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	NAPP2233951574
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.12406 Longitude -103.89609

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Pierce Canyon 17 Tank Battery	Site Type Tank Battery
Date Release Discovered 11/30/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
P	17	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) 299.82	Volume Recovered (bbls) 294.00
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: LACTs failed to engage, causing tanks to hi-level and overflow to containment and pad. Tank hi-alarms were not triggered. Vacuum trucks recovered all free fluids. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233951574
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? 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 Garrett Green to ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD on 12/1/2022 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: Garrett Green
Title: SSHE Coordinator
Signature: 
Date: 12/5/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 12/05/2022

Location:	Pierce Canyon 17 TB	
Spill Date:	11/30/2022	

Area 1		
Approximate Area =	2513.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	295.12	bbls
Total Produced Water =	0.00	bbls

Area 2		
Approximate Area =	431.00	sq. ft.
Average Saturation (or depth) of spill =	2.00	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Crude Oil =	1.92	bbls
Total Produced Water =	0.00	bbls

Area 3		
Approximate Area =	6253.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	2.78	bbls
Total Produced Water =	0.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**299.82**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**294.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

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

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

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 163950
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	12/6/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233951574
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233951574
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _Garrett Green_____ Title: _SSHE Coordinator_____

Signature:_____ Date: __6/14/2023__

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: ____06/15/2023____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233951574
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Garrett Green Title: SSHE Coordinator

Signature: Date: 6/14/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 06/15/2023

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

Signature: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233951574
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Garrett Green Title: SSHE Coordinator

Signature: Garrett Green Date: 6/14/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 06/15/2023

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

Signature: Robert Hamlet Date: 11/17/2023

ENSOLUM

June 14, 2023

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

Re: Remediation Work Plan
Pierce Canyon 17 Tank Battery
Incident Number NAPP2233951574
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document assessment and delineation activities completed to date and proposes remedial actions to address impacted soil identified at the Pierce Canyon 17 Tank Battery (Site). The purpose of the Site assessment and delineation activities was to determine the presence or absense of impacted soil resulting from a release of crude oil at the Site. The following *Work Plan* proposes to excavate impacted soil and to investigate depth to water by installing a soil boring to confirm Closure Critera.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 17, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.12406°, -103.89609°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On November 30, 2022, the lease automatic custody transfer (LACT) unit failed causing the crude oil tanks to overflow, resulting in the release of 299.82 barrels (bbls) of crude oil into the lined containment and onto the surface of the well pad. A vacuum truck was dispatched to the Site to recover free standing fluids, and approximately 294 bbls of fluids were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on December 1, 2022 and submitted a Release Notification Form C-141 (Form C-141) on December 5, 2022. The release was assigned Incident Number NAPP2233951574.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. On November 22, 2022, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE file number C-04676) was completed approximately 1.05 miles west of the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring C-04676 was drilled to a depth of 120 feet bgs. A field geologist logged and described soils

continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 120 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 3,291 feet southeast 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). Potential Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On April 26, 2023, Ensolum personnel conducted a Site assessment to evaluate the release extent based on information provided on the Form C-141 and visual observations. Nine delineation soil samples (SS01 through SS09) were collected at a depth of approximately 0.5 feet bgs to assess for the presence or absence of impacted soil. Delineation soil samples SS01 through SS05 were collected within the release extent and SS06 through SS09 were collected outside of the release extent. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organice (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shipment and long term storage, but are considered by the laboratory to have been received in acceptable condition.

On May 15 and 16, 2023, Ensolum returned to the Site to oversee additional delineation activities and conduct a liner inspection. Five potholes (PH01 through PH05) were advanced by use of heavy equipment to investigate the vertical extent of soil impacts within the release extent in the vicinity of

SS01 through SS05. The potholes were advanced to depths ranging from 3 feet to 8 feet bgs. Discrete soil samples were collected from each pothole at depths ranging from 1-foot to 8 feet bgs. Surface scraping was completed to remove visible staining within the release extent, which includes the areas of where SS01/PH01 through SS05/PH05 were collected.

A 48-hour advance notice of liner inspection was provided via email to the NMOCD District II office on May 12, 2023 and a liner integrity inspection was conducted by Ensolum personnel on May 16, 2023. During the inspection, a tear was found in the liner and one borehole (BH01) was advanced by use of hand auger at the location of the tear. Discrete soil samples were collected in BH01 at 0.5 feet and 2 feet bgs. Borehole BH01 was backfilled with the soil removed and XTO repaired the tear in the liner. Three additional lateral delineation soil samples (SS10 through SS12) were collected at a depth of 0.5 feet bgs to confirm the release did not extend outside the lined containment towards the north, south, or east.

All delineation soil samples collected were field screened, handled, and submitted for analysis as described above. Field screening results and observations for all potholes and the borehole were logged on lithologic/soil sampling logs, which are included in Appendix B. The delineation soil sample locations are depicted on Figure 2. Photographic documentation was completed during all Site visits and a photographic log is included in Appendix C.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 through SS05 and BH01 collected at 0.5 feet bgs indicated TPH-GRO / TPH-DRO and TPH concentrations exceeded the Closure Criteria. Pothole soil sample PH03 collected at 1-foot bgs indicated TPH-GRO / TPH-DRO concentrations exceeded Closure Criteria. All other delineation and excavation soil samples collected indicated COC concentrations were compliant with the Closure Criteria. Additionally, all lateral delineation soil sample results (SS06 through SS12) and the terminal depth of all potholes indicated all COC concentrations were compliant with the strictest Table I Closure Criteria. Pothole soil sample PH03B collected at 8 feet bgs was submitted but placed on hold pending the results of PH03A at 6 feet bgs. Once the PH03A analytical data was received from the laboratory, Ensolum notified the laboratory to analyze PH03B; however, the laboratory had not extracted the held sample and the 14-day hold time for BTEX analysis had expired. Sample PH03A collected at 6 feet bgs contained no detectable concentrations of BTEX, which serves to provide vertical delineation of BTEX. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D. NMOCD notifications are presented in Appendix E.

PROPOSED REMEDIATION WORK PLAN

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from a release of crude oil into a lined containment and onto the surface of the well pad. Based on laboratory analytical results for all terminal and lateral delineation soil samples indicating COC concentrations were compliant with the strictest Table I Closure Criteria, vertical and horizontal definition for the release has been established. Based on laboratory analytical results for shallow delineation soil samples (0 to 1-foot bgs) and field screening results in PH03, TPH impacted soil exists across an approximate 8,900 square-foot area within the release footprint. The depth ranges from 1-foot to approximately 4 feet bgs.

