Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2211150068
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: ___  _____ Date: __10/06/2022_____

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

OCD Only

Received by: Jocelyn Harimon _____ Date: 10/06/2022 _____

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

Closure Approved by: Robert Hamlet _____ Date: 12/21/2022

Printed Name: Robert Hamlet _____ Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2211150068
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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 32.09739 Longitude -103.86683
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU South Frac Pond	Site Type Recycle Facility
Date Release Discovered 04/09/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
O	27	25S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Produced water w/FR	Volume/Weight Released (provide units) 78.43 BBLS	Volume/Weight Recovered (provide units) 30.00 BBLS

Cause of Release: During frac operations, operational wear and tear caused the layflat line on the inlet side of the chemical trailer to blister and burst. Fluids were released both to containment and pad, and all free fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2211150068
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release equal to or greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Adrian Baker to ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD on Sunday, April 10, 2022 8:40 PM via email.

Initial Response

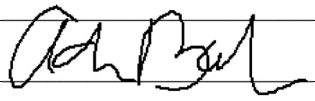
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ 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: 4/21/22
email: adrian.baker@exxonmobil.com
Telephone: 432-236-3808

OCD Only

Received by: Jocelyn Harimon
Date: 04/21/2022

Location:	PLU South Frac Pond	
Spill Date:	4/9/2022	

Area 1		
Approximate Area =	53.94	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	8.00	bbls

Area 2		
Approximate Area =	2719.00	sq. ft.
Average Saturation (or depth) of spill =	8.00	inches

Average Porosity Factor =	0.15	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	70.43	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**78.43**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**30.00**	**bbls**

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 100660

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 100660
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	4/21/2022

Incident ID	NAPP2211150068
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2211150068
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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:__ _____ Date: ____10/06/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 10/06/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2211150068
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Closure

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☒ Description of remediation activities

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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: ___ _____ Date: __10/06/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 10/06/2022

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

October 5, 2022

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

Re: Closure Request
PLU South Frac Pond
Incident Number NAPP2211150068
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment, excavation, and soil sampling activities performed at the PLU South Frac Pond (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water with friction reducer at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2211150068.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.09739° N, 103.8683° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On April 9, 2022, wear and tear caused the lay-flat line on a chemical trailer inlet to malfunction, resulting in the release of approximately 78.43 barrels (bbls) of produced water, treated with friction reducer, into the temporary lined containment and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 30 bbls of produced water were recovered. XTO reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) via email on April 10, 2022 and submitted a Release Notification Form C-141 (Form C-141) on April 21, 2022. The release was assigned Incident Number NAPP2211150068.

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

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to determine applicability of 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. During February 2021, a borehole (C-4498) was advanced to a depth of 110 feet bgs via hollow stem auger drill rig. The borehole was located approximately 1.4 miles east of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. 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 at the borehole location is greater than 110 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. Additional depth to water data from wells located northeast, northwest, west, and southwest of the Site indicate depth to water is consistently greater than 100 feet bgs in the region. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a intermitent stream, located approximately 1,722 feet north 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 ASSESMENT ACTIVITIES

On May 26, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven preliminary soil samples (SS01 through SS07) were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of 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 through SS07 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. In addition, laboratory analytical results for preliminary soil samples SS04 through SS07, collected

around the release extent, indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the most stringent Table 1 Closure Criteria and successfully define the lateral extent of the release. Based on visible staining in the release area near SS02 and SS03 and elevated field screening results, delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On June 27, 2022, Ensolum personnel were at the Site to oversee delineation activities. Three potholes (PH01 through PH03) were advanced via backhoe within the release extent to a depth of 2 feet bgs. Delineation soil samples PH01 through PH03 were advanced in preliminary soil sample locations SS01 through SS03, respectively. Delineation soil samples were collected from each pothole at depths of 1-foot and 2 feet bgs. Soil from the delineation activities was 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 potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The pothole delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for delineation pothole soil samples PH01/PH01A through PH03/PH03A indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations are compliant with the Site Closure Criteria. Laboratory analytical results indicated PH01/PH01A and PH02/PH02A were compliant with the most stringent Table 1 Closure Criteria. Based on visible staining near SS02 and SS03/PH03, excavation activities were warranted.

Between September 2, 2022 and September 8, 2022, Ensolum personnel returned to the Site to oversee excavation activities. Stained soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results for preliminary soil samples SS02 and SS03, and delineation soil sample PH03. Excavation activities were performed using a backhoe and transport vehicle. The excavation occurred on the well pad. To direct excavation activities, Ensolum personnel screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively.

Following removal of stained soil, Ensolum personnel collected 5-point composite soil samples representing 200 square feet from the floor and sidewall of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS12 were collected from the floor of the excavation at depths ranging from 0.5 feet to 3 feet bgs. Composite soil samples SW01 through SW04 were collected from the sidewall of the excavation from ground surface to 3 feet bgs. Due to the shallow depth of the excavation to the west, soil from the sidewalls was incorporated into the floor sample. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 4.

The final excavation extent measured approximately 2,400 square feet. A total of approximately 55 cubic yards of stained soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico. After completion of confirmation sampling, the excavation area was backfilled.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the excavation floor soil samples FS01 through FS12 and sidewall samples SW01 through SW04, collected from the final excavation extent, indicated benzene, BTEX, TPH-DRO/TPH-GRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria

and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the April 9, 2022, release of produced water with friction reducer. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs based on a recent soil boring and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2211150068.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Ashley Ager, PG
Program Director

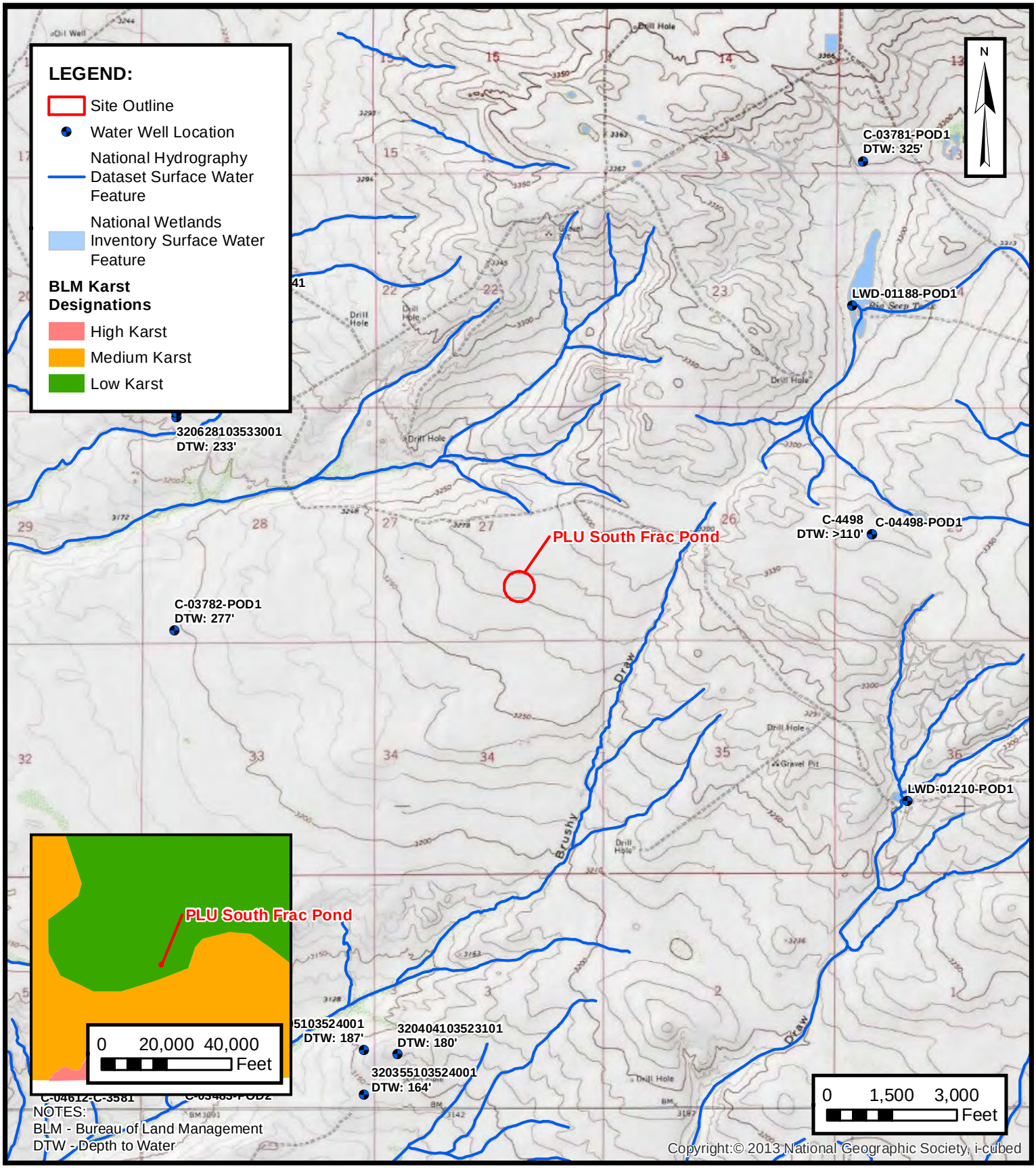
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Attachments:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	SDS for Friction Reducer

ENSOLUM

FIGURES

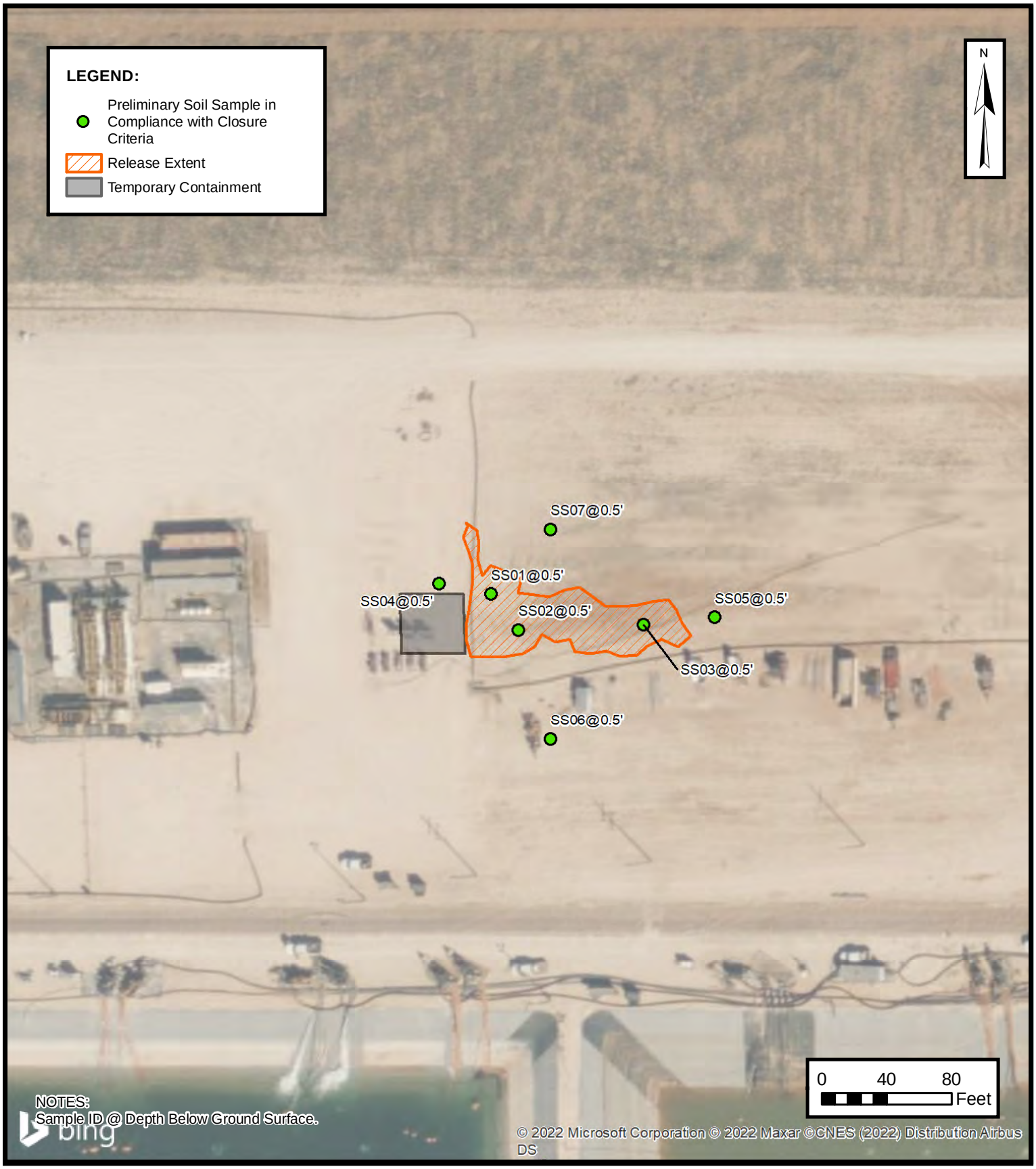


ENSOLUM
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
PLU SOUTH FRAC POND
NAPP2211150068
Unit O, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
1



