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Client Sample ID: PH07A

Lab Sample ID: 890-2575-2
Matrix: Solid
Date Collected: 07/15/22 14:45
Date Received: 07/18/22 12:12
Sample Depth: 1'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/21/22 09:25*	*07/21/22 21:12*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Method: 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		07/20/22 15:31	07/21/22 04:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 04:05	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/20/22 15:31	07/21/22 04:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*98*		*70 - 130*	*07/20/22 15:31*	*07/21/22 04:05*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/20/22 15:31*	*07/21/22 04:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**131**		5.00		mg/Kg			07/22/22 13:08	1

Client Sample ID: PH07B

Lab Sample ID: 890-2575-3
Matrix: Solid
Date Collected: 07/15/22 14:55
Date Received: 07/18/22 12:12
Sample Depth: 3'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 21:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 21:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 21:38	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 21:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 21:38	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/21/22 09:25	07/21/22 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*07/21/22 09:25*	*07/21/22 21:38*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/21/22 09:25*	*07/21/22 21:38*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/22/22 16:06	1

Method: 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			07/21/22 13:53	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Client Sample ID: PH07B

Date Collected: 07/15/22 14:55
Date Received: 07/18/22 12:12
Sample Depth: 3'

Lab Sample ID: 890-2575-3

Matrix: Solid

Method: 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		07/20/22 15:31	07/21/22 04:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 04:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/21/22 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*07/20/22 15:31*	*07/21/22 04:26*	*1*
o-Terphenyl	*105*		*70 - 130*	*07/20/22 15:31*	*07/21/22 04:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**112**		5.05		mg/Kg			07/22/22 13:18	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2566-A-1-G MS	Matrix Spike	83	100
890-2566-A-1-H MSD	Matrix Spike Duplicate	109	99
890-2575-1	PH07	122	96
890-2575-2	PH07A	118	94
890-2575-3	PH07B	124	93
LCS 880-30208/1-A	Lab Control Sample	96	97
LCSD 880-30208/2-A	Lab Control Sample Dup	109	92
MB 880-30208/5-A	Method Blank	79	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17129-A-13-E MS	Matrix Spike	82	85
880-17129-A-13-F MSD	Matrix Spike Duplicate	81	85
890-2575-1	PH07	102	112
890-2575-2	PH07A	98	107
890-2575-3	PH07B	97	105
LCS 880-30164/2-A	Lab Control Sample	102	114
MB 880-30164/1-A	Method Blank	137 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID		
LCSD 880-30164/3-A	Lab Control Sample Dup		

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30208/5-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:25	07/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:25	07/21/22 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/21/22 09:25*	*07/21/22 12:04*	*1*

Lab Sample ID: LCS 880-30208/1-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09280		mg/Kg		93	70 - 130		
Toluene			0.100	0.09172		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09500		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1827		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09784		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-30208/2-A
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Toluene			0.100	0.09504		mg/Kg		95	70 - 130	4	35
Ethylbenzene			0.100	0.09691		mg/Kg		97	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1873		mg/Kg		94	70 - 130	2	35
o-Xylene			0.100	0.1033		mg/Kg		103	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0535		0.0998	0.07076	F1	mg/Kg		17	70 - 130		
Toluene	0.0607		0.0998	0.06762	F1	mg/Kg		7	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

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

Lab Sample ID: 890-2566-A-1-G MS
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.191		0.0998	0.07426	F1	mg/Kg		-117	70 - 130
m-Xylene & p-Xylene	0.0103		0.200	0.1436	F1	mg/Kg		67	70 - 130
o-Xylene	0.0397		0.0998	0.07377	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2566-A-1-H MSD
Matrix: Solid
Analysis Batch: 30191

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0535		0.0994	0.08725	F1	mg/Kg		34	70 - 130	21	35
Toluene	0.0607		0.0994	0.08422	F1	mg/Kg		24	70 - 130	22	35
Ethylbenzene	0.191		0.0994	0.08803	F1	mg/Kg		-104	70 - 130	17	35
m-Xylene & p-Xylene	0.0103		0.199	0.1708		mg/Kg		81	70 - 130	17	35
o-Xylene	0.0397		0.0994	0.09152	F1	mg/Kg		52	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-30164/1-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30164