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site and validate assigned Closure Criteria, XTO proposes to advance a soil boring to a depth of 105 feet bgs. The soil boring will be located within a ½ mile of the Site and a field geologist will log and describe soils continuously. The

soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the follow up Closure Report.

XTO proposes to remove hydrocarbon-impacted soil identified at the Site. The proposed excavation extent is depicted on Figure 3. Following the removal of impacted soil, confirmation samples will be collected from the floors and sidewalls of the final excavation extent. Due to the estimated size of the excavation, XTO requests a variance for frequency of excavation confirmation samples. XTO proposes five-point composite samples be collected at a sampling frequency of every 500 square feet along the excavation floor and sidewalls. The proposed sampling frequency would reduce the total amount of samples from approximately 53 samples (200 square-foot frequency) to approximately 34 samples. The soil samples will be handled and analyzed for COCs as described above and submitted to Eurofins for laboratory analysis. An estimated 825 cubic yards of impacted soil will be removed. The excavated soil will be transferred to a New Mexico approved landfill facility for disposal. The excavation will be backfilled and recontoured to match pre-existing conditions.

XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such, XTO requests approval of this *Work Plan* by NMOCD. The soil boring will be completed as soon as possible following approval from the surface landowner, receipt of the NMOSE drilling permit, and scheduling with a driller. XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD or once depth to water is confirmed, whichever occurs first. If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Project Geologist

Ashley L. Ager, PG, MS
Principal

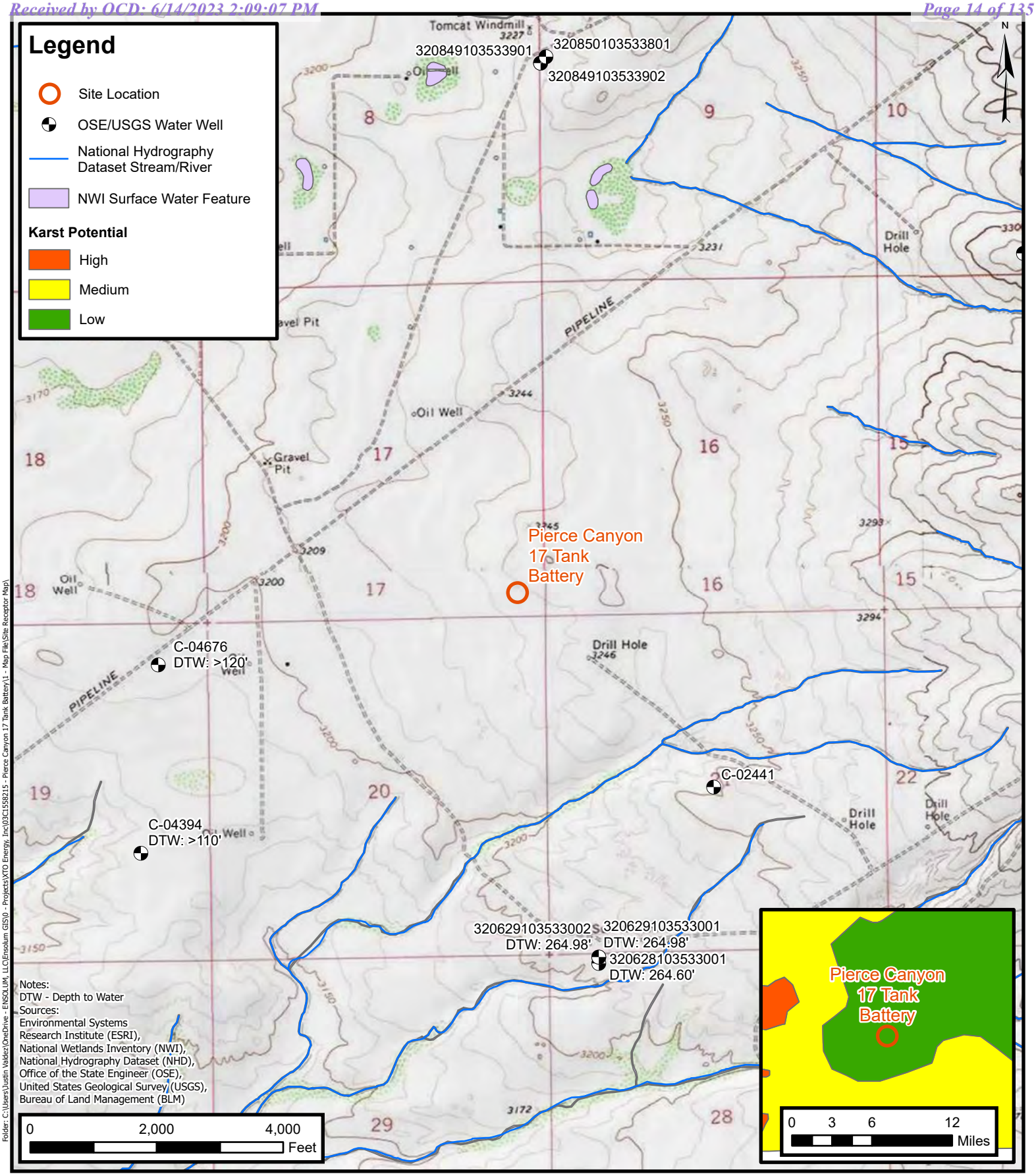
cc: Garrett Green, XTO
Shelby Pennington, XTO
BLM

Appendices:

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

ENSOLUM

FIGURES



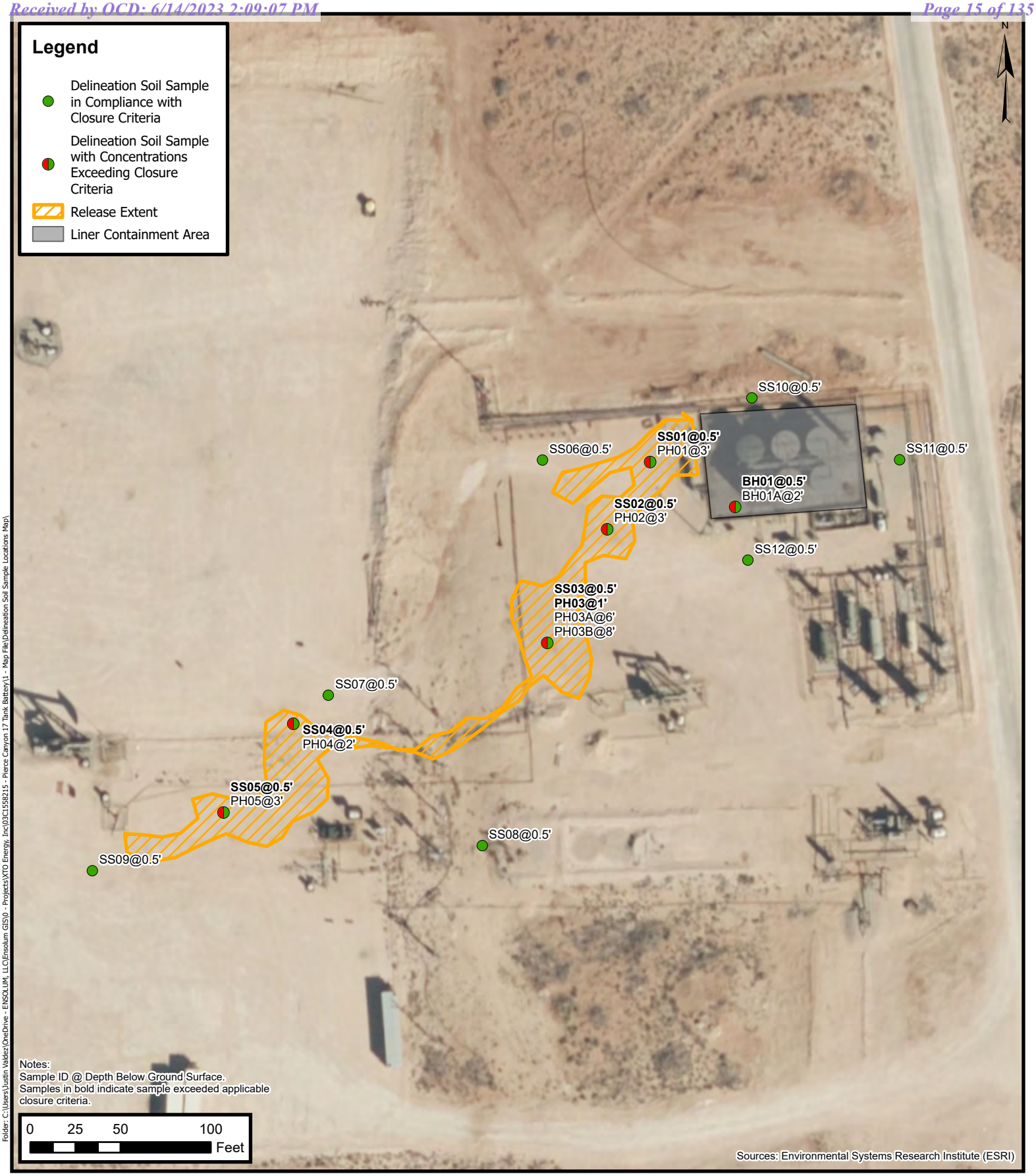
Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558215 - Pierce Canyon 17 Tank Battery\1 - Map File\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
Pierce Canyon 17 Tank Battery
Incident Number: NAPP2233951574
Unit P, Sec 17, T25S, R30E
Eddy County, New Mexico

FIGURE 1



Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558215 - Pierce Canyon 17 Tank Battery\1 - Map File\Delineation Soil Sample Locations Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
Pierce Canyon 17 Tank Battery
Incident Number: NAPP2233951574
Unit P, Sec 17, T25S, R30E
Eddy County, New Mexico

FIGURE 2

Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558215 - Pierce Canyon 17 Tank Battery\1 - Map File\Excavation Soil Sample Locations Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Proposed Excavation Extent

XTO Energy, Inc
Pierce Canyon 17 Tank Battery
Incident Number: NAPP2233951574
Unit P, Sec 17, T25S, R30E
Eddy County, New Mexico

FIGURE 3

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Pierce Canyon 17 Tank Battery
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
SS01	04/26/2023	0.5	<0.00202	0.249	262	4,220	<50.0	**4,480**	**4,480**	137
PH01	05/15/2023	3	<0.00199	<0.00398	<49.8	54.6	<49.8	54.6	54.6	525
SS02	04/26/2023	0.5	<0.00200	0.0346	137	5,340	<49.8	**5,480**	**5,480**	480
PH02	05/15/2023	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	323
SS03	04/26/2023	0.5	0.0387	9.73	373	3,520	<49.9	**3,890**	**3,890**	78.3
PH03	05/15/2023	1	<0.0998	5.76	649	1,030	66.5	**1,680**	1,750	122
PH03A	05/15/2023	6	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	749
PH03B	05/15/2023	8	NA	NA	<49.8	<49.8	<49.8	<49.8	<49.8	238
SS04	04/26/2023	0.5	<0.00200	0.859	615	3,360	<50.0	**3,980**	**3,980**	76.9
PH04	05/16/2023	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	64.6
SS05	04/26/2023	0.5	<0.00199	0.0278	662	3,920	<49.8	**4,580**	**4,580**	78.0
PH05	05/16/2023	3	<0.00199	<0.00398	<49.9	55.8	<49.9	55.8	55.8	142
SS06	04/26/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	92.0
SS07	04/26/2023	0.5	<0.00201	<0.00402	<49.9	51.1	<49.9	51.1	51.1	80.6
SS08	04/26/2023	0.5	<0.00202	<0.00404	<49.8	<49.8	<49.8	<49.8	<49.8	341
SS09	04/26/2023	0.5	0.00447	0.232	<49.9	<49.9	<49.9	<49.9	<49.9	319
SS10	05/16/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	64.6
SS11	05/16/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	65.5
SS12	05/16/2023	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	71.4
BH01	05/16/2023	0.5	0.484	19.3	795	2,850	<49.9	**3,650**	**3,650**	406
BH01A	05/16/2023	2	<0.0398	0.131	<50.0	207	<50.0	207	207	518

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
NA: Not Analyzed
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria

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

ENSOLUM

APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DII DEC 21 2022 PM3:14

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-04676 POD 1		C-04676

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO ENERGY INC	575-200-0729

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3104 E GREENE ST	CARLSBAD	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	12	32.66	N
	LONGITUDE	-103	54	50.95	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