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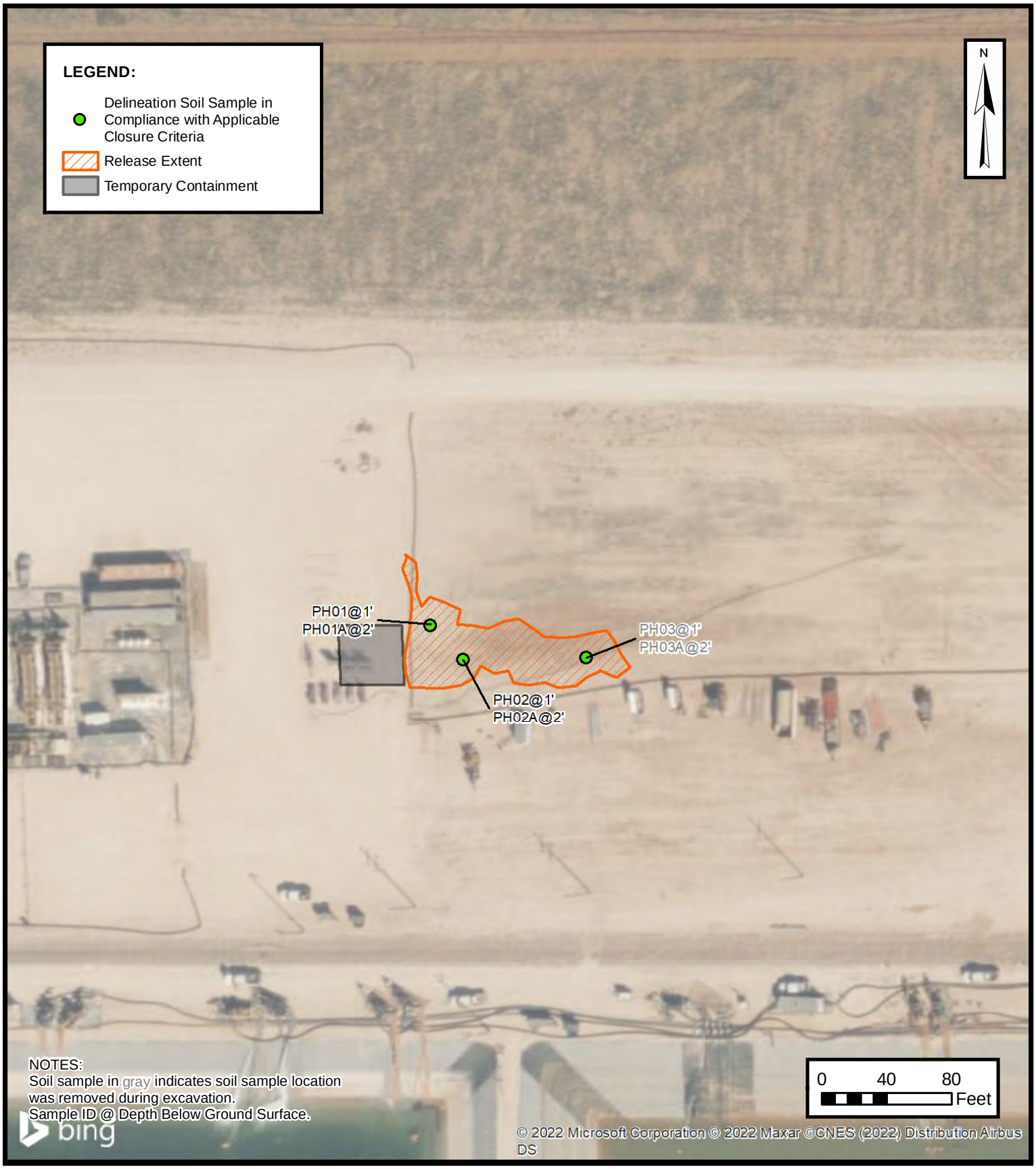
Environmental, Engineering and Hydrogeologic Consultants

PRELIMINARY SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU SOUTH FRAC POND
NAPP2211150068
Unit O, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
2



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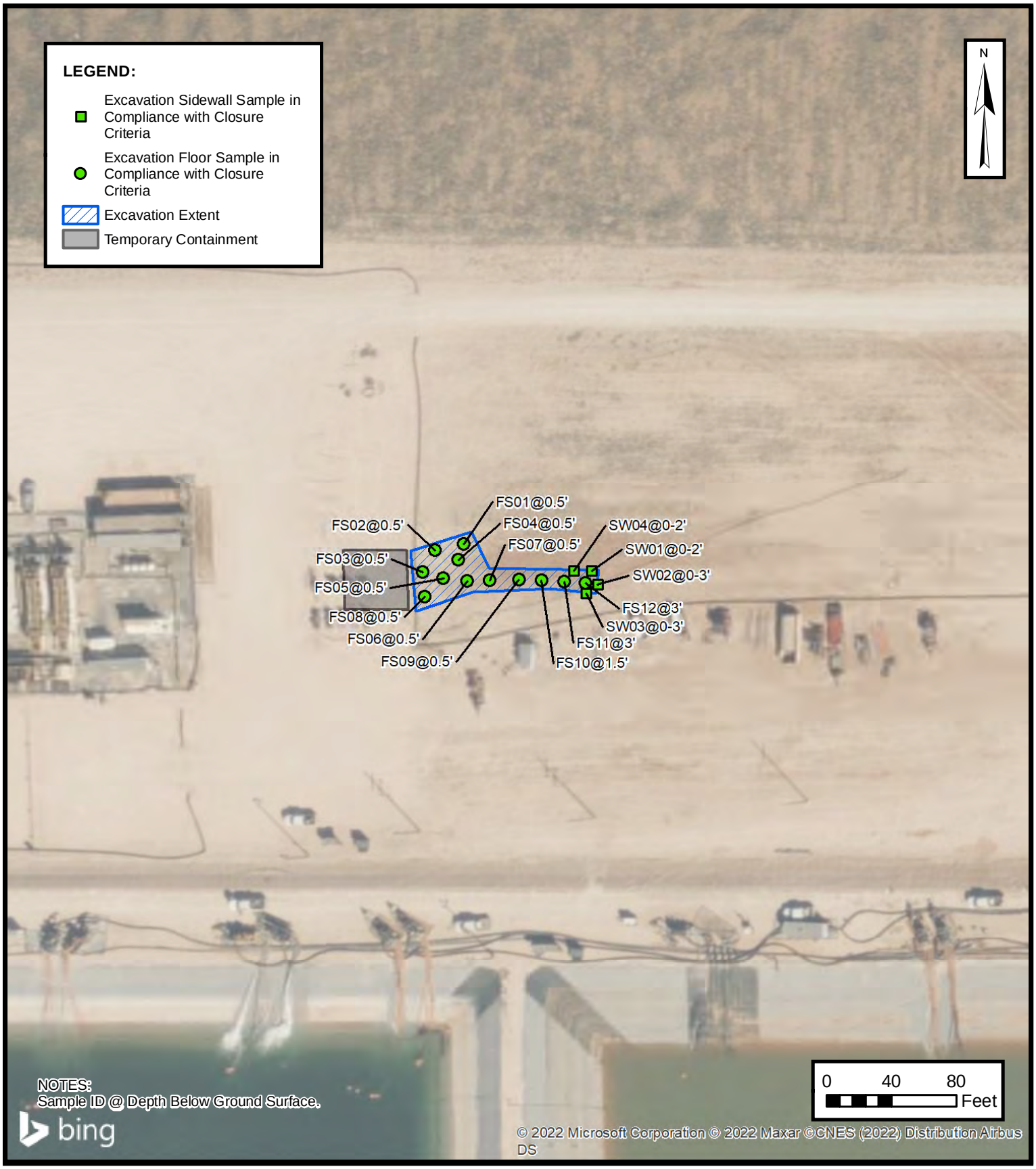
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU SOUTH FRAC POND
NAPP2211150068
Unit O, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
3



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU SOUTH FRAC POND
NAPP2211150068
Unit O, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
4

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TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU South Frac Pond
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Preliminary Soil Samples										
SS01	05/26/2022	0.5'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	193
SS02	05/26/2022	0.5'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	2,300
SS03	05/26/2022	0.5'	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	3,060
SS04	05/26/2022	0.5'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	322
SS05	05/26/2022	0.5'	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	88.3
SS06	05/26/2022	0.5'	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	306
SS07	05/26/2022	0.5'	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	46.6
Delineation Soil Samples										
PH01	06/27/2022	1'	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	111
PH01A	06/27/2022	2'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	37.8
PH02	06/27/2022	1'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	219
PH02A	06/27/2022	2'	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	118
PH03	06/27/2022	1'	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	2,270
PH03A	06/27/2022	2'	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	1,070
Excavation Soil Samples										
FS01	09/02/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	219
FS02	09/02/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	315
FS03	09/02/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	514
FS04	09/02/2022	0.5	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	320
FS05	09/02/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	111
FS06	09/02/2022	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	362
FS07	09/02/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	150
FS08	09/02/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	96.2
FS09	09/02/2022	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	260
FS10	09/02/2022	1.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	313
FS11	09/08/2022	3	<0.00202	<0.00403	<49.9	<49.9	<49.9	52.4	52.4	297
FS12	09/08/2022	3	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	83.8

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU South Frac Pond
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Sidewall Soil Samples										
SW01	09/02/2022	0 - 2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	166
SW02	09/08/2022	0 - 3	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	315
SW03	09/08/2022	0 - 3	<0.00201	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	201
SW04	09/02/2022	0 - 2	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	229

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.
Grey text represents samples that were excavated

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

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-4498

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°	6'	1.96"	N
	LONGITUDE	-103°	50'	26.19"	W

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

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

NW SW NE Sec. 25 T25S R30E

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)
02/24/2021	02/24/2021	temporary well material	109	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	109	±6.5	Boring- HSA	--	--	--	--
					OSE DII MAR 11 2021 PM4:26		

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-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec 25		WELL TAG ID NO. NA	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	34	34	Caliche, tan, no odor, no stain, gravel, dry	Y ✓ N	
34	40	6	sand/ cacliche, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
40	56	16	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
56	72	16	sandstone, low consolidation, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
72	79	7	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
79	109	30	sandstone, low - medium consolidation, tan, no odor, m-f grained, well sorted, m	Y ✓ N	
				Y N	
				Y N	
				Y N	
				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.

OSE DII MAR 11 2021 PM4:28

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 — 03/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec25		WELL TAG ID NO. NA	PAGE 2 OF 2

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 682528
File Nbr: C 04498
Well File Nbr: C 04498 POD1

Mar. 11, 2021

TACOMA MORRISEY
WSP USA
3300 NORTH A STREET
BLDG 1 #222
MIDLAND, TX 79705

Greetings:

The above numbered permit was issued in your name on 12/01/2020.

The Well Record was received in this office on 03/11/2021, stating that it had been completed on 02/24/2021, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 12/01/2021.

If you have any questions, please feel free to contact us.

Sincerely,

Andrew Dennis
(575)622-6521

drywell

Eddy County, New Mexico
Latitude 32°06'28", Longitude 103°53'30" NAD27
Land-surface elevation 3,207 feet above NAVD88
The depth of the well is 288 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1958-08-21		D	62610		2972.36	NGVD29	1	Z			A
1958-08-21		D	62611		2974.00	NAVD88	1	Z			A
1958-08-21		D	72019	233.00			1	Z			A
1959-02-05		D	62610		2939.26	NGVD29	P	Z			A
1959-02-05		D	62611		2940.90	NAVD88	P	Z			A
1959-02-05		D	72019	266.10			P	Z			A
1983-02-01		D	62610		2945.48	NGVD29	1	Z			A
1983-02-01		D	62611		2947.12	NAVD88	1	Z			A
1983-02-01		D	72019	259.88			1	Z			A
1998-01-28		D	62610		2940.76	NGVD29	1	S			A
1998-01-28		D	62611		2942.40	NAVD88	1	S			A
1998-01-28		D	72019	264.60			1	S			A

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APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU South Frac Pond
Incident Number NAPP2211150068

Photograph 1 Date: 04/09/2022
Description: View of initial release during frac operations.

Photograph 2 Date: 04/09/2022
Description: View of initial release during frac operations.

Photograph 3 Date: 09/08/2022
Description: View of excavation activities.

Photograph 4 Date: 09/08/2022
Description: View of excavation activities.

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 6/27/22
	Site Name: PLU South Frac Pond	
	Incident Number: nAPP2211150068	
	Job Number: 03E1558050	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Liz Cheli	Method: Backhoe
Coordinates:	Hole Diameter: 3'	Total Depth: 2' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Y	<168	0.0	N	PH01	1	1	SP	SAND, fine grained, brown, trace silt, moist, no odor or staining.
Y	<168	0.0	N	PH01A	2	2	SP	SAND, fine grained, brown, trace caliche, moist, no odor or staining.

ENSOLUM

	Sample Name: PH02	Date: 6/27/22
	Site Name: PLU South Frac Pond	
	Incident Number: nAPP2211150068	
	Job Number: 03E1558050	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Liz Cheli	Method: Backhoe
Coordinates:	Hole Diameter: 3'	Total Depth: 2' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Y	218.4	0.8	N	PH01	1	1	SP	SAND, fine grained, reddish brown, trace silt, moist, no odor or staining.
Y	<168	0.6	N	PH01A	2	2	SP	SAND, fine grained, reddish brown, with caliche, moist, no odor or staining.

ENSOLUM

	Sample Name: PH03	Date: 6/27/22
	Site Name: PLU South Frac Pond	
	Incident Number: nAPP2211150068	
	Job Number: 03E1558050	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Liz Cheli	Method: Backhoe
Coordinates:	Hole Diameter: 3'	Total Depth: 2' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Y	2436	0.4	N	PH01	1	1	SP	SAND, fine grained, brown, trace silt, moist, no odor or staining.
Y	7728	0.6	N	PH01A	2	2	SP	SAND, fine grained, brown, trace caliche, moist, no odor or staining.