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		07/20/22 15:31	07/20/22 20:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/22 15:31	07/20/22 20:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*07/20/22 15:31*	*07/20/22 20:42*	*1*

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1206		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)			1000	882.5		mg/Kg		88	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

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

Lab Sample ID: LCS 880-30164/2-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30164

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-30164/3-A
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1236		mg/Kg					
Diesel Range Organics (Over C10-C28)			1000	871.6		mg/Kg					

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Lab Sample ID: 880-17129-A-13-E MS
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30164

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 F2	1000	1016		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	868.3		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-17129-A-13-F MSD
Matrix: Solid
Analysis Batch: 30098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30164

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 F2	999	1285	F2	mg/Kg		129	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	876.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	85		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30059/1-A
Matrix: Solid
Analysis Batch: 30226

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			07/22/22 08:50	1

Lab Sample ID: LCS 880-30059/2-A
Matrix: Solid
Analysis Batch: 30226

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.1		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-30059/3-A
Matrix: Solid
Analysis Batch: 30226

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	267.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2573-A-1-B MS
Matrix: Solid
Analysis Batch: 30226

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	5.39	F1	249	277.7		mg/Kg		110	90 - 110		

Lab Sample ID: 890-2573-A-1-C MSD
Matrix: Solid
Analysis Batch: 30226

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	5.39	F1	249	280.4	F1	mg/Kg		111	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

GC VOA

Analysis Batch: 30191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	8021B	30208
890-2575-2	PH07A	Total/NA	Solid	8021B	30208
890-2575-3	PH07B	Total/NA	Solid	8021B	30208
MB 880-30208/5-A	Method Blank	Total/NA	Solid	8021B	30208
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	8021B	30208
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30208
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	30208
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30208

Prep Batch: 30208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	5035	
890-2575-2	PH07A	Total/NA	Solid	5035	
890-2575-3	PH07B	Total/NA	Solid	5035	
MB 880-30208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2566-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2566-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	Total BTEX	
890-2575-2	PH07A	Total/NA	Solid	Total BTEX	
890-2575-3	PH07B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	8015B NM	30164
890-2575-2	PH07A	Total/NA	Solid	8015B NM	30164
890-2575-3	PH07B	Total/NA	Solid	8015B NM	30164
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015B NM	30164
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30164
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30164
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015B NM	30164
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30164

Prep Batch: 30164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	8015NM Prep	
890-2575-2	PH07A	Total/NA	Solid	8015NM Prep	
890-2575-3	PH07B	Total/NA	Solid	8015NM Prep	
MB 880-30164/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30164/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30164/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17129-A-13-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17129-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

GC Semi VOA

Analysis Batch: 30275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Total/NA	Solid	8015 NM	
890-2575-2	PH07A	Total/NA	Solid	8015 NM	
890-2575-3	PH07B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Soluble	Solid	DI Leach	
890-2575-2	PH07A	Soluble	Solid	DI Leach	
890-2575-3	PH07B	Soluble	Solid	DI Leach	
MB 880-30059/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2573-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2573-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2575-1	PH07	Soluble	Solid	300.0	30059
890-2575-2	PH07A	Soluble	Solid	300.0	30059
890-2575-3	PH07B	Soluble	Solid	300.0	30059
MB 880-30059/1-A	Method Blank	Soluble	Solid	300.0	30059
LCS 880-30059/2-A	Lab Control Sample	Soluble	Solid	300.0	30059
LCSD 880-30059/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30059
890-2573-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30059
890-2573-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30059

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Client Sample ID: PH07

Date Collected: 07/15/22 14:40
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2575-1

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			4.95 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 20:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30443	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30275	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 03:44	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 12:59	SMC	XEN MID

Client Sample ID: PH07A

Date Collected: 07/15/22 14:45
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2575-2