POKER LAKE UNIT # 231

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1184	RUSSELL SOUTHERLAND	WEST TEXAS WATER WELL SERVICE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/22/22	11/22/22	120		

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:

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)
			NO CASING IN HOLE				

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
			N/A		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. C-04676	POD NO. 1	TRN NO. 736286	
LOCATION 24S.30E.19.1.2.2		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1		CALICHIE PAD	Y ✔ N	
1	120		RED SAND	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	
				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: DRY HOLE

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:

OSE DII DEC 21 2022 PM3:14

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

RUSSELL SOUTHERLAND

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

RUSSELL SOUTHERLAND — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

11/22/2022 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. C-04676	POD NO. 1	TRN NO. 736286	
LOCATION 24S.30E.19.1.2.2.		WELL TAG ID NO.	PAGE 2 OF 2

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: SS01/PH01	Date: 5/15/2023
	Site Name: PLU Pierce Canyon 17	
	Incident Number: NAPP2233951574	
	Job Number: 03C1558215	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Backhoe
Coordinates: 32.124291,-103.896016	Hole Diameter: NA	Total Depth: 3'

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. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP	0'-1' SAND, brown, poorly sorted, fine grains, dry, odor, stained.
D	<173	464	Y	SS01	0.5	0.5		
D	1,646	14.1	N			1	CCHE	1-3' CALICHE, light brown, poorly sorted, sub-rounded grains, odor, dry, no staining, with some silt
D	526	18.4	N			2		
D	324	14.9	N	PH01	3	3		
							TD	Total Depth @3' bgs.

ENSOLUM

Sample Name: SS02/PH02	Date: 5/15/2023	
Site Name: PLU Pierce Canyon 17		
Incident Number: NAPP2233951574		
Job Number: 03C1558215		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Backhoe
Coordinates: 32.124184,-103.896083	Hole Diameter: NA	Total Depth: 3'

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. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	0'-1' SAND, brown, poorly sorted, fine grains, dry, odor, stained, with some silt.
D	632.8	302	Y	SS02	0.5	0.5		
D	470	171	N			1	CCHE	1-3' CALICHE, light brown, poorly sorted, sub-rounded grains, odor, dry, no staining, with some silt.
D	644	8.4	N			2		2'-3', no odor
D	207	1.9	N	PH02	3	3		
							TD	Total Depth @3' bgs.

ENSOLUM

	Sample Name: SS03/PH03	Date: 5/15/2023
	Site Name: PLU Pierce Canyon 17	
	Incident Number: NAPP2233951574	
	Job Number: 03C1558215	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Backhoe
Coordinates: 32.124021,-103.896196	Hole Diameter: NA	Total Depth: 8'

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. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	0'-2' SAND, brown, poorly sorted, fine grains, dry, odor, stained, with some non-plastic noncohesive silt.
D	<173	527	Y	SS03	0.5	0.5		
D	<173	1,154	N	PH03	1	1	CCHE	2-8' CALICHE, light brown, poorly sorted, sub-rounded grains, odor, dry, no staining, with some silt.
D	<173	52.9	N			2		
D	<173	1,150	N			3		
D	<173	780	N			4		
D			N			5		
D	280	44.1	N	PH03A	6	6		
D			N			7		
D	173	2.3	N	PH03B	8	8		
							TD	Total Depth @ 8' bgs

ENSOLUM

Sample Name: SS04/PH04	Date: 5/16/2023	
Site Name: PLU Pierce Canyon 17		
Incident Number: NAPP2233951574		
Job Number: 03C1558215		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Backhoe
Coordinates: 32.123903,-103.896651	Hole Diameter: NA	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0'-2' CALICHE, light brown, poorly sorted, sub-rounded grains, odor, dry, stained, with some silt
D	<173	765	Y	SS04	0.5	0.5		0.5'-2' no odor, no staining
D	<173	18.2	N			1		
D	<173	2.6	N	PH04	2	2		
							TD	Total depth @ 2' bgs

ENSOLUM

	Sample Name: SS05/PH05	Date: 5/16/2023
	Site Name: PLU Pierce Canyon 17	
	Incident Number: NAPP2233951574	
	Job Number: 03C1558215	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Backhoe
Coordinates: 32.123761,-103.896771	Hole Diameter: NA	Total Depth: 3'

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. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0'-3' SAND, brown, poorly sorted, fine grains, dry, odor, stained.
D	<173	435	Y	SS05	0.5	0.5		0.5-2' odor, no staining.
D	<173	39.8	N			1		
D	<173	25.7	N			2		2-3' no odor, no staining
D	<173	8.4	N	PH05	3	3		
							TD	Total depth @ 3' bgs

ENSOLUM

Sample Name: BH01	Date: 5/16/2023	
Site Name: PLU Pierce Canyon 17		
Incident Number: NAPP2233951574		
Job Number: 03C1558215		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: KP	Method: Hand auger
Coordinates: 32.124220,-103.895865	Hole Diameter: 3.5"	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor included chloride field screening.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0'-2' SAND, brown, poorly sorted, fine grains, dry, odor, stained.
D	280	3,520	Y	BH01	0.5	0.5		
D	414	1,605	N			1		1-2' odor, no staining
D	414	327	N	BH01A	2	2		
							TD	Total Depth @2' bgs (refusal)

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU Pierce Canyon 17
Incident Number NAPP2233951574

Photograph 1 Date: 4/26/2023
Description: Site assessment activities, release extent.
View: Northeast

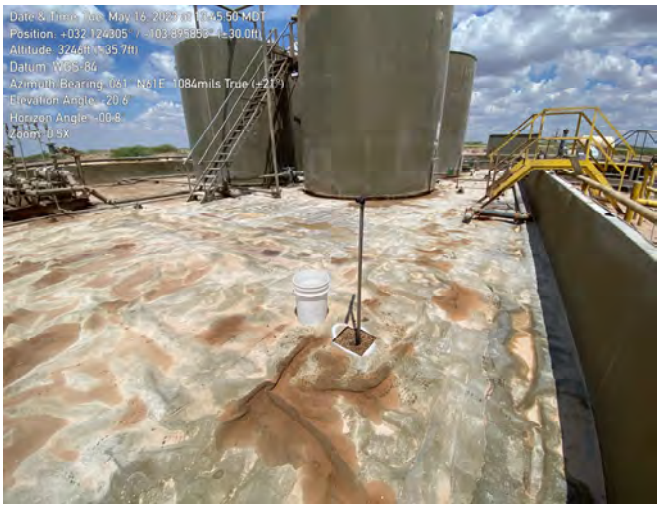
Photograph 2 Date: 4/26/2023
Description: Site assessment activities, release extent.
View: South