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: 890-2357-1
Laboratory Sample Delivery Group: 03E1558050
Client Project/Site: PLU SOUTH FRAC POND

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
6/3/2022 9:28:52 AM

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

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

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

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Laboratory Job ID: 890-2357-1
SDG: 03E1558050

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Qualifiers

GC VOA

Qualifier	Qualifier Description
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
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 SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Job ID: 890-2357-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2357-1

Receipt
The samples were received on 5/27/2022 4:40 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 3.2°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 method blank for preparation batch 880-26657 and analytical batch 880-26613 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-26571 and analytical batch 880-26685 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS01

Lab Sample ID: 890-2357-1
Matrix: Solid
Date Collected: 05/26/22 09:40
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/02/22 11:02	06/03/22 03:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/02/22 11:02	06/03/22 03:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/02/22 11:02	06/03/22 03:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/02/22 11:02	06/03/22 03:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/02/22 11:02	06/03/22 03:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/02/22 11:02	06/03/22 03:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/02/22 11:02*	*06/03/22 03:26*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/02/22 11:02*	*06/03/22 03:26*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/01/22 21:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 21:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*06/01/22 14:08*	*06/01/22 21:48*	*1*
o-Terphenyl	*100*		*70 - 130*	*06/01/22 14:08*	*06/01/22 21:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**193**		4.98		mg/Kg			06/02/22 04:08	1

Client Sample ID: SS02

Lab Sample ID: 890-2357-2
Matrix: Solid
Date Collected: 05/26/22 09:45
Date Received: 05/27/22 16:40
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		06/02/22 11:02	06/03/22 03:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 03:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 03:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/02/22 11:02	06/03/22 03:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 03:47	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/02/22 11:02	06/03/22 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*06/02/22 11:02*	*06/03/22 03:47*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS02

Date Collected: 05/26/22 09:45
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Lab Sample ID: 890-2357-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*06/02/22 11:02*	*06/03/22 03:47*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/01/22 22:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/01/22 14:08	06/01/22 22:53	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/01/22 14:08	06/01/22 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*06/01/22 14:08*	*06/01/22 22:53*	*1*
o-Terphenyl	*106*		*70 - 130*	*06/01/22 14:08*	*06/01/22 22:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**		24.9	mg/Kg			06/02/22 09:22	5

Client Sample ID: SS03

Date Collected: 05/26/22 10:00
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Lab Sample ID: 890-2357-3

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		06/02/22 11:02	06/03/22 04:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/02/22 11:02	06/03/22 04:07	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/02/22 11:02	06/03/22 04:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/02/22 11:02	06/03/22 04:07	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/02/22 11:02	06/03/22 04:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/02/22 11:02	06/03/22 04:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:07*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:07*	*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			06/03/22 10:14	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			06/02/22 09:37	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS03

Lab Sample ID: 890-2357-3
Matrix: Solid
Date Collected: 05/26/22 10:00
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

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		06/01/22 14:08	06/01/22 23:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/01/22 23:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/01/22 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:14*	*1*
o-Terphenyl	*112*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3060**		24.8		mg/Kg			06/02/22 09:50	5

Client Sample ID: SS04

Lab Sample ID: 890-2357-4
Matrix: Solid
Date Collected: 05/26/22 10:15
Date Received: 05/27/22 16:40
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		06/02/22 11:02	06/03/22 04:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 04:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 04:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/02/22 11:02	06/03/22 04:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 04:28	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/02/22 11:02	06/03/22 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:28*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:28*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/01/22 23:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/01/22 23:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/01/22 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:36*	*1*
o-Terphenyl	*107*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:36*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS04

Lab Sample ID: 890-2357-4
Matrix: Solid
Date Collected: 05/26/22 10:15
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	322		25.0		mg/Kg			06/02/22 09:59	5

Client Sample ID: SS05

Lab Sample ID: 890-2357-5
Matrix: Solid
Date Collected: 05/26/22 10:20
Date Received: 05/27/22 16:40
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		06/02/22 11:02	06/03/22 04:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/02/22 11:02	06/03/22 04:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/02/22 11:02	06/03/22 04:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/02/22 11:02	06/03/22 04:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/02/22 11:02	06/03/22 04:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/02/22 11:02	06/03/22 04:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:48*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/02/22 11:02*	*06/03/22 04:48*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/01/22 23:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 23:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:56*	*1*
o-Terphenyl	*106*		*70 - 130*	*06/01/22 14:08*	*06/01/22 23:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	88.3		5.00		mg/Kg			06/02/22 10:08	1

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS06

Lab Sample ID: 890-2357-6
Matrix: Solid
Date Collected: 05/26/22 10:30
Date Received: 05/27/22 16:40
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		06/02/22 11:02	06/03/22 05:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 05:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 05:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/02/22 11:02	06/03/22 05:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/03/22 05:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/02/22 11:02	06/03/22 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/02/22 11:02*	*06/03/22 05:09*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*06/02/22 11:02*	*06/03/22 05:09*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/02/22 00:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/02/22 00:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/02/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*06/01/22 14:08*	*06/02/22 00:16*	*1*
o-Terphenyl	*94*		*70 - 130*	*06/01/22 14:08*	*06/02/22 00:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**306**		24.9		mg/Kg			06/02/22 10:18	5

Client Sample ID: SS07

Lab Sample ID: 890-2357-7
Matrix: Solid
Date Collected: 05/26/22 10:35
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/02/22 11:02	06/03/22 05:29	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/02/22 11:02	06/03/22 05:29	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/02/22 11:02	06/03/22 05:29	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		06/02/22 11:02	06/03/22 05:29	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/02/22 11:02	06/03/22 05:29	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		06/02/22 11:02	06/03/22 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/02/22 11:02*	*06/03/22 05:29*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS07

Date Collected: 05/26/22 10:35
Date Received: 05/27/22 16:40
Sample Depth: 0.5'

Lab Sample ID: 890-2357-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/02/22 11:02*	*06/03/22 05:29*	*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			06/03/22 10:14	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			06/02/22 09:37	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		06/01/22 14:08	06/02/22 00:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/02/22 00:37	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/01/22 14:08	06/02/22 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/01/22 14:08*	*06/02/22 00:37*	*1*
o-Terphenyl	*113*		*70 - 130*	*06/01/22 14:08*	*06/02/22 00:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46.6**		5.00		mg/Kg			06/02/22 10:45	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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)										
820-4458-A-2-B MS	Matrix Spike	104	103										
820-4458-A-2-C MSD	Matrix Spike Duplicate	107	101										
890-2357-1	SS01	101	99										
890-2357-2	SS02	95	87										
890-2357-3	SS03	101	96										
890-2357-4	SS04	104	102										
890-2357-5	SS05	99	97										
890-2357-6	SS06	100	98										
890-2357-7	SS07	96	92										
LCS 880-26726/1-A	Lab Control Sample	102	103										
LCSD 880-26726/2-A	Lab Control Sample Dup	99	102										
MB 880-26692/5-A	Method Blank	100	88										
MB 880-26726/5-A	Method Blank	99	89										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2357-1	SS01	94	100										
890-2357-1 MS	SS01	93	86										
890-2357-1 MSD	SS01	92	86										
890-2357-2	SS02	97	106										
890-2357-3	SS03	104	112										
890-2357-4	SS04	100	107										
890-2357-5	SS05	98	106										
890-2357-6	SS06	90	94										
890-2357-7	SS07	106	113										
LCS 880-26657/2-A	Lab Control Sample	115	112										
LCSD 880-26657/3-A	Lab Control Sample Dup	104	99										
MB 880-26657/1-A	Method Blank	106	118										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-26692/5-A
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26692

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/02/22 08:24	06/02/22 11:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/02/22 08:24	06/02/22 11:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/02/22 08:24	06/02/22 11:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/02/22 08:24	06/02/22 11:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/02/22 08:24	06/02/22 11:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/02/22 08:24	06/02/22 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/02/22 08:24*	*06/02/22 11:19*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/02/22 08:24*	*06/02/22 11:19*	*1*

Lab Sample ID: MB 880-26726/5-A
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26726

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/02/22 21:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/02/22 21:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/02/22 21:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/02/22 11:02	06/02/22 21:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/02/22 11:02	06/02/22 21:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/02/22 11:02	06/02/22 21:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/02/22 11:02*	*06/02/22 21:56*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/02/22 11:02*	*06/02/22 21:56*	*1*

Lab Sample ID: LCS 880-26726/1-A
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26726

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09795		mg/Kg		98	70 - 130		
Toluene			0.100	0.09260		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09602		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1888		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09535		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-26726/2-A
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26726

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09543		mg/Kg		95	70 - 130	3	35

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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

Lab Sample ID: LCSD 880-26726/2-A
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26726

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08975		mg/Kg		90	70 - 130	3	35
Ethylbenzene			0.100	0.09305		mg/Kg		93	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1836		mg/Kg		92	70 - 130	3	35
o-Xylene			0.100	0.09206		mg/Kg		92	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 820-4458-A-2-B MS
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26726

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.100	0.08902		mg/Kg		89	70 - 130
Toluene	<0.00198	U	0.100	0.08221		mg/Kg		81	70 - 130
Ethylbenzene	0.0120		0.100	0.08977		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.0112		0.200	0.1683		mg/Kg		78	70 - 130
o-Xylene	<0.00198	U	0.100	0.08086		mg/Kg		80	70 - 130

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

Lab Sample ID: 820-4458-A-2-C MSD
Matrix: Solid
Analysis Batch: 26693

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26726

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.08269		mg/Kg		83	70 - 130	7	35
Toluene	<0.00198	U	0.0998	0.07681		mg/Kg		76	70 - 130	7	35
Ethylbenzene	0.0120		0.0998	0.08526		mg/Kg		73	70 - 130	5	35
m-Xylene & p-Xylene	0.0112		0.200	0.1566		mg/Kg		73	70 - 130	7	35
o-Xylene	<0.00198	U	0.0998	0.07490		mg/Kg		75	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-26657/1-A
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26657

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		06/01/22 14:08	06/01/22 20:42	1

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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

Lab Sample ID: MB 880-26657/1-A
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26657

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 20:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/01/22 14:08	06/01/22 20:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/01/22 14:08*	*06/01/22 20:42*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/01/22 14:08*	*06/01/22 20:42*	*1*

Lab Sample ID: LCS 880-26657/2-A
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26657

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	971.4		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1184		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*112*		*70 - 130*

Lab Sample ID: LCSD 880-26657/3-A
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26657

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	820.8		mg/Kg		82	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		105	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: 890-2357-1 MS
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 26657

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	777.3		mg/Kg		78	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	913.5		mg/Kg		89	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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

Lab Sample ID: 890-2357-1 MSD
Matrix: Solid
Analysis Batch: 26613

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 26657

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	783.4		mg/Kg		78	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	919.9		mg/Kg		90	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-26571/1-A
Matrix: Solid
Analysis Batch: 26685

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			06/01/22 23:32	1

Lab Sample ID: LCS 880-26571/2-A
Matrix: Solid
Analysis Batch: 26685

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	226.0		mg/Kg		90	90 - 110		

Lab Sample ID: LCSD 880-26571/3-A
Matrix: Solid
Analysis Batch: 26685

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	226.5		mg/Kg		91	90 - 110	0	20

Lab Sample ID: 890-2352-A-12-C MS
Matrix: Solid
Analysis Batch: 26685

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	31.9	F1	248	253.0	F1	mg/Kg		89	90 - 110		

Lab Sample ID: 890-2352-A-12-D MSD
Matrix: Solid
Analysis Batch: 26685

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	31.9	F1	248	250.6	F1	mg/Kg		88	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-26572/1-A
Matrix: Solid
Analysis Batch: 26687

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			06/02/22 08:55	1

Lab Sample ID: LCS 880-26572/2-A
Matrix: Solid
Analysis Batch: 26687

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	231.9		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-26572/3-A
Matrix: Solid
Analysis Batch: 26687

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	232.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 890-2357-2 MS
Matrix: Solid
Analysis Batch: 26687

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2300		1250	3534		mg/Kg		99	90 - 110		

Lab Sample ID: 890-2357-2 MSD
Matrix: Solid
Analysis Batch: 26687

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2300		1250	3554		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

GC VOA

Prep Batch: 26692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-26692/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 26693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	8021B	26726
890-2357-2	SS02	Total/NA	Solid	8021B	26726
890-2357-3	SS03	Total/NA	Solid	8021B	26726
890-2357-4	SS04	Total/NA	Solid	8021B	26726
890-2357-5	SS05	Total/NA	Solid	8021B	26726
890-2357-6	SS06	Total/NA	Solid	8021B	26726
890-2357-7	SS07	Total/NA	Solid	8021B	26726
MB 880-26692/5-A	Method Blank	Total/NA	Solid	8021B	26692
MB 880-26726/5-A	Method Blank	Total/NA	Solid	8021B	26726
LCS 880-26726/1-A	Lab Control Sample	Total/NA	Solid	8021B	26726
LCSD 880-26726/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26726
820-4458-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	26726
820-4458-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26726

Prep Batch: 26726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	5035	
890-2357-2	SS02	Total/NA	Solid	5035	
890-2357-3	SS03	Total/NA	Solid	5035	
890-2357-4	SS04	Total/NA	Solid	5035	
890-2357-5	SS05	Total/NA	Solid	5035	
890-2357-6	SS06	Total/NA	Solid	5035	
890-2357-7	SS07	Total/NA	Solid	5035	
MB 880-26726/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26726/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26726/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-4458-A-2-B MS	Matrix Spike	Total/NA	Solid	5035	
820-4458-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 26804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	Total BTEX	
890-2357-2	SS02	Total/NA	Solid	Total BTEX	
890-2357-3	SS03	Total/NA	Solid	Total BTEX	
890-2357-4	SS04	Total/NA	Solid	Total BTEX	
890-2357-5	SS05	Total/NA	Solid	Total BTEX	
890-2357-6	SS06	Total/NA	Solid	Total BTEX	
890-2357-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 26613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	8015B NM	26657
890-2357-2	SS02	Total/NA	Solid	8015B NM	26657
890-2357-3	SS03	Total/NA	Solid	8015B NM	26657
890-2357-4	SS04	Total/NA	Solid	8015B NM	26657

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

GC Semi VOA (Continued)

Analysis Batch: 26613 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-5	SS05	Total/NA	Solid	8015B NM	26657
890-2357-6	SS06	Total/NA	Solid	8015B NM	26657
890-2357-7	SS07	Total/NA	Solid	8015B NM	26657
MB 880-26657/1-A	Method Blank	Total/NA	Solid	8015B NM	26657
LCS 880-26657/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	26657
LCSD 880-26657/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	26657
890-2357-1 MS	SS01	Total/NA	Solid	8015B NM	26657
890-2357-1 MSD	SS01	Total/NA	Solid	8015B NM	26657

Prep Batch: 26657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	8015NM Prep	
890-2357-2	SS02	Total/NA	Solid	8015NM Prep	
890-2357-3	SS03	Total/NA	Solid	8015NM Prep	
890-2357-4	SS04	Total/NA	Solid	8015NM Prep	
890-2357-5	SS05	Total/NA	Solid	8015NM Prep	
890-2357-6	SS06	Total/NA	Solid	8015NM Prep	
890-2357-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-26657/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-26657/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-26657/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2357-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-2357-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 26709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Total/NA	Solid	8015 NM	
890-2357-2	SS02	Total/NA	Solid	8015 NM	
890-2357-3	SS03	Total/NA	Solid	8015 NM	
890-2357-4	SS04	Total/NA	Solid	8015 NM	
890-2357-5	SS05	Total/NA	Solid	8015 NM	
890-2357-6	SS06	Total/NA	Solid	8015 NM	
890-2357-7	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 26571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Soluble	Solid	DI Leach	
MB 880-26571/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-26571/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-26571/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2352-A-12-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2352-A-12-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 26572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-2	SS02	Soluble	Solid	DI Leach	
890-2357-3	SS03	Soluble	Solid	DI Leach	
890-2357-4	SS04	Soluble	Solid	DI Leach	
890-2357-5	SS05	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

HPLC/IC (Continued)