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			4.98 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 21:12	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30443	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30275	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 04:05	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 13:08	SMC	XEN MID

Client Sample ID: PH07B

Date Collected: 07/15/22 14:55
Date Received: 07/18/22 12:12

Lab Sample ID: 890-2575-3

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			4.99 g	5 mL	30208	07/21/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1			30191	07/21/22 21:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30443	07/22/22 16:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30275	07/21/22 13:53	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30164	07/20/22 15:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30098	07/21/22 04:26	SM	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	30059	07/19/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			30226	07/22/22 13:18	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

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 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2575-1
SDG: 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2575-1	PH07	Solid	07/15/22 14:40	07/18/22 12:12	0.5'
890-2575-2	PH07A	Solid	07/15/22 14:45	07/18/22 12:12	1'
890-2575-3	PH07B	Solid	07/15/22 14:55	07/18/22 12:12	3'

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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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	
Project Number:	03E1558015	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	T NM-02	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.0	
Total Containers:		Corrected Temperature:	5.8	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
CS ~~PH06~~ PH07	S	7/15/2022	1440	0.5	Grab/	1		X	X	X
CS ~~PH06A~~ PH07A	S	7/15/2022	1445	1'	Grab/	1		X	X	X
CS ~~PH06B~~ PH07B	S	7/15/2022	1455	3'	Grab/	1		X	X	X
CS ~~PH06C~~ PH07C	S	7/15/2022	1500	4'	Grab/	1		X	X	X

Parameters

ANALYSIS REQUEST

890-2575 Chain of Custody

Sample Comments

*HOLD Pending 3' sample

Cost Center: 2027711001

Incident Numbers: nAPP2205638843, nAPP2207746719

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 Stiff	7/18/22 12:20			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2575-1
SDG Number: 03E1558015

Login Number: 2575
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.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2575-1
SDG Number: 03E1558015

Login Number: 2575
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/19/22 11:13 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: 890-2582-1
Laboratory Sample Delivery Group: 03E1558013, 03E1558015
Client Project/Site: PLU 15 TWR

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 8:08:35 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 15 TWR

Laboratory Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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Definitions/Glossary

Client: Ensolum Job ID: 890-2582-1
Project/Site: PLU 15 TWR SDG: 03E1558013, 03E1558015

Qualifiers

GC VOA

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

GC Semi VOA

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

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 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Job ID: 890-2582-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2582-1

Receipt
The samples were received on 7/19/2022 10:57 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

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 880-30312 and analytical batch 880-30251 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-30312/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH01A (890-2582-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Client Sample ID: BH01

Date Collected: 07/18/22 10:40
Date Received: 07/19/22 10:57
Sample Depth: 0.5

Lab Sample ID: 890-2582-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/21/22 09:38	07/21/22 17:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/21/22 09:38	07/21/22 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/21/22 09:38*	*07/21/22 17:14*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*07/21/22 09:38*	*07/21/22 17:14*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			07/22/22 10:12	1

Method: 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			07/22/22 11:07	1

Method: 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		07/21/22 17:20	07/22/22 08:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/21/22 17:20	07/22/22 08:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/21/22 17:20	07/22/22 08:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*07/21/22 17:20*	*07/22/22 08:27*	*1*
o-Terphenyl	*86*		*70 - 130*	*07/21/22 17:20*	*07/22/22 08:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**179**		4.98		mg/Kg			07/22/22 11:21	1

Client Sample ID: BH01A

Date Collected: 07/18/22 10:55
Date Received: 07/19/22 10:57
Sample Depth: 3

Lab Sample ID: 890-2582-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:35	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/21/22 09:38	07/21/22 17:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 17:35	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/21/22 09:38	07/21/22 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*07/21/22 09:38*	*07/21/22 17:35*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Client Sample ID: BH01A
Date Collected: 07/18/22 10:55
Date Received: 07/19/22 10:57
Sample Depth: 3

Lab Sample ID: 890-2582-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*07/21/22 09:38*	*07/21/22 17:35*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/22/22 10:12	1