Photograph 3 Date: 5/15/2023
Description: Delineation activities, PH03.
View: North

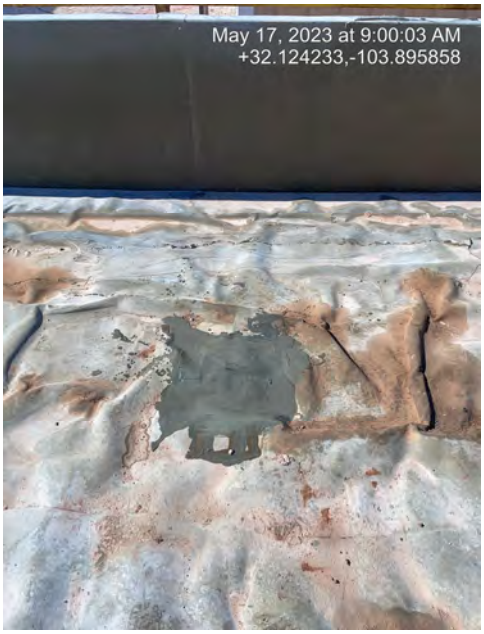
Photograph 4 Date: 5/15/2023
Description: Liner inspection activities.
View: North

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU Pierce Canyon 17
Incident Number NAPP2233951574



Photograph 5 Date: 5/16/2023
Description: Delineation activities, BH01.
View: Northeast



Photograph 6 Date: 5/17/2023
Description: Delineation activities, BH01 liner patch.
View: South

Photograph 7 Date: 5/16/2023
Description: Surface scraping activities.
View: Southwest

Photograph 8 Date: 5/16/2023
Description: Surface scraping activities.
View: North

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 5/8/2023 5:28:15 PM Revision 1

JOB DESCRIPTION

PLU PC 17 Battery
SDG NUMBER 03C1558215

JOB NUMBER

890-4586-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

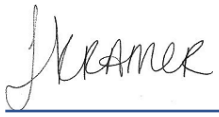
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
5/8/2023 5:28:15 PM
Revision 1

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

Client: Ensolum
Project/Site: PLU PC 17 Battery

Laboratory Job ID: 890-4586-1
SDG: 03C1558215

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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
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.

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)

Definitions/Glossary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Job ID: 890-4586-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4586-1

REVISION

The report being provided is a revision of the original report sent on 5/2/2023. The report (revision 1) is being revised due to Per client email, requesting TPH re run.

Receipt
The samples were received on 4/27/2023 8:12 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4586-1), SS02 (890-4586-2), SS03 (890-4586-3), SS04 (890-4586-4), SS05 (890-4586-5), SS06 (890-4586-6), SS07 (890-4586-7), SS08 (890-4586-8) and SS09 (890-4586-9).

GC VOA
Method 8021B: The laboratory control sample duplicate (LCSD) for preparation batch 880-52197 and analytical batch 880-52230 recovered outside control limits for the following analytes: Benzene. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-52197 and analytical batch 880-52230 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS03 (890-4586-3) and SS09 (890-4586-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-52197 and analytical batch 880-52230 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-4586-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS03 (890-4586-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-52264 and analytical batch 880-52252 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-52254/5-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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-52174/2-A) and (LCSD 880-52174/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-4584-A-3-B), (890-4584-A-3-C MS)

Case Narrative

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Job ID: 890-4586-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

and (890-4584-A-3-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-4586-1), SS02 (890-4586-2), SS03 (890-4586-3), SS04 (890-4586-4), SS05 (890-4586-5), SS06 (890-4586-6), SS07 (890-4586-7), SS08 (890-4586-8) and SS09 (890-4586-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-52174 and analytical batch 880-52247 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-52751 and analytical batch 880-52764 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-52751/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS06 (890-4586-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-52208 and analytical batch 880-52332 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.The associated samples are: SS02 (890-4586-2), SS03 (890-4586-3), SS04 (890-4586-4), SS05 (890-4586-5), SS06 (890-4586-6), SS07 (890-4586-7), SS08 (890-4586-8), SS09 (890-4586-9), (890-4586-A-2-C MS) and (890-4586-A-2-D MSD).

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 PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS01
Date Collected: 04/26/23 13:15
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		04/28/23 10:16	04/28/23 22:04	1
Toluene	**0.0158**		0.00202		mg/Kg		04/28/23 10:16	04/28/23 22:04	1
Ethylbenzene	**0.0253**		0.00202		mg/Kg		04/28/23 10:16	04/28/23 22:04	1
m-Xylene & p-Xylene	**0.153**		0.00403		mg/Kg		04/28/23 10:16	04/28/23 22:04	1
o-Xylene	**0.0547**		0.00202		mg/Kg		04/28/23 10:16	04/28/23 22:04	1
Xylenes, Total	**0.208**		0.00403		mg/Kg		04/28/23 10:16	04/28/23 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*04/28/23 10:16*	*04/28/23 22:04*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/28/23 10:16*	*04/28/23 22:04*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.249**		0.00403		mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4480**		50.0		mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**262**		50.0		mg/Kg		04/28/23 09:16	05/01/23 17:01	1
Diesel Range Organics (Over C10-C28)	**4220**		50.0		mg/Kg		04/28/23 09:16	05/01/23 17:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/28/23 09:16	05/01/23 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*04/28/23 09:16*	*05/01/23 17:01*	*1*
o-Terphenyl	*49*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 17:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**137**		5.05		mg/Kg			05/01/23 16:48	1

Client Sample ID: SS02
Date Collected: 04/26/23 13:20
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:08	1
Toluene	**0.00218**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:08	1
Ethylbenzene	**0.00560**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:08	1
m-Xylene & p-Xylene	**0.00910**		0.00401		mg/Kg		04/28/23 10:16	04/29/23 00:08	1
o-Xylene	**0.0177**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:08	1
Xylenes, Total	**0.0268**		0.00401		mg/Kg		04/28/23 10:16	04/29/23 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*04/28/23 10:16*	*04/29/23 00:08*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS02
Date Collected: 04/26/23 13:20
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*04/28/23 10:16*	*04/29/23 00:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0346**		0.00401	mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**5480**		49.8	mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**137**		49.8	mg/Kg		04/28/23 09:16	05/01/23 17:22	1
Diesel Range Organics (Over C10-C28)	**5340**		49.8	mg/Kg		04/28/23 09:16	05/01/23 17:22	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		04/28/23 09:16	05/01/23 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*04/28/23 09:16*	*05/01/23 17:22*	*1*
o-Terphenyl	*55*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 17:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**480**	**F1**	4.99	mg/Kg			05/01/23 16:53	1