Leach Batch: 26572 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-6	SS06	Soluble	Solid	DI Leach	
890-2357-7	SS07	Soluble	Solid	DI Leach	
MB 880-26572/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-26572/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-26572/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2357-2 MS	SS02	Soluble	Solid	DI Leach	
890-2357-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 26685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-1	SS01	Soluble	Solid	300.0	26571
MB 880-26571/1-A	Method Blank	Soluble	Solid	300.0	26571
LCS 880-26571/2-A	Lab Control Sample	Soluble	Solid	300.0	26571
LCSD 880-26571/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	26571
890-2352-A-12-C MS	Matrix Spike	Soluble	Solid	300.0	26571
890-2352-A-12-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	26571

Analysis Batch: 26687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2357-2	SS02	Soluble	Solid	300.0	26572
890-2357-3	SS03	Soluble	Solid	300.0	26572
890-2357-4	SS04	Soluble	Solid	300.0	26572
890-2357-5	SS05	Soluble	Solid	300.0	26572
890-2357-6	SS06	Soluble	Solid	300.0	26572
890-2357-7	SS07	Soluble	Solid	300.0	26572
MB 880-26572/1-A	Method Blank	Soluble	Solid	300.0	26572
LCS 880-26572/2-A	Lab Control Sample	Soluble	Solid	300.0	26572
LCSD 880-26572/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	26572
890-2357-2 MS	SS02	Soluble	Solid	300.0	26572
890-2357-2 MSD	SS02	Soluble	Solid	300.0	26572

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS01
Date Collected: 05/26/22 09:40
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-1
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	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 03:26	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/01/22 21:48	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	26571	05/31/22 10:54	SC	XEN MID
Soluble	Analysis	300.0		1			26685	06/02/22 04:08	CH	XEN MID

Client Sample ID: SS02
Date Collected: 05/26/22 09:45
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-2
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	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 03:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/01/22 22:53	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		5			26687	06/02/22 09:22	CH	XEN MID

Client Sample ID: SS03
Date Collected: 05/26/22 10:00
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 04:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/01/22 23:14	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		5			26687	06/02/22 09:50	CH	XEN MID

Client Sample ID: SS04
Date Collected: 05/26/22 10:15
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 04:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS04
Date Collected: 05/26/22 10:15
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/01/22 23:36	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		5			26687	06/02/22 09:59	CH	XEN MID

Client Sample ID: SS05
Date Collected: 05/26/22 10:20
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 04:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/01/22 23:56	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		1			26687	06/02/22 10:08	CH	XEN MID

Client Sample ID: SS06
Date Collected: 05/26/22 10:30
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-6
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	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 05:09	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/02/22 00:16	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		5			26687	06/02/22 10:18	CH	XEN MID

Client Sample ID: SS07
Date Collected: 05/26/22 10:35
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-7
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	26726	06/02/22 11:02	MR	XEN MID
Total/NA	Analysis	8021B		1			26693	06/03/22 05:29	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26804	06/03/22 10:14	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26709	06/02/22 09:37	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26657	06/01/22 14:08	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26613	06/02/22 00:37	SM	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Client Sample ID: SS07
Date Collected: 05/26/22 10:35
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2357-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	26572	05/31/22 10:56	SC	XEN MID
Soluble	Analysis	300.0		1			26687	06/02/22 10:45	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 SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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 SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

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 SOUTH FRAC POND

Job ID: 890-2357-1
SDG: 03E1558050

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2357-1	SS01	Solid	05/26/22 09:40	05/27/22 16:40	0.5'
890-2357-2	SS02	Solid	05/26/22 09:45	05/27/22 16:40	0.5'
890-2357-3	SS03	Solid	05/26/22 10:00	05/27/22 16:40	0.5'
890-2357-4	SS04	Solid	05/26/22 10:15	05/27/22 16:40	0.5'
890-2357-5	SS05	Solid	05/26/22 10:20	05/27/22 16:40	0.5'
890-2357-6	SS06	Solid	05/26/22 10:30	05/27/22 16:40	0.5'
890-2357-7	SS07	Solid	05/26/22 10:35	05/27/22 16:40	0.5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum LLC	Company Name:	XTO Energy, Inc.
Address:		Address:	3104 E. Green Street
City, State ZIP:		City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	PLU South Frac Pond	Turn Around	
Project Number:	03E1558050	☑ Routine ☐ Rush	
Project Location:		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:	3.4	
Total Containers:		Corrected Temperature:	3.2	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	05.26.22	940	0.5'	G	1		x	x	x
SS02	S	05.26.22	945	0.5'	G	1		x	x	x
SS03	S	05.26.22	1000	0.5'	G	1		x	x	x
SS04	S	05.26.22	1015	0.5'	G	1		x	x	x
SS05	S	05.26.22	1020	0.5'	G	1		x	x	x
SS06	S	05.26.22	1030	0.5'	G	1		x	x	x
SS07	S	05.26.22	1035	0.5'	G	1		x	x	x

ANALYSIS REQUEST

890-2357 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:nAPP2211150068

Cost Center:

AFE:

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stout	5/27/22 16:40			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2357-1
SDG Number: 03E1558050

Login Number: 2357
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: 890-2357-1
SDG Number: 03E1558050

Login Number: 2357
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/01/22 11:10 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: 890-2469-1
Laboratory Sample Delivery Group: 03E1558050
Client Project/Site: PLU South Frac Pond

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/5/2022 3:48:38 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 South Frac Pond

Laboratory Job ID: 890-2469-1
SDG: 03E1558050

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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

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 South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Job ID: 890-2469-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2469-1

Receipt
The samples were received on 6/27/2022 3:25 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 16.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28739 and analytical batch 880-28708 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28683 and analytical batch 880-28603 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH01

Lab Sample ID: 890-2469-1
Matrix: Solid
Date Collected: 06/27/22 11:00
Date Received: 06/27/22 15:25
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/30/22 10:33	06/30/22 19:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/30/22 10:33	06/30/22 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:02*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:02*	*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			07/01/22 11:23	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			06/30/22 09:20	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		06/29/22 15:50	06/30/22 08:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 08:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 08:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/29/22 15:50*	*06/30/22 08:05*	*1*
o-Terphenyl	*116*		*70 - 130*	*06/29/22 15:50*	*06/30/22 08:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**111**		4.96		mg/Kg			07/04/22 22:33	1

Client Sample ID: PH01A

Lab Sample ID: 890-2469-2
Matrix: Solid
Date Collected: 06/27/22 11:10
Date Received: 06/27/22 15:25
Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/30/22 10:33	06/30/22 19:23	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/30/22 10:33	06/30/22 19:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/30/22 10:33	06/30/22 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:23*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH01A

Date Collected: 06/27/22 11:10
Date Received: 06/27/22 15:25
Sample Depth: 2'

Lab Sample ID: 890-2469-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:23*	*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			07/01/22 11:23	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			06/30/22 09:20	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		06/29/22 15:50	06/30/22 08:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/29/22 15:50	06/30/22 08:26	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/29/22 15:50	06/30/22 08:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*06/29/22 15:50*	*06/30/22 08:26*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/29/22 15:50*	*06/30/22 08:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**37.8**		4.98	mg/Kg			07/04/22 22:56	1

Client Sample ID: PH02

Date Collected: 06/27/22 10:30
Date Received: 06/27/22 15:25
Sample Depth: 1'

Lab Sample ID: 890-2469-3
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		06/30/22 10:33	06/30/22 19:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/30/22 10:33	06/30/22 19:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/30/22 10:33	06/30/22 19:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		06/30/22 10:33	06/30/22 19:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/30/22 10:33	06/30/22 19:44	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/30/22 10:33	06/30/22 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:44*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*06/30/22 10:33*	*06/30/22 19:44*	*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			07/01/22 11:23	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			06/30/22 09:20	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH02

Lab Sample ID: 890-2469-3
Matrix: Solid
Date Collected: 06/27/22 10:30
Date Received: 06/27/22 15:25
Sample Depth: 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		06/29/22 15:50	06/30/22 09:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 09:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:09*	*1*
o-Terphenyl	*129*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**219**		5.05		mg/Kg			07/04/22 23:04	1

Client Sample ID: PH02A

Lab Sample ID: 890-2469-4
Matrix: Solid
Date Collected: 06/27/22 10:45
Date Received: 06/27/22 15:25
Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/30/22 10:33	06/30/22 20:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/30/22 10:33	06/30/22 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:04*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:04*	*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			07/01/22 11:23	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			06/30/22 09:20	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		06/29/22 15:50	06/30/22 09:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/30/22 09:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/30/22 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:30*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:30*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH02A

Lab Sample ID: 890-2469-4
Matrix: Solid
Date Collected: 06/27/22 10:45
Date Received: 06/27/22 15:25
Sample Depth: 2'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	118		4.99		mg/Kg			07/04/22 23:12	1

Client Sample ID: PH03

Lab Sample ID: 890-2469-5
Matrix: Solid
Date Collected: 06/27/22 12:15
Date Received: 06/27/22 15:25
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/30/22 10:33	06/30/22 20:25	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/30/22 10:33	06/30/22 20:25	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/30/22 10:33	06/30/22 20:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/30/22 10:33	06/30/22 20:25	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/30/22 10:33	06/30/22 20:25	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/30/22 10:33	06/30/22 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:25*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:25*	*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			07/01/22 11:23	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			06/30/22 09:20	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		06/29/22 15:50	06/30/22 09:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 09:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 09:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:52*	*1*
o-Terphenyl	*123*		*70 - 130*	*06/29/22 15:50*	*06/30/22 09:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2270		24.9		mg/Kg			07/04/22 23:20	5

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH03A

Date Collected: 06/27/22 12:20
Date Received: 06/27/22 15:25
Sample Depth: 2'

Lab Sample ID: 890-2469-6

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		06/30/22 10:33	06/30/22 20:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:46	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/30/22 10:33	06/30/22 20:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 20:46	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/30/22 10:33	06/30/22 20:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:46*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*06/30/22 10:33*	*06/30/22 20:46*	*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			07/01/22 11:23	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			06/30/22 09:20	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		06/29/22 15:50	06/30/22 10:13	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/29/22 15:50	06/30/22 10:13	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/29/22 15:50	06/30/22 10:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*06/29/22 15:50*	*06/30/22 10:13*	*1*
o-Terphenyl	*128*		*70 - 130*	*06/29/22 15:50*	*06/30/22 10:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1070**		4.95		mg/Kg			07/04/22 23:43	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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)
880-16436-A-11-I MS	Matrix Spike	83	109
880-16436-A-11-J MSD	Matrix Spike Duplicate	103	98
890-2469-1	PH01	80	116
890-2469-2	PH01A	83	110
890-2469-3	PH02	87	115
890-2469-4	PH02A	88	115
890-2469-5	PH03	83	114
890-2469-6	PH03A	83	112
LCS 880-28739/1-A	Lab Control Sample	78	109
LCSD 880-28739/2-A	Lab Control Sample Dup	79	109
MB 880-28739/5-A	Method Blank	83	114

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)
880-16417-A-1-F MS	Matrix Spike	98	95
880-16417-A-1-G MSD	Matrix Spike Duplicate	111	112
890-2469-1	PH01	106	116
890-2469-2	PH01A	110	120
890-2469-3	PH02	119	129
890-2469-4	PH02A	109	120
890-2469-5	PH03	114	123
890-2469-6	PH03A	114	128
LCS 880-28683/2-A	Lab Control Sample	110	109
LCSD 880-28683/3-A	Lab Control Sample Dup	110	110
MB 880-28683/1-A	Method Blank	105	119

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28739/5-A
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28739

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 14:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 14:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 14:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/22 10:33	06/30/22 14:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/22 10:33	06/30/22 14:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/22 10:33	06/30/22 14:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*06/30/22 10:33*	*06/30/22 14:09*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*06/30/22 10:33*	*06/30/22 14:09*	*1*

Lab Sample ID: LCS 880-28739/1-A
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28739

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1215		mg/Kg		122	70 - 130		
Toluene			0.100	0.09540		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.07836		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene			0.200	0.1473		mg/Kg		74	70 - 130		
o-Xylene			0.100	0.07736		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-28739/2-A
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28739

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1224		mg/Kg		122	70 - 130	1	35
Toluene			0.100	0.09796		mg/Kg		98	70 - 130	3	35
Ethylbenzene			0.100	0.08252		mg/Kg		83	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1530		mg/Kg		76	70 - 130	4	35
o-Xylene			0.100	0.08028		mg/Kg		80	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 880-16436-A-11-I MS
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 28739

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.1034		mg/Kg		103	70 - 130		
Toluene	<0.00200	U	0.0996	0.08408		mg/Kg		84	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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

Lab Sample ID: 880-16436-A-11-I MS
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 28739

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.0996	0.07042		mg/Kg		71	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.1302	F1	mg/Kg		65	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.06861	F1	mg/Kg		69	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 880-16436-A-11-J MSD
Matrix: Solid
Analysis Batch: 28708

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 28739

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.07647		mg/Kg		76	70 - 130	30	35
Toluene	<0.00200	U	0.0994	0.07408		mg/Kg		75	70 - 130	13	35
Ethylbenzene	<0.00200	U F1	0.0994	0.06654	F1	mg/Kg		67	70 - 130	6	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.1230	F1	mg/Kg		62	70 - 130	6	35
o-Xylene	<0.00200	U F1	0.0994	0.06520	F1	mg/Kg		66	70 - 130	5	35

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

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

Lab Sample ID: MB 880-28683/1-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28683

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		06/29/22 15:50	06/29/22 19:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 19:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 19:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/29/22 15:50*	*06/29/22 19:46*	*1*
o-Terphenyl	*119*		*70 - 130*	*06/29/22 15:50*	*06/29/22 19:46*	*1*

Lab Sample ID: LCS 880-28683/2-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28683

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1244		mg/Kg		124	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1171		mg/Kg		117	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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

Lab Sample ID: LCS 880-28683/2-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28683

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

Lab Sample ID: LCSD 880-28683/3-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28683

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1207		mg/Kg		121	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1222		mg/Kg		122	70 - 130	4	20

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

Lab Sample ID: 880-16417-A-1-F MS
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	996	1258		mg/Kg		126	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1163		mg/Kg		117	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-16417-A-1-G MSD
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	996	1962	F1 F2	mg/Kg		197	70 - 130	44	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1335	F1	mg/Kg		134	70 - 130	14	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	112		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28632/1-A
Matrix: Solid
Analysis Batch: 28978