Method: 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			07/22/22 11:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 08:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 08:48	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 08:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*66*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 08:48*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 08:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**36.5**		5.00		mg/Kg			07/22/22 11:29	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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)
880-17129-A-12-E MS	Matrix Spike	122	89
880-17129-A-12-F MSD	Matrix Spike Duplicate	112	96
890-2582-1	BH01	99	81
890-2582-2	BH01A	110	90
LCS 880-30210/1-A	Lab Control Sample	106	95
LCSD 880-30210/2-A	Lab Control Sample Dup	111	95
MB 880-30210/5-A	Method Blank	96	85

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17068-A-41-D MS	Matrix Spike	84	83
880-17068-A-41-E MSD	Matrix Spike Duplicate	85	84
890-2582-1	BH01	82	86
890-2582-2	BH01A	66 S1-	67 S1-
LCS 880-30312/2-A	Lab Control Sample	135 S1+	142 S1+
LCSD 880-30312/3-A	Lab Control Sample Dup	116	127
MB 880-30312/1-A	Method Blank	128	146 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30210/5-A
Matrix: Solid
Analysis Batch: 30194

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30210

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 09:38	07/21/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 09:38	07/21/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 09:38	07/21/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/21/22 09:38*	*07/21/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*07/21/22 09:38*	*07/21/22 11:25*	*1*

Lab Sample ID: LCS 880-30210/1-A
Matrix: Solid
Analysis Batch: 30194

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30210

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09742		mg/Kg		97	70 - 130		
Toluene			0.100	0.09907		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1036		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2101		mg/Kg		105	70 - 130		
o-Xylene			0.100	0.1150		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-30210/2-A
Matrix: Solid
Analysis Batch: 30194

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30210

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1021		mg/Kg		102	70 - 130	5	35
Toluene			0.100	0.1030		mg/Kg		103	70 - 130	4	35
Ethylbenzene			0.100	0.1119		mg/Kg		112	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2241		mg/Kg		112	70 - 130	6	35
o-Xylene			0.100	0.1231		mg/Kg		123	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-17129-A-12-E MS
Matrix: Solid
Analysis Batch: 30194

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30210

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.07628		mg/Kg		76	70 - 130		
Toluene	<0.00200	U	0.100	0.09150		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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

Lab Sample ID: 880-17129-A-12-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30194 — **Prep Batch: 30210**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.1027		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.0221		0.201	0.2128		mg/Kg		95	70 - 130
o-Xylene	0.00981		0.100	0.1154		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: 880-17129-A-12-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30194 — **Prep Batch: 30210**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.09120		mg/Kg		91	70 - 130	18	35
Toluene	<0.00200	U	0.0998	0.09287		mg/Kg		93	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.0998	0.09823		mg/Kg		98	70 - 130	4	35
m-Xylene & p-Xylene	0.0221		0.200	0.1979		mg/Kg		88	70 - 130	7	35
o-Xylene	0.00981		0.0998	0.1073		mg/Kg		98	70 - 130	7	35

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

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

Lab Sample ID: MB 880-30312/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

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		07/21/22 17:20	07/22/22 00:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*

Lab Sample ID: LCS 880-30312/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	880.1		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1131		mg/Kg		113	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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

Lab Sample ID: LCS 880-30312/2-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30312

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	135	S1+	70 - 130
o-Terphenyl	142	S1+	70 - 130

Lab Sample ID: LCSD 880-30312/3-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30312

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	807.8		mg/Kg		81	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	996.6		mg/Kg		100	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	127		70 - 130

Lab Sample ID: 880-17068-A-41-D MS
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30312

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	1000	907.6		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	796.3		mg/Kg		80	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 880-17068-A-41-E MSD
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30312

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	917.2		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	807.5		mg/Kg		81	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	84		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30121/1-A
Matrix: Solid
Analysis Batch: 30315

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			07/22/22 10:34	1

Lab Sample ID: LCS 880-30121/2-A
Matrix: Solid
Analysis Batch: 30315

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	273.9		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-30121/3-A
Matrix: Solid
Analysis Batch: 30315