Client Sample ID: SS03
Date Collected: 04/26/23 13:25
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0387**	***+**	0.00200	mg/Kg		04/28/23 10:16	04/29/23 00:29	1
Toluene	**0.804**		0.0998	mg/Kg		05/01/23 09:43	05/02/23 02:31	50
Ethylbenzene	**0.189**		0.00200	mg/Kg		04/28/23 10:16	04/29/23 00:29	1
m-Xylene & p-Xylene	**8.42**		0.200	mg/Kg		05/01/23 09:43	05/02/23 02:31	50
o-Xylene	**0.279**		0.00200	mg/Kg		04/28/23 10:16	04/29/23 00:29	1
Xylenes, Total	**11.1**		0.200	mg/Kg		05/01/23 09:43	05/02/23 02:31	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*	*04/28/23 10:16*	*04/29/23 00:29*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/28/23 10:16*	*04/29/23 00:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**9.73**		0.200	mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3890**		49.9	mg/Kg			05/02/23 09:55	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS03
Date Collected: 04/26/23 13:25
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	373		49.9		mg/Kg		04/28/23 09:16	05/01/23 17:44	1
Diesel Range Organics (Over C10-C28)	3520		49.9		mg/Kg		04/28/23 09:16	05/01/23 17:44	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/28/23 09:16	05/01/23 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*04/28/23 09:16*	*05/01/23 17:44*	*1*
o-Terphenyl	*45*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 17:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.3		4.98		mg/Kg			05/01/23 17:09	1

Client Sample ID: SS04
Date Collected: 04/26/23 13:30
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:49	1
Toluene	0.0776		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:49	1
Ethylbenzene	0.0855		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:49	1
m-Xylene & p-Xylene	0.525		0.00401		mg/Kg		04/28/23 10:16	04/29/23 00:49	1
o-Xylene	0.171		0.00200		mg/Kg		04/28/23 10:16	04/29/23 00:49	1
Xylenes, Total	0.696		0.00401		mg/Kg		04/28/23 10:16	04/29/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*183*	*S1+*	*70 - 130*	*04/28/23 10:16*	*04/29/23 00:49*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/28/23 10:16*	*04/29/23 00:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.859		0.00401		mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	3980		50.0		mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	615		50.0		mg/Kg		04/28/23 09:16	05/01/23 18:06	1
Diesel Range Organics (Over C10-C28)	3360		50.0		mg/Kg		04/28/23 09:16	05/01/23 18:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/28/23 09:16	05/01/23 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*04/28/23 09:16*	*05/01/23 18:06*	*1*
o-Terphenyl	*52*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 18:06*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS04
Date Collected: 04/26/23 13:30
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.9**		4.97		mg/Kg			05/01/23 17:15	1

Client Sample ID: SS05
Date Collected: 04/26/23 13:35
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:10	1
Toluene	**0.0160**		0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:10	1
m-Xylene & p-Xylene	**0.00793**		0.00398		mg/Kg		04/28/23 10:16	04/29/23 01:10	1
o-Xylene	**0.00383**		0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:10	1
Xylenes, Total	**0.0118**		0.00398		mg/Kg		04/28/23 10:16	04/29/23 01:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:10*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0278**		0.00398		mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4580**		49.8		mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**662**		49.8		mg/Kg		04/28/23 09:16	05/01/23 18:27	1
Diesel Range Organics (Over C10-C28)	**3920**		49.8		mg/Kg		04/28/23 09:16	05/01/23 18:27	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/28/23 09:16	05/01/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*04/28/23 09:16*	*05/01/23 18:27*	*1*
o-Terphenyl	*51*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 18:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.0**		5.01		mg/Kg			05/01/23 17:31	1

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS06
Date Collected: 04/26/23 13:40
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/28/23 10:16	04/29/23 01:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/28/23 10:16	04/29/23 01:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/28/23 10:16	04/29/23 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:30*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/05/23 17:12	05/06/23 23:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/05/23 17:12	05/06/23 23:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/05/23 17:12	05/06/23 23:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*05/05/23 17:12*	*05/06/23 23:19*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*05/05/23 17:12*	*05/06/23 23:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**92.0**		5.04		mg/Kg			05/01/23 17:36	1

Client Sample ID: SS07
Date Collected: 04/26/23 13:45
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *+	0.00201		mg/Kg		04/28/23 10:16	04/29/23 01:51	1
Toluene	**0.00204**		0.00201		mg/Kg		04/28/23 10:16	04/29/23 01:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/28/23 10:16	04/29/23 01:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/28/23 10:16	04/29/23 01:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/28/23 10:16	04/29/23 01:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/28/23 10:16	04/29/23 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:51*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS07
Date Collected: 04/26/23 13:45
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*04/28/23 10:16*	*04/29/23 01:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**51.1**		49.9	mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		04/28/23 09:16	05/01/23 19:11	1
Diesel Range Organics (Over C10-C28)	**51.1**		49.9	mg/Kg		04/28/23 09:16	05/01/23 19:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/28/23 09:16	05/01/23 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*70*		*70 - 130*	*04/28/23 09:16*	*05/01/23 19:11*	*1*
o-Terphenyl	*52*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 19:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**80.6**		5.00	mg/Kg			05/01/23 17:42	1

Client Sample ID: SS08
Date Collected: 04/26/23 14:20
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202	mg/Kg		04/28/23 10:16	04/29/23 02:11	1
Toluene	<0.00202	U	0.00202	mg/Kg		04/28/23 10:16	04/29/23 02:11	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		04/28/23 10:16	04/29/23 02:11	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		04/28/23 10:16	04/29/23 02:11	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		04/28/23 10:16	04/29/23 02:11	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		04/28/23 10:16	04/29/23 02:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/28/23 10:16*	*04/29/23 02:11*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*04/28/23 10:16*	*04/29/23 02:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/02/23 09:55	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS08
Date Collected: 04/26/23 14:20
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/28/23 09:16	05/01/23 19:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/28/23 09:16	05/01/23 19:32	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/28/23 09:16	05/01/23 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*04/28/23 09:16*	*05/01/23 19:32*	*1*
o-Terphenyl	*63*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 19:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**341**		5.05		mg/Kg			05/01/23 17:47	1