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			07/04/22 22:09	1

Lab Sample ID: LCS 880-28632/2-A
Matrix: Solid
Analysis Batch: 28978

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-28632/3-A
Matrix: Solid
Analysis Batch: 28978

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	247.3		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-2469-1 MS
Matrix: Solid
Analysis Batch: 28978

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	111		248	364.0		mg/Kg		102	90 - 110		

Lab Sample ID: 890-2469-1 MSD
Matrix: Solid
Analysis Batch: 28978

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	111		248	364.5		mg/Kg		102	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

GC VOA

Analysis Batch: 28708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	8021B	28739
890-2469-2	PH01A	Total/NA	Solid	8021B	28739
890-2469-3	PH02	Total/NA	Solid	8021B	28739
890-2469-4	PH02A	Total/NA	Solid	8021B	28739
890-2469-5	PH03	Total/NA	Solid	8021B	28739
890-2469-6	PH03A	Total/NA	Solid	8021B	28739
MB 880-28739/5-A	Method Blank	Total/NA	Solid	8021B	28739
LCS 880-28739/1-A	Lab Control Sample	Total/NA	Solid	8021B	28739
LCSD 880-28739/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28739
880-16436-A-11-I MS	Matrix Spike	Total/NA	Solid	8021B	28739
880-16436-A-11-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	28739

Prep Batch: 28739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	5035	
890-2469-2	PH01A	Total/NA	Solid	5035	
890-2469-3	PH02	Total/NA	Solid	5035	
890-2469-4	PH02A	Total/NA	Solid	5035	
890-2469-5	PH03	Total/NA	Solid	5035	
890-2469-6	PH03A	Total/NA	Solid	5035	
MB 880-28739/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28739/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28739/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16436-A-11-I MS	Matrix Spike	Total/NA	Solid	5035	
880-16436-A-11-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 28835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	Total BTEX	
890-2469-2	PH01A	Total/NA	Solid	Total BTEX	
890-2469-3	PH02	Total/NA	Solid	Total BTEX	
890-2469-4	PH02A	Total/NA	Solid	Total BTEX	
890-2469-5	PH03	Total/NA	Solid	Total BTEX	
890-2469-6	PH03A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 28603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	8015B NM	28683
890-2469-2	PH01A	Total/NA	Solid	8015B NM	28683
890-2469-3	PH02	Total/NA	Solid	8015B NM	28683
890-2469-4	PH02A	Total/NA	Solid	8015B NM	28683
890-2469-5	PH03	Total/NA	Solid	8015B NM	28683
890-2469-6	PH03A	Total/NA	Solid	8015B NM	28683
MB 880-28683/1-A	Method Blank	Total/NA	Solid	8015B NM	28683
LCS 880-28683/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28683
LCSD 880-28683/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28683
880-16417-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	28683
880-16417-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28683

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

GC Semi VOA

Prep Batch: 28683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	8015NM Prep	
890-2469-2	PH01A	Total/NA	Solid	8015NM Prep	
890-2469-3	PH02	Total/NA	Solid	8015NM Prep	
890-2469-4	PH02A	Total/NA	Solid	8015NM Prep	
890-2469-5	PH03	Total/NA	Solid	8015NM Prep	
890-2469-6	PH03A	Total/NA	Solid	8015NM Prep	
MB 880-28683/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28683/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28683/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16417-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-16417-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Total/NA	Solid	8015 NM	
890-2469-2	PH01A	Total/NA	Solid	8015 NM	
890-2469-3	PH02	Total/NA	Solid	8015 NM	
890-2469-4	PH02A	Total/NA	Solid	8015 NM	
890-2469-5	PH03	Total/NA	Solid	8015 NM	
890-2469-6	PH03A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Soluble	Solid	DI Leach	
890-2469-2	PH01A	Soluble	Solid	DI Leach	
890-2469-3	PH02	Soluble	Solid	DI Leach	
890-2469-4	PH02A	Soluble	Solid	DI Leach	
890-2469-5	PH03	Soluble	Solid	DI Leach	
890-2469-6	PH03A	Soluble	Solid	DI Leach	
MB 880-28632/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28632/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28632/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2469-1 MS	PH01	Soluble	Solid	DI Leach	
890-2469-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 28978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2469-1	PH01	Soluble	Solid	300.0	28632
890-2469-2	PH01A	Soluble	Solid	300.0	28632
890-2469-3	PH02	Soluble	Solid	300.0	28632
890-2469-4	PH02A	Soluble	Solid	300.0	28632
890-2469-5	PH03	Soluble	Solid	300.0	28632
890-2469-6	PH03A	Soluble	Solid	300.0	28632
MB 880-28632/1-A	Method Blank	Soluble	Solid	300.0	28632
LCS 880-28632/2-A	Lab Control Sample	Soluble	Solid	300.0	28632
LCSD 880-28632/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28632
890-2469-1 MS	PH01	Soluble	Solid	300.0	28632
890-2469-1 MSD	PH01	Soluble	Solid	300.0	28632

Lab Chronicle

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH01

Date Collected: 06/27/22 11:00
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-1
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	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 19:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 08:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			28978	07/04/22 22:33	CH	XEN MID

Client Sample ID: PH01A

Date Collected: 06/27/22 11:10
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 19:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 08:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			28978	07/04/22 22:56	CH	XEN MID

Client Sample ID: PH02

Date Collected: 06/27/22 10:30
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-3
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	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 19:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 09:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			28978	07/04/22 23:04	CH	XEN MID

Client Sample ID: PH02A

Date Collected: 06/27/22 10:45
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 20:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Client Sample ID: PH02A

Date Collected: 06/27/22 10:45
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 09:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			28978	07/04/22 23:12	CH	XEN MID

Client Sample ID: PH03

Date Collected: 06/27/22 12:15
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 20:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 09:52	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		5			28978	07/04/22 23:20	CH	XEN MID

Client Sample ID: PH03A

Date Collected: 06/27/22 12:20
Date Received: 06/27/22 15:25

Lab Sample ID: 890-2469-6
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	28739	06/30/22 10:33	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	28708	06/30/22 20:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28835	07/01/22 11:23	SM	XEN MID
Total/NA	Analysis	8015 NM		1			28730	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28603	06/30/22 10:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28632	06/29/22 11:04	CH	XEN MID
Soluble	Analysis	300.0		1			28978	07/04/22 23:43	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 South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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	T104704400-22-23	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 South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

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 South Frac Pond

Job ID: 890-2469-1
SDG: 03E1558050

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2469-1	PH01	Solid	06/27/22 11:00	06/27/22 15:25	1'
890-2469-2	PH01A	Solid	06/27/22 11:10	06/27/22 15:25	2'
890-2469-3	PH02	Solid	06/27/22 10:30	06/27/22 15:25	1'
890-2469-4	PH02A	Solid	06/27/22 10:45	06/27/22 15:25	2'
890-2469-5	PH03	Solid	06/27/22 12:15	06/27/22 15:25	1'
890-2469-6	PH03A	Solid	06/27/22 12:20	06/27/22 15:25	2'

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Chain of Custody

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

Work Order No: _____

CIP- cooling in process

www.xenco.com Page _____ of _____

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO
Address:	3122 Natl. Parks Hwy	Address:	
City, State ZIP:	Carlsbad NM 88220	City, State ZIP:	
Phone:	817 683 2503	Email:	KJennings@ensolum

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 Salty Frac Pond	Turn Around	
Project Number:	03E1558050	☑ Routine ☐ Rush	
Project Location:	Eddy County NM	Due Date:	
Sampler's Name:	Liz Chell	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	N/A		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TRM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	16.6
Total Containers:		Corrected Temperature:	16.4

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chloride	Sample Comments
PH01	S	6/27/22	1100	1'	G	1					
PH01A			1110	2'							
PH02			1030	1'							
PH02A			1045	2'							
PH03			1215	1'							
PH03A			1220	2'							

890-2469 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	6/27/22 1525	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2469-1
SDG Number: 03E1558050

Login Number: 2469
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: 890-2469-1
SDG Number: 03E1558050

Login Number: 2469
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/29/22 10:55 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: 890-2884-1
Laboratory Sample Delivery Group: 03E1558050
Client Project/Site: PLU SOUTH FRAC POND

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/15/2022 2:03:19 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 SOUTH FRAC POND

Laboratory Job ID: 890-2884-1
SDG: 03E1558050

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2884-1
Project/Site: PLU SOUTH FRAC POND SDG: 03E1558050

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
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 SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Job ID: 890-2884-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2884-1

Receipt
The samples were received on 9/6/2022 12:05 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 5.4°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-34550/2) and (LCS 880-34407/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2884-A-1-C MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-34014/2-A) and (LCSD 880-34014/3-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-33861 and analytical batch 880-34085 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-33861 and analytical batch 880-34085 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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 SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS01

Date Collected: 09/02/22 11:30
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-1
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		09/13/22 13:45	09/15/22 11:26	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:26	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:26	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/13/22 13:45	09/15/22 11:26	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:26	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/13/22 13:45	09/15/22 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:26*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:26*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:10	09/09/22 02:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 02:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*09/08/22 14:10*	*09/09/22 02:32*	*1*
o-Terphenyl	*93*		*70 - 130*	*09/08/22 14:10*	*09/09/22 02:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**219**		5.03		mg/Kg			09/10/22 03:24	1

Client Sample ID: FS02

Date Collected: 09/02/22 11:35
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-2
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		09/14/22 10:49	09/15/22 03:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 03:30	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 03:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 03:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 03:30	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 03:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*09/14/22 10:49*	*09/15/22 03:30*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS02

Lab Sample ID: 890-2884-2
Matrix: Solid
Date Collected: 09/02/22 11:35
Date Received: 09/06/22 12:05
Sample Depth: 6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*09/14/22 10:49*	*09/15/22 03:30*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:10	09/09/22 02:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/09/22 02:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/09/22 02:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*98*		*70 - 130*	*09/08/22 14:10*	*09/09/22 02:54*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/08/22 14:10*	*09/09/22 02:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**315**		5.01		mg/Kg			09/10/22 03:29	1

Client Sample ID: FS03

Lab Sample ID: 890-2884-3
Matrix: Solid
Date Collected: 09/02/22 11:40
Date Received: 09/06/22 12:05
Sample Depth: 6

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 03:50	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 03:50	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 03:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 03:50	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 03:50	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 03:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*09/14/22 10:49*	*09/15/22 03:50*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*09/14/22 10:49*	*09/15/22 03:50*	*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			09/15/22 10:21	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			09/09/22 10:25	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS03

Date Collected: 09/02/22 11:40
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-3

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		09/08/22 14:10	09/09/22 03:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 03:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 03:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:16*	*1*
o-Terphenyl	*94*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**514**		4.99		mg/Kg			09/10/22 03:34	1

Client Sample ID: FS04

Date Collected: 09/02/22 12:40
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 04:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 04:10	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 04:10	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/14/22 10:49	09/15/22 04:10	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 04:10	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/14/22 10:49	09/15/22 04:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*09/14/22 10:49*	*09/15/22 04:10*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*09/14/22 10:49*	*09/15/22 04:10*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:10	09/09/22 03:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/09/22 03:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/09/22 03:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:37*	*1*
o-Terphenyl	*98*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:37*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS04

Lab Sample ID: 890-2884-4
Matrix: Solid
Date Collected: 09/02/22 12:40
Date Received: 09/06/22 12:05
Sample Depth: 6

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320		4.98		mg/Kg			09/10/22 03:39	1

Client Sample ID: FS05

Lab Sample ID: 890-2884-5
Matrix: Solid
Date Collected: 09/02/22 12:45
Date Received: 09/06/22 12:05
Sample Depth: 6

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 04:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 04:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 04:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 04:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 04:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 04:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*09/14/22 10:49*	*09/15/22 04:31*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*09/14/22 10:49*	*09/15/22 04:31*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:10	09/09/22 03:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 03:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 03:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:59*	*1*
o-Terphenyl	*107*		*70 - 130*	*09/08/22 14:10*	*09/09/22 03:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		4.95		mg/Kg			09/10/22 03:53	1

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS06

Date Collected: 09/02/22 11:55
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-6
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		09/14/22 10:49	09/15/22 04:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/15/22 04:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/15/22 04:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/14/22 10:49	09/15/22 04:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/15/22 04:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/14/22 10:49	09/15/22 04:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*09/14/22 10:49*	*09/15/22 04:51*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*09/14/22 10:49*	*09/15/22 04:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:10	09/09/22 04:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 04:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:10	09/09/22 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*09/08/22 14:10*	*09/09/22 04:20*	*1*
o-Terphenyl	*94*		*70 - 130*	*09/08/22 14:10*	*09/09/22 04:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**362**		5.00		mg/Kg			09/10/22 03:58	1

Client Sample ID: FS07

Date Collected: 09/02/22 12:50
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-7
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		09/14/22 10:49	09/15/22 05:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 05:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 05:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 05:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 05:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:12*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS07

Date Collected: 09/02/22 12:50
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:12*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:13	09/08/22 20:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 20:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*09/08/22 14:13*	*09/08/22 20:14*	*1*
o-Terphenyl	*98*		*70 - 130*	*09/08/22 14:13*	*09/08/22 20:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		4.99		mg/Kg			09/10/22 04:13	1

Client Sample ID: FS08

Date Collected: 09/02/22 12:55
Date Received: 09/06/22 12:05
Sample Depth: 6

Lab Sample ID: 890-2884-8
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		09/14/22 10:49	09/15/22 05:32	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 05:32	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 05:32	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 05:32	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/14/22 10:49	09/15/22 05:32	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/14/22 10:49	09/15/22 05:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:32*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:32*	*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			09/15/22 10:21	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			09/09/22 10:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS08

Lab Sample ID: 890-2884-8
Matrix: Solid
Date Collected: 09/02/22 12:55
Date Received: 09/06/22 12:05
Sample Depth: 6

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		09/08/22 14:13	09/08/22 21:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 21:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 21:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:16*	*1*
o-Terphenyl	*92*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96.2**		4.96		mg/Kg			09/10/22 04:17	1

Client Sample ID: FS09

Lab Sample ID: 890-2884-9
Matrix: Solid
Date Collected: 09/02/22 14:20
Date Received: 09/06/22 12:05
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 05:53	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 05:53	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 05:53	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/14/22 10:49	09/15/22 05:53	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/22 10:49	09/15/22 05:53	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/14/22 10:49	09/15/22 05:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:53*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/14/22 10:49*	*09/15/22 05:53*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:13	09/08/22 21:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 21:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:37*	*1*
o-Terphenyl	*102*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:37*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS09