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	274.9		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 880-17088-A-1-B MS
Matrix: Solid
Analysis Batch: 30315

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	526		249	790.9		mg/Kg		107	90 - 110		

Lab Sample ID: 880-17088-A-1-C MSD
Matrix: Solid
Analysis Batch: 30315

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	526		249	795.1		mg/Kg		108	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

GC VOA

Analysis Batch: 30194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	8021B	30210
890-2582-2	BH01A	Total/NA	Solid	8021B	30210
MB 880-30210/5-A	Method Blank	Total/NA	Solid	8021B	30210
LCS 880-30210/1-A	Lab Control Sample	Total/NA	Solid	8021B	30210
LCSD 880-30210/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30210
880-17129-A-12-E MS	Matrix Spike	Total/NA	Solid	8021B	30210
880-17129-A-12-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30210

Prep Batch: 30210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	5035	
890-2582-2	BH01A	Total/NA	Solid	5035	
MB 880-30210/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30210/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30210/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17129-A-12-E MS	Matrix Spike	Total/NA	Solid	5035	
880-17129-A-12-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	Total BTEX	
890-2582-2	BH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	8015B NM	30312
890-2582-2	BH01A	Total/NA	Solid	8015B NM	30312
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015B NM	30312
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30312
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30312
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30312
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30312

Prep Batch: 30312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	8015NM Prep	
890-2582-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Total/NA	Solid	8015 NM	
890-2582-2	BH01A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

HPLC/IC

Leach Batch: 30121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Soluble	Solid	DI Leach	
890-2582-2	BH01A	Soluble	Solid	DI Leach	
MB 880-30121/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30121/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30121/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17088-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17088-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2582-1	BH01	Soluble	Solid	300.0	30121
890-2582-2	BH01A	Soluble	Solid	300.0	30121
MB 880-30121/1-A	Method Blank	Soluble	Solid	300.0	30121
LCS 880-30121/2-A	Lab Control Sample	Soluble	Solid	300.0	30121
LCSD 880-30121/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30121
880-17088-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30121
880-17088-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30121

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Client Sample ID: BH01

Date Collected: 07/18/22 10:40
Date Received: 07/19/22 10:57

Lab Sample ID: 890-2582-1

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	30210	07/21/22 09:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30194	07/21/22 17:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30351	07/22/22 10:12	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30385	07/22/22 11:07	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30312	07/21/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30251	07/22/22 08:27	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30121	07/20/22 11:51	SMC	XEN MID
Soluble	Analysis	300.0		1			30315	07/22/22 11:21	CH	XEN MID

Client Sample ID: BH01A

Date Collected: 07/18/22 10:55
Date Received: 07/19/22 10:57

Lab Sample ID: 890-2582-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30210	07/21/22 09:38	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30194	07/21/22 17:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30351	07/22/22 10:12	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30385	07/22/22 11:07	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	30312	07/21/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30251	07/22/22 08:48	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30121	07/20/22 11:51	SMC	XEN MID
Soluble	Analysis	300.0		1			30315	07/22/22 11:29	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWR

Job ID: 890-2582-1
SDG: 03E1558013, 03E1558015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2582-1	BH01	Solid	07/18/22 10:40	07/19/22 10:57	0.5
890-2582-2	BH01A	Solid	07/18/22 10:55	07/19/22 10:57	3

Chain of Custody

eurofins | Environment Testing Xenco

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:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@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 15 TWR	Turn Around	
Project Number:	03E1558013, 03E1558015	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	NM-0007	
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	

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

890-2582 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021	Sample Comments
BH01	S	7/18/2022	1040	0.5'	G	1	X	X	X	
BH01A	S	7/18/2022	1055	3'	G	1	X	X	X	
* BH01B	S	7/18/2022	1100	4'	G	1	X	X	X	* Hold pending 3' sample

Cost Center: 2027711001

Incident Number:
nAPP2205641685
nAPP2207746719
nAPP2205638843

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		7.19.22 1057			
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2582-1
SDG Number: 03E1558013, 03E1558015