Client Sample ID: SS09
Date Collected: 04/26/23 14:50
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00447**	***+**	0.00200		mg/Kg		04/28/23 10:16	04/29/23 02:32	1
Toluene	**0.0193**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 02:32	1
Ethylbenzene	**0.0261**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 02:32	1
m-Xylene & p-Xylene	**0.140**		0.00399		mg/Kg		04/28/23 10:16	04/29/23 02:32	1
o-Xylene	**0.0420**		0.00200		mg/Kg		04/28/23 10:16	04/29/23 02:32	1
Xylenes, Total	**0.182**		0.00399		mg/Kg		04/28/23 10:16	04/29/23 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*146*	*S1+*	*70 - 130*	*04/28/23 10:16*	*04/29/23 02:32*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/28/23 10:16*	*04/29/23 02:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.232**		0.00399		mg/Kg			05/01/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			05/02/23 09:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/28/23 09:16	05/01/23 19:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/28/23 09:16	05/01/23 19:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/28/23 09:16	05/01/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*04/28/23 09:16*	*05/01/23 19:54*	*1*
o-Terphenyl	*61*	*S1-*	*70 - 130*	*04/28/23 09:16*	*05/01/23 19:54*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS09

Date Collected: 04/26/23 14:50
Date Received: 04/27/23 08:12
Sample Depth: 0.5'

Lab Sample ID: 890-4586-9

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	319		5.02		mg/Kg			05/01/23 17:52	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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)
880-27756-A-1-B MS	Matrix Spike	111	107
880-27756-A-1-C MSD	Matrix Spike Duplicate	107	108
890-4585-A-1-A MS	Matrix Spike	125	106
890-4585-A-1-B MSD	Matrix Spike Duplicate	123	101
890-4586-1	SS01	130	104
890-4586-2	SS02	125	93
890-4586-3	SS03	141 S1+	107
890-4586-4	SS04	183 S1+	100
890-4586-5	SS05	109	80
890-4586-6	SS06	102	87
890-4586-7	SS07	106	84
890-4586-8	SS08	110	80
890-4586-9	SS09	146 S1+	103
LCS 880-52197/1-A	Lab Control Sample	104	106
LCS 880-52264/1-A	Lab Control Sample	101	104
LCSD 880-52197/2-A	Lab Control Sample Dup	103	105
LCSD 880-52264/2-A	Lab Control Sample Dup	110	105
MB 880-52197/5-A	Method Blank	68 S1-	90
MB 880-52254/5-A	Method Blank	68 S1-	91
MB 880-52264/5-A	Method Blank	66 S1-	78

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)
890-4545-A-32-D MS	Matrix Spike	114	115
890-4545-A-32-E MSD	Matrix Spike Duplicate	115	120
890-4584-A-3-C MS	Matrix Spike	84	61 S1-
890-4584-A-3-D MSD	Matrix Spike Duplicate	88	63 S1-
890-4586-1	SS01	88	49 S1-
890-4586-2	SS02	85	55 S1-
890-4586-3	SS03	80	45 S1-
890-4586-4	SS04	96	52 S1-
890-4586-5	SS05	121	51 S1-
890-4586-6	SS06	118	133 S1+
890-4586-7	SS07	70	52 S1-
890-4586-8	SS08	84	63 S1-
890-4586-9	SS09	82	61 S1-
LCS 880-52174/2-A	Lab Control Sample	82	61 S1-
LCS 880-52751/2-A	Lab Control Sample	120	131 S1+
LCSD 880-52174/3-A	Lab Control Sample Dup	84	62 S1-
LCSD 880-52751/3-A	Lab Control Sample Dup	112	120
MB 880-52174/1-A	Method Blank	100	83
MB 880-52751/1-A	Method Blank	148 S1+	188 S1+

Surrogate Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-52197/5-A
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52197

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/28/23 10:16	04/28/23 19:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/28/23 10:16	04/28/23 19:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/28/23 10:16	04/28/23 19:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/28/23 10:16	04/28/23 19:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/28/23 10:16	04/28/23 19:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/28/23 10:16	04/28/23 19:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*04/28/23 10:16*	*04/28/23 19:19*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/28/23 10:16*	*04/28/23 19:19*	*1*

Lab Sample ID: LCS 880-52197/1-A
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52197

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1222		mg/Kg		122	70 - 130		
Toluene			0.100	0.1157		mg/Kg		116	70 - 130		
Ethylbenzene			0.100	0.1096		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.2224		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1091		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-52197/2-A
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 52197

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1328	*+	mg/Kg		133	70 - 130	8	35
Toluene			0.100	0.1250		mg/Kg		125	70 - 130	8	35
Ethylbenzene			0.100	0.1216		mg/Kg		122	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2482		mg/Kg		124	70 - 130	11	35
o-Xylene			0.100	0.1216		mg/Kg		122	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-4585-A-1-A MS
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52197

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U *+ F1	0.0998	0.04593	F1	mg/Kg		46	70 - 130		
Toluene	<0.00199	U F1	0.0998	0.02559	F1	mg/Kg		25	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: 890-4585-A-1-A MS
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52197

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F2 F1	0.0998	0.01843	F1	mg/Kg		18	70 - 130
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.200	0.03697	F1	mg/Kg		18	70 - 130
o-Xylene	<0.00199	U F2 F1	0.0998	0.01924	F1	mg/Kg		18	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-4585-A-1-B MSD
Matrix: Solid
Analysis Batch: 52230

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 52197

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U *+ F1	0.100	0.03847	F1	mg/Kg		38	70 - 130	18	35
Toluene	<0.00199	U F1	0.100	0.02095	F1	mg/Kg		20	70 - 130	20	35
Ethylbenzene	<0.00199	U F2 F1	0.100	0.01137	F2 F1	mg/Kg		11	70 - 130	47	35
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.201	0.02460	F2 F1	mg/Kg		12	70 - 130	40	35
o-Xylene	<0.00199	U F2 F1	0.100	0.01331	F2 F1	mg/Kg		12	70 - 130	36	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 880-52254/5-A
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52254

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:09	05/01/23 11:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:09	05/01/23 11:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:09	05/01/23 11:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/01/23 09:09	05/01/23 11:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:09	05/01/23 11:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/01/23 09:09	05/01/23 11:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*05/01/23 09:09*	*05/01/23 11:06*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*05/01/23 09:09*	*05/01/23 11:06*	*1*