Lab Sample ID: 890-2884-9
Matrix: Solid
Date Collected: 09/02/22 14:20
Date Received: 09/06/22 12:05
Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260		5.04		mg/Kg			09/10/22 04:22	1

Client Sample ID: FS10

Lab Sample ID: 890-2884-10
Matrix: Solid
Date Collected: 09/02/22 14:25
Date Received: 09/06/22 12:05
Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 06:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 06:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 06:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 06:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/22 10:49	09/15/22 06:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/22 10:49	09/15/22 06:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/14/22 10:49*	*09/15/22 06:13*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*09/14/22 10:49*	*09/15/22 06:13*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:13	09/08/22 21:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 21:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:57*	*1*
o-Terphenyl	*92*		*70 - 130*	*09/08/22 14:13*	*09/08/22 21:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	313		5.05		mg/Kg			09/10/22 04:27	1

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: SW01

Lab Sample ID: 890-2884-11
Matrix: Solid
Date Collected: 09/02/22 14:40
Date Received: 09/06/22 12:05
Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/14/22 10:49	09/15/22 06:33	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/14/22 10:49	09/15/22 06:33	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/14/22 10:49	09/15/22 06:33	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/14/22 10:49	09/15/22 06:33	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/14/22 10:49	09/15/22 06:33	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/14/22 10:49	09/15/22 06:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*09/14/22 10:49*	*09/15/22 06:33*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*09/14/22 10:49*	*09/15/22 06:33*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:13	09/08/22 22:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 22:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*09/08/22 14:13*	*09/08/22 22:18*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/08/22 14:13*	*09/08/22 22:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**166**		4.97		mg/Kg			09/10/22 11:48	1

Client Sample ID: SW04

Lab Sample ID: 890-2884-12
Matrix: Solid
Date Collected: 09/02/22 14:55
Date Received: 09/06/22 12:05
Sample Depth: 0 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:46	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:46	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:46	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/13/22 13:45	09/15/22 11:46	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/13/22 13:45	09/15/22 11:46	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/13/22 13:45	09/15/22 11:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: SW04

Date Collected: 09/02/22 14:55
Date Received: 09/06/22 12:05
Sample Depth: 0 - 2

Lab Sample ID: 890-2884-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:46*	*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			09/15/22 10:21	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			09/09/22 10:25	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		09/08/22 14:13	09/08/22 22:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 22:39	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/08/22 14:13	09/08/22 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*09/08/22 14:13*	*09/08/22 22:39*	*1*
o-Terphenyl	*98*		*70 - 130*	*09/08/22 14:13*	*09/08/22 22:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**229**		5.00		mg/Kg			09/10/22 04:33	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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)
880-19184-A-21-A MS	Matrix Spike	132 S1+	104
880-19184-A-21-B MSD	Matrix Spike Duplicate	150 S1+	101
890-2884-1	FS01	119	80
890-2884-1 MS	FS01	135 S1+	100
890-2884-1 MSD	FS01	115	104
890-2884-2	FS02	112	81
890-2884-3	FS03	116	78
890-2884-4	FS04	114	81
890-2884-5	FS05	135 S1+	71
890-2884-6	FS06	110	65 S1-
890-2884-7	FS07	122	78
890-2884-8	FS08	113	82
890-2884-9	FS09	120	87
890-2884-10	FS10	113	83
890-2884-11	SW01	124	81
890-2884-12	SW04	127	82
LCS 880-34407/1-A	Lab Control Sample	137 S1+	99
LCS 880-34489/1-A	Lab Control Sample	111	107
LCSD 880-34407/2-A	Lab Control Sample Dup	117	105
LCSD 880-34489/2-A	Lab Control Sample Dup	107	107
MB 880-34264/5-A	Method Blank	99	84
MB 880-34407/5-A	Method Blank	97	90
MB 880-34489/5-A	Method Blank	96	84

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2881-A-1-E MS	Matrix Spike	92	83
890-2881-A-1-F MSD	Matrix Spike Duplicate	97	85
890-2884-1	FS01	97	93
890-2884-2	FS02	98	95
890-2884-3	FS03	96	94
890-2884-4	FS04	103	98
890-2884-5	FS05	112	107
890-2884-6	FS06	100	94
890-2884-7	FS07	93	98
890-2884-7 MS	FS07	90	85
890-2884-7 MSD	FS07	90	84
890-2884-8	FS08	90	92
890-2884-9	FS09	98	102
890-2884-10	FS10	88	92
890-2884-11	SW01	88	91
890-2884-12	SW04	93	98

Surrogate Summary

Client: Ensolum Job ID: 890-2884-1
Project/Site: PLU SOUTH FRAC POND SDG: 03E1558050

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
LCS 880-34014/2-A	Lab Control Sample	147 S1+	131 S1+								
LCS 880-34017/2-A	Lab Control Sample	101	115								
LCSD 880-34014/3-A	Lab Control Sample Dup	152 S1+	139 S1+								
LCSD 880-34017/3-A	Lab Control Sample Dup	99	111								
MB 880-34014/1-A	Method Blank	107	103								
MB 880-34017/1-A	Method Blank	91	96								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34264/5-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34264

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/12/22 10:19	09/14/22 11:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*09/12/22 10:19*	*09/14/22 11:54*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*09/12/22 10:19*	*09/14/22 11:54*	*1*

Lab Sample ID: MB 880-34407/5-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34407

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/22 13:45	09/15/22 11:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:04*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:04*	*1*

Lab Sample ID: LCS 880-34407/1-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08219		mg/Kg		82	70 - 130		
Toluene			0.100	0.08712		mg/Kg		87	70 - 130		
Ethylbenzene			0.100	0.09973		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2205		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1268		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-34407/2-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	18	35

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: LCSD 880-34407/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34550 — **Prep Batch: 34407**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09118		mg/Kg		91	70 - 130	5	35
Ethylbenzene			0.100	0.09852		mg/Kg		99	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2005		mg/Kg		100	70 - 130	9	35
o-Xylene			0.100	0.1158		mg/Kg		116	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-2884-1 MS — **Client Sample ID: FS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34550 — **Prep Batch: 34407**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.08237		mg/Kg		83	70 - 130
Toluene	<0.00201	U	0.0998	0.08496		mg/Kg		85	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.09708		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2077		mg/Kg		104	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1183		mg/Kg		119	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2884-1 MSD — **Client Sample ID: FS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34550 — **Prep Batch: 34407**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.101	0.08520		mg/Kg		85	70 - 130	3	35
Toluene	<0.00201	U	0.101	0.07851		mg/Kg		78	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.101	0.08300		mg/Kg		83	70 - 130	16	35
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1705		mg/Kg		85	70 - 130	20	35
o-Xylene	<0.00201	U	0.101	0.09629		mg/Kg		96	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-34489/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34441 — **Prep Batch: 34489**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/14/22 22:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/14/22 22:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/14/22 22:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/14/22 10:49	09/14/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: MB 880-34489/5-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34489

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/14/22 10:49	09/14/22 22:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/14/22 10:49	09/14/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/14/22 10:49*	*09/14/22 22:42*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*09/14/22 10:49*	*09/14/22 22:42*	*1*

Lab Sample ID: LCS 880-34489/1-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34489

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09031		mg/Kg		90	70 - 130		
Toluene			0.100	0.08076		mg/Kg		81	70 - 130		
Ethylbenzene			0.100	0.08445		mg/Kg		84	70 - 130		
m-Xylene & p-Xylene			0.200	0.1698		mg/Kg		85	70 - 130		
o-Xylene			0.100	0.1007		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-34489/2-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34489

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09989		mg/Kg		100	70 - 130	10	35
Toluene			0.100	0.08919		mg/Kg		89	70 - 130	10	35
Ethylbenzene			0.100	0.09056		mg/Kg		91	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1841		mg/Kg		92	70 - 130	8	35
o-Xylene			0.100	0.1078		mg/Kg		108	70 - 130	7	35

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

Lab Sample ID: 880-19184-A-21-A MS
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34489

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00245	U	0.101	0.08926		mg/Kg		89	70 - 130		
Toluene	<0.00245	U	0.101	0.08937		mg/Kg		89	70 - 130		
Ethylbenzene	<0.00245	U	0.101	0.09928		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene	<0.00490	U	0.202	0.2115		mg/Kg		105	70 - 130		
o-Xylene	<0.00245	U F1	0.101	0.1242		mg/Kg		123	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: 880-19184-A-21-A MS
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34489

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

Lab Sample ID: 880-19184-A-21-B MSD
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34489

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00245	U	0.0996	0.08379		mg/Kg		84	70 - 130	6	35
Toluene	<0.00245	U	0.0996	0.08471		mg/Kg		85	70 - 130	5	35
Ethylbenzene	<0.00245	U	0.0996	0.1057		mg/Kg		106	70 - 130	6	35
m-Xylene & p-Xylene	<0.00490	U	0.199	0.2222		mg/Kg		112	70 - 130	5	35
o-Xylene	<0.00245	U F1	0.0996	0.1302	F1	mg/Kg		131	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*150*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-34014/1-A
Matrix: Solid
Analysis Batch: 33968

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34014

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/08/22 19:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/08/22 19:23	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:10	09/08/22 19:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*107*		*70 - 130*	*09/08/22 14:10*	*09/08/22 19:23*	*1*
o-Terphenyl	*103*		*70 - 130*	*09/08/22 14:10*	*09/08/22 19:23*	*1*

Lab Sample ID: LCS 880-34014/2-A
Matrix: Solid
Analysis Batch: 33968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34014

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1026		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	992.0		mg/Kg		99	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*131*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: LCSD 880-34014/3-A
Matrix: Solid
Analysis Batch: 33968

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34014

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1032		mg/Kg		103	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1050		mg/Kg		105	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*152*	*S1+*	*70 - 130*
o-Terphenyl	*139*	*S1+*	*70 - 130*

Lab Sample ID: 890-2881-A-1-E MS
Matrix: Solid
Analysis Batch: 33968

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34014

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	999	829.5		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	942.6		mg/Kg		92	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 890-2881-A-1-F MSD
Matrix: Solid
Analysis Batch: 33968

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34014

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	996	841.1		mg/Kg		84	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	996	978.1		mg/Kg		96	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: MB 880-34017/1-A
Matrix: Solid
Analysis Batch: 33972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34017

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 19:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 19:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/08/22 14:13	09/08/22 19:13	1

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: MB 880-34017/1-A
Matrix: Solid
Analysis Batch: 33972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34017

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	09/08/22 14:13	09/08/22 19:13	1
o-Terphenyl	96		70 - 130	09/08/22 14:13	09/08/22 19:13	1

Lab Sample ID: LCS 880-34017/2-A
Matrix: Solid
Analysis Batch: 33972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34017

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	906.3		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	970.0		mg/Kg		97	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	115		70 - 130

Lab Sample ID: LCSD 880-34017/3-A
Matrix: Solid
Analysis Batch: 33972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34017

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	978.3		mg/Kg		98	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	940.4		mg/Kg		94	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: 890-2884-7 MS
Matrix: Solid
Analysis Batch: 33972

Client Sample ID: FS07
Prep Type: Total/NA
Prep Batch: 34017

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	1119		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	736.3		mg/Kg		74	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	85		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Lab Sample ID: 890-2884-7 MSD — **Client Sample ID: FS07**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33972 — **Prep Batch: 34017**

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	996	1124		mg/Kg		111	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	731.1		mg/Kg		73	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33861/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34085

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/10/22 02:38	1

Lab Sample ID: LCS 880-33861/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34085

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.5		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-33861/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34085

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.6		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-2884-4 MS — **Client Sample ID: FS04**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34085

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1320		249	1533	E 4	mg/Kg		84	90 - 110		

Lab Sample ID: 890-2884-4 MSD — **Client Sample ID: FS04**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34085

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1320		249	1545	E 4	mg/Kg		89	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

GC VOA

Prep Batch: 34264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34264/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 34407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	5035	
890-2884-12	SW04	Total/NA	Solid	5035	
MB 880-34407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2884-1 MS	FS01	Total/NA	Solid	5035	
890-2884-1 MSD	FS01	Total/NA	Solid	5035	

Analysis Batch: 34441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-2	FS02	Total/NA	Solid	8021B	34489
890-2884-3	FS03	Total/NA	Solid	8021B	34489
890-2884-4	FS04	Total/NA	Solid	8021B	34489
890-2884-5	FS05	Total/NA	Solid	8021B	34489
890-2884-6	FS06	Total/NA	Solid	8021B	34489
890-2884-7	FS07	Total/NA	Solid	8021B	34489
890-2884-8	FS08	Total/NA	Solid	8021B	34489
890-2884-9	FS09	Total/NA	Solid	8021B	34489
890-2884-10	FS10	Total/NA	Solid	8021B	34489
890-2884-11	SW01	Total/NA	Solid	8021B	34489
MB 880-34264/5-A	Method Blank	Total/NA	Solid	8021B	34264
MB 880-34489/5-A	Method Blank	Total/NA	Solid	8021B	34489
LCS 880-34489/1-A	Lab Control Sample	Total/NA	Solid	8021B	34489
LCSD 880-34489/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34489
880-19184-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	34489
880-19184-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34489

Prep Batch: 34489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-2	FS02	Total/NA	Solid	5035	
890-2884-3	FS03	Total/NA	Solid	5035	
890-2884-4	FS04	Total/NA	Solid	5035	
890-2884-5	FS05	Total/NA	Solid	5035	
890-2884-6	FS06	Total/NA	Solid	5035	
890-2884-7	FS07	Total/NA	Solid	5035	
890-2884-8	FS08	Total/NA	Solid	5035	
890-2884-9	FS09	Total/NA	Solid	5035	
890-2884-10	FS10	Total/NA	Solid	5035	
890-2884-11	SW01	Total/NA	Solid	5035	
MB 880-34489/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34489/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34489/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19184-A-21-A MS	Matrix Spike	Total/NA	Solid	5035	
880-19184-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

GC VOA

Analysis Batch: 34550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	8021B	34407
890-2884-12	SW04	Total/NA	Solid	8021B	34407
MB 880-34407/5-A	Method Blank	Total/NA	Solid	8021B	34407
LCS 880-34407/1-A	Lab Control Sample	Total/NA	Solid	8021B	34407
LCSD 880-34407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34407
890-2884-1 MS	FS01	Total/NA	Solid	8021B	34407
890-2884-1 MSD	FS01	Total/NA	Solid	8021B	34407