Login Number: 2582
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2582-1
SDG Number: 03E1558013, 03E1558015

Login Number: 2582
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/20/22 10:53 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Tacoma Morrissey

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Wednesday, May 11, 2022 4:57 PM
To: Green, Garrett J
Cc: DelawareSpills /SM; Ben Belill; Aimee Cole; Tacoma Morrissey; Kalei Jennings; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Nobui, Jennifer, EMNRD
Subject: (Extension Approval) - PLU 15 TWR Battery (Incident Numbers nAPP2205641685, nAPP2205638843, nAPP2207746719)

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2205641685, NAPP2205638843, NAPP2207746719**

Garrett,

Your request for an extension to **August 10th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Wednesday, May 11, 2022 2:41 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Ben Belill <bbelill@ensolum.com>; Aimee Cole <acole@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; Kalei Jennings <kjennings@ensolum.com>
Subject: [EXTERNAL] XTO - Extension Request - PLU 15 TWR Battery (Incident Numbers nAPP2205641685, nAPP2205638843, nAPP2207746719)

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

All,

PLU 15 TWR Battery (Incident Numbers nAPP2205641685, nAPP2205638843, nAPP2207746719)
XTO is requesting an extension for the current deadlines of May 12, 2022, May 21, 2022, and June 2, 2022 for submitting a remediation work plan, closure, or deferral report required in 19.15.29.12.B.(1) NMAC at the PLU 15 TWR Battery for Incident Numbers nAPP2205641685, nAPP2205638843, and nAPP2207746719. The releases occurred on February 11,

2022, February 20, 2022, and March 4, 2022, respectively. Fluids were released on pad around active production equipment. An initial site assessment has been conducted to assess each release area and analytical results indicate that additional remediation is required.

Due to all three releases occurring on the same pad, delineation and remediation activities are scheduled to be completed concurrently. XTO requests to extend the deadline to complete remediation activities and submit a closure or deferral report for Incident Numbers nAPP2205641685, nAPP2205638843, and nAPP2207746719 to August 10, 2022, which is a 90-day extension of the due date for the first release.

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

From: Green, Garrett J
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD
Cc: Pennington, Shelby G; Tacoma Morrissey; DelawareSpills /SM
Subject: XTO - Sampling Notification (week of 7/11/22 - 7/15/22)
Date: Friday, July 8, 2022 1:21:32 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of July 11, 2022.

Monday, July 11
- PLU 442, 443 / nAPP2214734717

Wednesday, July 13
- PLU 15 TWR Battery / nAPP2205641685, nAPP2205638843, nAPP2207746719

Thursday, July 14
- PLU 15 TWR Battery / nAPP2205641685, nAPP2205638843, nAPP2207746719

Friday, July 15
- PLU 15 TWR Battery / nAPP2205641685, nAPP2205638843, nAPP2207746719

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

Tacoma Morrissey

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Monday, July 11, 2022 5:10 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD
Cc: Ben Belill; DelawareSpills /SM
Subject: XTO 48 Liner Notification - PLU 15 TWR - nAPP2205641685, nAPP2205638843 and nAPP2207746719

[**EXTERNAL EMAIL**]

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 15 TWR Battery released on (2/11/22 nAPP2205641685, 2/20/22 nAPP2205638843, 3/4/22 nAPP2207746719), on Thursday, July 14, 2022, at 9:30am MST. A 24 hour release notification for nAPP2205641685 was sent out on Saturday, February 12, 2022 1:42 PM since the release was greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.209, -103.770)

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 132704

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 132704
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	Regarding application ID 132704, Incident # NAPP2207746719 POKER LAKE UNIT 15 TWIN WELLS RANCH CTB. Please note the changes to the conditions and points of deferral. My apologies for the mistake. XTO's deferral requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. The areas requested for deferral are identified on the site map as "PH01" and "PH02". The areas have been delineated and documented in the report. Currently, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. (This is a federal site and will require like approval from BLM.)	11/22/2022