Analysis Batch: 34570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	Total BTEX	
890-2884-2	FS02	Total/NA	Solid	Total BTEX	
890-2884-3	FS03	Total/NA	Solid	Total BTEX	
890-2884-4	FS04	Total/NA	Solid	Total BTEX	
890-2884-5	FS05	Total/NA	Solid	Total BTEX	
890-2884-6	FS06	Total/NA	Solid	Total BTEX	
890-2884-7	FS07	Total/NA	Solid	Total BTEX	
890-2884-8	FS08	Total/NA	Solid	Total BTEX	
890-2884-9	FS09	Total/NA	Solid	Total BTEX	
890-2884-10	FS10	Total/NA	Solid	Total BTEX	
890-2884-11	SW01	Total/NA	Solid	Total BTEX	
890-2884-12	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 33968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	8015B NM	34014
890-2884-2	FS02	Total/NA	Solid	8015B NM	34014
890-2884-3	FS03	Total/NA	Solid	8015B NM	34014
890-2884-4	FS04	Total/NA	Solid	8015B NM	34014
890-2884-5	FS05	Total/NA	Solid	8015B NM	34014
890-2884-6	FS06	Total/NA	Solid	8015B NM	34014
MB 880-34014/1-A	Method Blank	Total/NA	Solid	8015B NM	34014
LCS 880-34014/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34014
LCSD 880-34014/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34014
890-2881-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	34014
890-2881-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34014

Analysis Batch: 33972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-7	FS07	Total/NA	Solid	8015B NM	34017
890-2884-8	FS08	Total/NA	Solid	8015B NM	34017
890-2884-9	FS09	Total/NA	Solid	8015B NM	34017
890-2884-10	FS10	Total/NA	Solid	8015B NM	34017
890-2884-11	SW01	Total/NA	Solid	8015B NM	34017
890-2884-12	SW04	Total/NA	Solid	8015B NM	34017
MB 880-34017/1-A	Method Blank	Total/NA	Solid	8015B NM	34017
LCS 880-34017/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34017
LCSD 880-34017/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34017
890-2884-7 MS	FS07	Total/NA	Solid	8015B NM	34017

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

GC Semi VOA (Continued)

Analysis Batch: 33972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-7 MSD	FS07	Total/NA	Solid	8015B NM	34017

Prep Batch: 34014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	8015NM Prep	
890-2884-2	FS02	Total/NA	Solid	8015NM Prep	
890-2884-3	FS03	Total/NA	Solid	8015NM Prep	
890-2884-4	FS04	Total/NA	Solid	8015NM Prep	
890-2884-5	FS05	Total/NA	Solid	8015NM Prep	
890-2884-6	FS06	Total/NA	Solid	8015NM Prep	
MB 880-34014/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34014/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34014/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2881-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2881-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 34017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-7	FS07	Total/NA	Solid	8015NM Prep	
890-2884-8	FS08	Total/NA	Solid	8015NM Prep	
890-2884-9	FS09	Total/NA	Solid	8015NM Prep	
890-2884-10	FS10	Total/NA	Solid	8015NM Prep	
890-2884-11	SW01	Total/NA	Solid	8015NM Prep	
890-2884-12	SW04	Total/NA	Solid	8015NM Prep	
MB 880-34017/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34017/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34017/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2884-7 MS	FS07	Total/NA	Solid	8015NM Prep	
890-2884-7 MSD	FS07	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Total/NA	Solid	8015 NM	
890-2884-2	FS02	Total/NA	Solid	8015 NM	
890-2884-3	FS03	Total/NA	Solid	8015 NM	
890-2884-4	FS04	Total/NA	Solid	8015 NM	
890-2884-5	FS05	Total/NA	Solid	8015 NM	
890-2884-6	FS06	Total/NA	Solid	8015 NM	
890-2884-7	FS07	Total/NA	Solid	8015 NM	
890-2884-8	FS08	Total/NA	Solid	8015 NM	
890-2884-9	FS09	Total/NA	Solid	8015 NM	
890-2884-10	FS10	Total/NA	Solid	8015 NM	
890-2884-11	SW01	Total/NA	Solid	8015 NM	
890-2884-12	SW04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 33861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Soluble	Solid	DI Leach	
890-2884-2	FS02	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

HPLC/IC (Continued)

Leach Batch: 33861 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-3	FS03	Soluble	Solid	DI Leach	
890-2884-4	FS04	Soluble	Solid	DI Leach	
890-2884-5	FS05	Soluble	Solid	DI Leach	
890-2884-6	FS06	Soluble	Solid	DI Leach	
890-2884-7	FS07	Soluble	Solid	DI Leach	
890-2884-8	FS08	Soluble	Solid	DI Leach	
890-2884-9	FS09	Soluble	Solid	DI Leach	
890-2884-10	FS10	Soluble	Solid	DI Leach	
890-2884-11	SW01	Soluble	Solid	DI Leach	
890-2884-12	SW04	Soluble	Solid	DI Leach	
MB 880-33861/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33861/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33861/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2884-4 MS	FS04	Soluble	Solid	DI Leach	
890-2884-4 MSD	FS04	Soluble	Solid	DI Leach	

Analysis Batch: 34085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2884-1	FS01	Soluble	Solid	300.0	33861
890-2884-2	FS02	Soluble	Solid	300.0	33861
890-2884-3	FS03	Soluble	Solid	300.0	33861
890-2884-4	FS04	Soluble	Solid	300.0	33861
890-2884-5	FS05	Soluble	Solid	300.0	33861
890-2884-6	FS06	Soluble	Solid	300.0	33861
890-2884-7	FS07	Soluble	Solid	300.0	33861
890-2884-8	FS08	Soluble	Solid	300.0	33861
890-2884-9	FS09	Soluble	Solid	300.0	33861
890-2884-10	FS10	Soluble	Solid	300.0	33861
890-2884-11	SW01	Soluble	Solid	300.0	33861
890-2884-12	SW04	Soluble	Solid	300.0	33861
MB 880-33861/1-A	Method Blank	Soluble	Solid	300.0	33861
LCS 880-33861/2-A	Lab Control Sample	Soluble	Solid	300.0	33861
LCSD 880-33861/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33861
890-2884-4 MS	FS04	Soluble	Solid	300.0	33861
890-2884-4 MSD	FS04	Soluble	Solid	300.0	33861

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS01
Date Collected: 09/02/22 11:30
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-1
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	34407	09/13/22 13:45	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34550	09/15/22 11:26	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 02:32	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:24	CH	EET MID

Client Sample ID: FS02
Date Collected: 09/02/22 11:35
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-2
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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 03:30	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 02:54	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:29	CH	EET MID

Client Sample ID: FS03
Date Collected: 09/02/22 11:40
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-3
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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 03:50	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 03:16	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:34	CH	EET MID

Client Sample ID: FS04
Date Collected: 09/02/22 12:40
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 04:10	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS04

Date Collected: 09/02/22 12:40
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 03:37	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:39	CH	EET MID

Client Sample ID: FS05

Date Collected: 09/02/22 12:45
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 04:31	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 03:59	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:53	CH	EET MID

Client Sample ID: FS06

Date Collected: 09/02/22 11:55
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 04:51	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34014	09/08/22 14:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33968	09/09/22 04:20	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 03:58	CH	EET MID

Client Sample ID: FS07

Date Collected: 09/02/22 12:50
Date Received: 09/06/22 12:05

Lab Sample ID: 890-2884-7
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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 05:12	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 20:14	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: FS07

Lab Sample ID: 890-2884-7
Matrix: Solid
Date Collected: 09/02/22 12:50
Date Received: 09/06/22 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 04:13	CH	EET MID

Client Sample ID: FS08

Lab Sample ID: 890-2884-8
Matrix: Solid
Date Collected: 09/02/22 12:55
Date Received: 09/06/22 12:05

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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 05:32	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 21:16	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 04:17	CH	EET MID

Client Sample ID: FS09

Lab Sample ID: 890-2884-9
Matrix: Solid
Date Collected: 09/02/22 14:20
Date Received: 09/06/22 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 05:53	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 21:37	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 04:22	CH	EET MID

Client Sample ID: FS10

Lab Sample ID: 890-2884-10
Matrix: Solid
Date Collected: 09/02/22 14:25
Date Received: 09/06/22 12:05

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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 06:13	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 21:57	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 04:27	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Client Sample ID: SW01

Lab Sample ID: 890-2884-11

Date Collected: 09/02/22 14:40
Matrix: Solid
Date Received: 09/06/22 12:05

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	34489	09/14/22 10:49	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/15/22 06:33	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 22:18	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 11:48	CH	EET MID

Client Sample ID: SW04

Lab Sample ID: 890-2884-12

Date Collected: 09/02/22 14:55
Matrix: Solid
Date Received: 09/06/22 12:05

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	34407	09/13/22 13:45	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34550	09/15/22 11:46	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34570	09/15/22 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34077	09/09/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34017	09/08/22 14:13	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33972	09/08/22 22:39	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33861	09/06/22 16:01	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34085	09/10/22 04:33	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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 SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU SOUTH FRAC POND

Job ID: 890-2884-1
SDG: 03E1558050

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2884-1	FS01	Solid	09/02/22 11:30	09/06/22 12:05	6
890-2884-2	FS02	Solid	09/02/22 11:35	09/06/22 12:05	6
890-2884-3	FS03	Solid	09/02/22 11:40	09/06/22 12:05	6
890-2884-4	FS04	Solid	09/02/22 12:40	09/06/22 12:05	6
890-2884-5	FS05	Solid	09/02/22 12:45	09/06/22 12:05	6
890-2884-6	FS06	Solid	09/02/22 11:55	09/06/22 12:05	6
890-2884-7	FS07	Solid	09/02/22 12:50	09/06/22 12:05	6
890-2884-8	FS08	Solid	09/02/22 12:55	09/06/22 12:05	6
890-2884-9	FS09	Solid	09/02/22 14:20	09/06/22 12:05	1
890-2884-10	FS10	Solid	09/02/22 14:25	09/06/22 12:05	1.5
890-2884-11	SW01	Solid	09/02/22 14:40	09/06/22 12:05	0 - 2
890-2884-12	SW04	Solid	09/02/22 14:55	09/06/22 12:05	0 - 2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc
Address:	3122 Nat'l Parks Highway	Address:	3104 E. Green St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	PLU South Frac Pond	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558050	Due Date:	
Project Location:	32.09731, -103.86683	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Meredith Roberts		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TVM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.6	
Total Containers:		Corrected Temperature:	5.4	

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	BTEX	TPH	Chloride	Sample Comments
FS01	S	9/2/22	1130	6"	C	1		X	X	X	Incident #: nAPP2211500688
FS02	S	9/2/22	1135	6"	C	1					
FS03	S	9/2/22	1140	6"	C	1					
FS04	S	9/2/22	1240	6"	C	1					AFE:
FS05	S	9/2/22	1245	6"	C	1					DD.2017.02396.CAP.CMP.01
FS06	S	9/2/22	1155	6"	C	1					DD 2017.02385.CAP.CMP.01
FS07	S	9/2/22	1250	6"	C	1					DD.2017.02386.CAP.CMP.01
FS08	S	9/2/22	1255	6"	C	1					DD.2017.02364.CAP.CMP.01
FS09	S	9/2/22	1420	1'	C	1					DD.2017.02372CAP.CMP.01
FS10	S	9/2/22	1425	1.5'	C	1					

890-2884 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 Meredith	Clue Up	9.6.22 1205			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc
Address:	3122 Nat'l Parks Highway	Address:	3104 E. Green St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	PLU South Frac Pond	Turn Around	
Project Number:	03E1558050	☑ Routine ☐ Rush	
Project Location:	32.09739, -103.86683	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

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	BTEX	TPH	Chloride	Sample Comments
SW01	S	9/2/22	1440	0-2'	C	1		X	X	X	Incident #: nAPP2211150068
SW04	S	9/2/22	1455	0-2'	C	1		X	X	X	AFE: DD.2017.02396.CAP.CMP.01 DD.2017.02385.CAP.CMP.01 DD.2017.02386.CAP.CMP.01 DD.2017.02364.CAP.CMP.01 DD.2017.02372.CAP.CMP.01

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9.6.22 1205	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2884-1
SDG Number: 03E1558050

Login Number: 2884
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: 890-2884-1
SDG Number: 03E1558050

Login Number: 2884
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/07/22 11:42 AM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2915-1
Laboratory Sample Delivery Group: 03E1558050
Client Project/Site: PLU South Frac Pond

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/22/2022 9:08:15 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 South Frac Pond

Laboratory Job ID: 890-2915-1
SDG: 03E1558050

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
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.

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 South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Job ID: 890-2915-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2915-1

Receipt
The samples were received on 9/9/2022 9:22 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 1.2°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: Surrogate recovery for the following sample was outside control limits: (LCS 880-34181/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-34181 and analytical batch 880-34171 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34181 and analytical batch 880-34171 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: FS11

Lab Sample ID: 890-2915-1
Matrix: Solid
Date Collected: 09/08/22 14:10
Date Received: 09/09/22 09:22
Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/21/22 21:02	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/21/22 21:02	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/21/22 21:02	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/19/22 14:33	09/21/22 21:02	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/21/22 21:02	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/19/22 14:33	09/21/22 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:02*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:02*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.4**		49.9		mg/Kg			09/13/22 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		09/12/22 08:48	09/12/22 15:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/12/22 08:48	09/12/22 15:40	1
Oil Range Organics (Over C28-C36)	**52.4**		49.9		mg/Kg		09/12/22 08:48	09/12/22 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*09/12/22 08:48*	*09/12/22 15:40*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/12/22 08:48*	*09/12/22 15:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**297**		5.00		mg/Kg			09/14/22 16:24	1

Client Sample ID: FS12

Lab Sample ID: 890-2915-2
Matrix: Solid
Date Collected: 09/08/22 14:15
Date Received: 09/09/22 09:22
Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/21/22 21:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/21/22 21:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/21/22 21:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/19/22 14:33	09/21/22 21:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/21/22 21:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/19/22 14:33	09/21/22 21:22	1

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: FS12

Date Collected: 09/08/22 14:15
Date Received: 09/09/22 09:22
Sample Depth: 3

Lab Sample ID: 890-2915-2
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:22*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/13/22 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		09/12/22 08:48	09/12/22 16:02	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/12/22 08:48	09/12/22 16:02	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/12/22 08:48	09/12/22 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*09/12/22 08:48*	*09/12/22 16:02*	*1*
o-Terphenyl	*96*		*70 - 130*	*09/12/22 08:48*	*09/12/22 16:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**83.8**		4.99		mg/Kg			09/14/22 16:28	1

Client Sample ID: SW02

Date Collected: 09/08/22 14:20
Date Received: 09/09/22 09:22
Sample Depth: 0 - 3

Lab Sample ID: 890-2915-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/19/22 14:33	09/21/22 21:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/19/22 14:33	09/21/22 21:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/19/22 14:33	09/21/22 21:43	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/19/22 14:33	09/21/22 21:43	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/19/22 14:33	09/21/22 21:43	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/19/22 14:33	09/21/22 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:43*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/19/22 14:33*	*09/21/22 21:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/13/22 10:25	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: SW02

Lab Sample ID: 890-2915-3
Matrix: Solid
Date Collected: 09/08/22 14:20
Date Received: 09/09/22 09:22
Sample Depth: 0 - 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		09/12/22 08:48	09/12/22 16:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/12/22 08:48	09/12/22 16:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/12/22 08:48	09/12/22 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*09/12/22 08:48*	*09/12/22 16:45*	*1*
o-Terphenyl	*96*		*70 - 130*	*09/12/22 08:48*	*09/12/22 16:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**315**		4.97		mg/Kg			09/14/22 16:33	1

Client Sample ID: SW03

Lab Sample ID: 890-2915-4
Matrix: Solid
Date Collected: 09/08/22 14:25
Date Received: 09/09/22 09:22
Sample Depth: 0 - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/21/22 22:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/21/22 22:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/21/22 22:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/19/22 14:33	09/21/22 22:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/21/22 22:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/19/22 14:33	09/21/22 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/19/22 14:33*	*09/21/22 22:03*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/19/22 14:33*	*09/21/22 22:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/13/22 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		09/12/22 08:48	09/12/22 17:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/12/22 08:48	09/12/22 17:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/12/22 08:48	09/12/22 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*09/12/22 08:48*	*09/12/22 17:06*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/12/22 08:48*	*09/12/22 17:06*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: SW03
Date Collected: 09/08/22 14:25
Date Received: 09/09/22 09:22
Sample Depth: 0 - 3

Lab Sample ID: 890-2915-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		5.03		mg/Kg			09/14/22 16:38	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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)
890-2915-1	FS11	106	88
890-2915-1 MS	FS11	115	109
890-2915-1 MSD	FS11	117	102
890-2915-2	FS12	104	83
890-2915-3	SW02	115	95
890-2915-4	SW03	113	90
LCS 880-34851/1-A	Lab Control Sample	114	106
LCSD 880-34851/2-A	Lab Control Sample Dup	115	108
MB 880-34851/5-A	Method Blank	88	77
MB 880-34941/5-A	Method Blank	100	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2907-A-1-C MS	Matrix Spike	98	93
890-2907-A-1-D MSD	Matrix Spike Duplicate	99	93
890-2915-1	FS11	93	95
890-2915-2	FS12	95	96
890-2915-3	SW02	95	96
890-2915-4	SW03	93	95
LCS 880-34181/2-A	Lab Control Sample	144 S1+	151 S1+
LCSD 880-34181/3-A	Lab Control Sample Dup	122	130
MB 880-34181/1-A	Method Blank	105	109

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34851/5-A
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/19/22 14:33*	*09/21/22 20:40*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*09/19/22 14:33*	*09/21/22 20:40*	*1*

Lab Sample ID: LCS 880-34851/1-A
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09662		mg/Kg		97	70 - 130		
Toluene			0.100	0.08888		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.09395		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1964		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.1106		mg/Kg		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-34851/2-A
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34851

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09096		mg/Kg		91	70 - 130	6	35
Toluene			0.100	0.08531		mg/Kg		85	70 - 130	4	35
Ethylbenzene			0.100	0.08835		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1845		mg/Kg		92	70 - 130	6	35
o-Xylene			0.100	0.1080		mg/Kg		108	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-2915-1 MS
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.09155		mg/Kg		91	70 - 130		
Toluene	<0.00202	U	0.101	0.08263		mg/Kg		82	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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

Lab Sample ID: 890-2915-1 MS
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.08658		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1775		mg/Kg		88	70 - 130
o-Xylene	<0.00202	U	0.101	0.1042		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-2915-1 MSD
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: FS11
Prep Type: Total/NA
Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.08776		mg/Kg		88	70 - 130	4	35
Toluene	<0.00202	U	0.0996	0.08175		mg/Kg		82	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0996	0.08872		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1777		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00202	U	0.0996	0.1037		mg/Kg		104	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-34941/5-A
Matrix: Solid
Analysis Batch: 35013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34941

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/20/22 12:51*	*09/21/22 10:04*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/20/22 12:51*	*09/21/22 10:04*	*1*

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

Lab Sample ID: MB 880-34181/1-A
Matrix: Solid
Analysis Batch: 34171

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34181

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/12/22 08:48	09/12/22 10:56	1

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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

Lab Sample ID: MB 880-34181/1-A
Matrix: Solid
Analysis Batch: 34171

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34181

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/12/22 08:48	09/12/22 10:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/12/22 08:48	09/12/22 10:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/12/22 08:48*	*09/12/22 10:56*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/12/22 08:48*	*09/12/22 10:56*	*1*

Lab Sample ID: LCS 880-34181/2-A
Matrix: Solid
Analysis Batch: 34171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	984.6		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1000		mg/Kg		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*144*	*S1+*	*70 - 130*
o-Terphenyl	*151*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-34181/3-A
Matrix: Solid
Analysis Batch: 34171

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	765.3	*1	mg/Kg		77	70 - 130	25	20
Diesel Range Organics (Over C10-C28)	1000	859.3		mg/Kg		86	70 - 130	15	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*122*		*70 - 130*
o-Terphenyl	*130*		*70 - 130*

Lab Sample ID: 890-2907-A-1-C MS
Matrix: Solid
Analysis Batch: 34171

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34181

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 *1	998	611.1	F1	mg/Kg		59	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	859.4		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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

Lab Sample ID: 890-2907-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34171 — **Prep Batch: 34181**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 *1	995	585.4	F1	mg/Kg		57	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.8	U	995	865.7		mg/Kg		84	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34286/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 14:13	1

Lab Sample ID: LCS 880-34286/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	237.4		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-34286/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34491

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	238.4		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 880-19056-A-8-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	161		250	402.5		mg/Kg		97	90 - 110

Lab Sample ID: 880-19056-A-8-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	161		250	404.8		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

GC VOA

Prep Batch: 34851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	5035	
890-2915-2	FS12	Total/NA	Solid	5035	
890-2915-3	SW02	Total/NA	Solid	5035	
890-2915-4	SW03	Total/NA	Solid	5035	
MB 880-34851/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2915-1 MS	FS11	Total/NA	Solid	5035	
890-2915-1 MSD	FS11	Total/NA	Solid	5035	

Prep Batch: 34941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34941/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 35013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	8021B	34851
890-2915-2	FS12	Total/NA	Solid	8021B	34851
890-2915-3	SW02	Total/NA	Solid	8021B	34851
890-2915-4	SW03	Total/NA	Solid	8021B	34851
MB 880-34851/5-A	Method Blank	Total/NA	Solid	8021B	34851
MB 880-34941/5-A	Method Blank	Total/NA	Solid	8021B	34941
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	8021B	34851
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34851
890-2915-1 MS	FS11	Total/NA	Solid	8021B	34851
890-2915-1 MSD	FS11	Total/NA	Solid	8021B	34851

Analysis Batch: 35140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	Total BTEX	
890-2915-2	FS12	Total/NA	Solid	Total BTEX	
890-2915-3	SW02	Total/NA	Solid	Total BTEX	
890-2915-4	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	8015B NM	34181
890-2915-2	FS12	Total/NA	Solid	8015B NM	34181
890-2915-3	SW02	Total/NA	Solid	8015B NM	34181
890-2915-4	SW03	Total/NA	Solid	8015B NM	34181
MB 880-34181/1-A	Method Blank	Total/NA	Solid	8015B NM	34181
LCS 880-34181/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34181
LCSD 880-34181/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34181
890-2907-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	34181
890-2907-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34181

Prep Batch: 34181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

GC Semi VOA (Continued)

Prep Batch: 34181 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-2	FS12	Total/NA	Solid	8015NM Prep	
890-2915-3	SW02	Total/NA	Solid	8015NM Prep	
890-2915-4	SW03	Total/NA	Solid	8015NM Prep	
MB 880-34181/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34181/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34181/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2907-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2907-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Total/NA	Solid	8015 NM	
890-2915-2	FS12	Total/NA	Solid	8015 NM	
890-2915-3	SW02	Total/NA	Solid	8015 NM	
890-2915-4	SW03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Soluble	Solid	DI Leach	
890-2915-2	FS12	Soluble	Solid	DI Leach	
890-2915-3	SW02	Soluble	Solid	DI Leach	
890-2915-4	SW03	Soluble	Solid	DI Leach	
MB 880-34286/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34286/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34286/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19056-A-8-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19056-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2915-1	FS11	Soluble	Solid	300.0	34286
890-2915-2	FS12	Soluble	Solid	300.0	34286
890-2915-3	SW02	Soluble	Solid	300.0	34286
890-2915-4	SW03	Soluble	Solid	300.0	34286
MB 880-34286/1-A	Method Blank	Soluble	Solid	300.0	34286
LCS 880-34286/2-A	Lab Control Sample	Soluble	Solid	300.0	34286
LCSD 880-34286/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34286
880-19056-A-8-D MS	Matrix Spike	Soluble	Solid	300.0	34286
880-19056-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34286

Lab Chronicle

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: FS11

Lab Sample ID: 890-2915-1
Matrix: Solid
Date Collected: 09/08/22 14:10
Date Received: 09/09/22 09:22

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	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/21/22 21:02	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35140	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34381	09/13/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34181	09/12/22 08:48	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34171	09/12/22 15:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34286	09/12/22 11:45	KS	EET MID
Soluble	Analysis	300.0		1			34491	09/14/22 16:24	CH	EET MID

Client Sample ID: FS12

Lab Sample ID: 890-2915-2
Matrix: Solid
Date Collected: 09/08/22 14:15
Date Received: 09/09/22 09:22

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	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/21/22 21:22	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35140	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34381	09/13/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	34181	09/12/22 08:48	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34171	09/12/22 16:02	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34286	09/12/22 11:45	KS	EET MID
Soluble	Analysis	300.0		1			34491	09/14/22 16:28	CH	EET MID

Client Sample ID: SW02

Lab Sample ID: 890-2915-3
Matrix: Solid
Date Collected: 09/08/22 14:20
Date Received: 09/09/22 09:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/21/22 21:43	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35140	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34381	09/13/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34181	09/12/22 08:48	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34171	09/12/22 16:45	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34286	09/12/22 11:45	KS	EET MID
Soluble	Analysis	300.0		1			34491	09/14/22 16:33	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-2915-4
Matrix: Solid
Date Collected: 09/08/22 14:25
Date Received: 09/09/22 09:22

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	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/21/22 22:03	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35140	09/22/22 09:55	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Client Sample ID: SW03

Date Collected: 09/08/22 14:25
Date Received: 09/09/22 09:22

Lab Sample ID: 890-2915-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			34381	09/13/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34181	09/12/22 08:48	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34171	09/12/22 17:06	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	34286	09/12/22 11:45	KS	EET MID
Soluble	Analysis	300.0		1			34491	09/14/22 16:38	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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 South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU South Frac Pond

Job ID: 890-2915-1
SDG: 03E1558050

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2915-1	FS11	Solid	09/08/22 14:10	09/09/22 09:22	3
890-2915-2	FS12	Solid	09/08/22 14:15	09/09/22 09:22	3
890-2915-3	SW02	Solid	09/08/22 14:20	09/09/22 09:22	0 - 3
890-2915-4	SW03	Solid	09/08/22 14:25	09/09/22 09:22	0 - 3

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: ____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	PLU South Fresh Rd
Project Number:	03E1558050
Project Location:	32.09739, -103.8668
Sampler's Name:	Meredith Roberts
PO #:	

Turn Around: ☑ Routine ☐ Rush
Due Date:
TAT starts the day received by the lab, if received by 4:30pm

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TMW007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.4
Total Containers:		Corrected Temperature:	1.2

ANALYSIS REQUEST

890-2915 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	Chlorides
FS11	S	9/8/22	1410	3'	C	1	X	X	X
FS12	S	9/8/22	1415	3'	C	1	X	X	X
SW02	S	9/8/22	1420	0-3'	C	1	X	X	X
SW03	S	9/8/22	1425	0-3'	C	1	X	X	X

MR

Preservative Codes

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

Sample Comments

Incident #:
nAPP2211150068

AFE:
DD.2017.02396.CAP.CMP.01
DD.2017.02385.CAP.CMP.01
DD.2017.02386.CAP.CMP.01
DD.2017.02364.CAP.CMP.01
DD.2017.02372.CAP.CMP.01

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	9.9.22 9:22	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2915-1
SDG Number: 03E1558050

Login Number: 2915
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: 890-2915-1
SDG Number: 03E1558050

Login Number: 2915
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/12/22 09:08 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Green, Garrett J
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us; Hamlet, Robert, EMNRD
Cc: Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 8/29/22 - 9/2/22)
Date: Friday, August 26, 2022 3:15:37 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of August 29, 2022.

Monday
- Brushy Draw West 25 / nAPP2216138431
- Big Sinks 2-24-30 / nAPP2219644709 & nAPP2220224382

Tuesday
- Brushy Draw West 25 / nAPP2216138431
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- ADU 816/ NAB1435334641

Wednesday
- Brushy Draw West 25 / nAPP2216138431
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- ADU 816/ NAB1435334641
- PLU Pierce Canyon 12 / nAPP2222044186

Thursday
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- JRU DI2/ nAPP2211654411 & nAPP2208349430

Friday
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- PLU S Frac Pond / nAPP2211150068

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

ENSOLUM

APPENDIX F

SDS for Friction Reducer

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque **Physical state** Liquid **Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards	2	Flammability	2	Instability	0	Physical and chemical properties -
HMIS	Health hazards	2	Flammability	2	Physical hazards	0	Personal protection X

Issuing Date	01-Aug-2019
Revision Date	01-Aug-2019
Revision Note	No information available.

Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PfP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

End of Safety Data Sheet

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 149328

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 149328
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2211150068 PLU SOUTH FRAC POND, thank you. This closure is approved.	12/21/2022