Lab Sample ID: MB 880-52264/5-A
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52264

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:43	05/01/23 21:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:43	05/01/23 21:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/01/23 09:43	05/01/23 21:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/01/23 09:43	05/01/23 21:43	1

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: MB 880-52264/5-A
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52264

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/01/23 09:43	05/01/23 21:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/01/23 09:43	05/01/23 21:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*05/01/23 09:43*	*05/01/23 21:43*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*05/01/23 09:43*	*05/01/23 21:43*	*1*

Lab Sample ID: LCS 880-52264/1-A
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52264

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1156		mg/Kg		116	70 - 130		
Toluene			0.100	0.1027		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1027		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.2043		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.1007		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-52264/2-A
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 52264

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1169		mg/Kg		117	70 - 130	1	35
Toluene			0.100	0.1109		mg/Kg		111	70 - 130	8	35
Ethylbenzene			0.100	0.1182		mg/Kg		118	70 - 130	14	35
m-Xylene & p-Xylene			0.200	0.2364		mg/Kg		118	70 - 130	15	35
o-Xylene			0.100	0.1163		mg/Kg		116	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-27756-A-1-B MS
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52264

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0998	0.1129		mg/Kg		113	70 - 130		
Toluene	<0.00199	U	0.0998	0.1018		mg/Kg		102	70 - 130		
Ethylbenzene	<0.00199	U	0.0998	0.1070		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2147		mg/Kg		108	70 - 130		
o-Xylene	<0.00199	U	0.0998	0.1058		mg/Kg		106	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: 880-27756-A-1-B MS
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52264

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

Lab Sample ID: 880-27756-A-1-C MSD
Matrix: Solid
Analysis Batch: 52252

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 52264

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1131		mg/Kg		113	70 - 130	0	35
Toluene	<0.00199	U	0.100	0.09655		mg/Kg		96	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.100	0.09978		mg/Kg		100	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2002		mg/Kg		100	70 - 130	7	35
o-Xylene	<0.00199	U	0.100	0.09845		mg/Kg		98	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

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

Lab Sample ID: MB 880-52174/1-A
Matrix: Solid
Analysis Batch: 52247

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52174

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/28/23 09:16	05/01/23 08:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/28/23 09:16	05/01/23 08:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/28/23 09:16	05/01/23 08:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	04/28/23 09:16	05/01/23 08:56	1
o-Terphenyl	83		70 - 130	04/28/23 09:16	05/01/23 08:56	1

Lab Sample ID: LCS 880-52174/2-A
Matrix: Solid
Analysis Batch: 52247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	981.7		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	986.5		mg/Kg		99	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	61	S1-	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: LCSD 880-52174/3-A
Matrix: Solid
Analysis Batch: 52247

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 52174

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1051		mg/Kg		105	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	1041		mg/Kg		104	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*62*	*S1-*	*70 - 130*

Lab Sample ID: 890-4584-A-3-C MS
Matrix: Solid
Analysis Batch: 52247

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52174

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	997	719.5		mg/Kg		70	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	594.8	F1	mg/Kg		58	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

Lab Sample ID: 890-4584-A-3-D MSD
Matrix: Solid
Analysis Batch: 52247

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 52174

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	765.4		mg/Kg		74	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	618.1	F1	mg/Kg		60	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*63*	*S1-*	*70 - 130*

Lab Sample ID: MB 880-52751/1-A
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52751

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		05/05/23 17:12	05/06/23 19:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/05/23 17:12	05/06/23 19:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/05/23 17:12	05/06/23 19:51	1

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: MB 880-52751/1-A
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 52751

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130	05/05/23 17:12	05/06/23 19:51	1
o-Terphenyl	188	S1+	70 - 130	05/05/23 17:12	05/06/23 19:51	1

Lab Sample ID: LCS 880-52751/2-A
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 52751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	986.2		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	973.2		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	120		70 - 130
o-Terphenyl	131	S1+	70 - 130

Lab Sample ID: LCSD 880-52751/3-A
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 52751

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1011		mg/Kg		101	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	963.0		mg/Kg		96	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-4545-A-32-D MS
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 52751

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	1080		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1089		mg/Kg		105	70 - 130

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

QC Sample Results

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Lab Sample ID: 890-4545-A-32-E MSD
Matrix: Solid
Analysis Batch: 52764

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 52751

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1133		mg/Kg		111	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1100		mg/Kg		107	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-52208/1-A
Matrix: Solid
Analysis Batch: 52332

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			05/01/23 15:22	1

Lab Sample ID: LCS 880-52208/2-A
Matrix: Solid
Analysis Batch: 52332

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	232.7		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-52208/3-A
Matrix: Solid
Analysis Batch: 52332

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	234.3		mg/Kg		94	90 - 110	1	20

Lab Sample ID: 890-4586-2 MS
Matrix: Solid
Analysis Batch: 52332

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	480	F1	250	682.2	F1	mg/Kg		81	90 - 110		

Lab Sample ID: 890-4586-2 MSD
Matrix: Solid
Analysis Batch: 52332

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	480	F1	250	683.6	F1	mg/Kg		82	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

GC VOA

Prep Batch: 52197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	5035	
890-4586-2	SS02	Total/NA	Solid	5035	
890-4586-3	SS03	Total/NA	Solid	5035	
890-4586-4	SS04	Total/NA	Solid	5035	
890-4586-5	SS05	Total/NA	Solid	5035	
890-4586-6	SS06	Total/NA	Solid	5035	
890-4586-7	SS07	Total/NA	Solid	5035	
890-4586-8	SS08	Total/NA	Solid	5035	
890-4586-9	SS09	Total/NA	Solid	5035	
MB 880-52197/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-52197/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-52197/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4585-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-4585-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 52230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	8021B	52197
890-4586-2	SS02	Total/NA	Solid	8021B	52197
890-4586-3	SS03	Total/NA	Solid	8021B	52197
890-4586-4	SS04	Total/NA	Solid	8021B	52197
890-4586-5	SS05	Total/NA	Solid	8021B	52197
890-4586-6	SS06	Total/NA	Solid	8021B	52197
890-4586-7	SS07	Total/NA	Solid	8021B	52197
890-4586-8	SS08	Total/NA	Solid	8021B	52197
890-4586-9	SS09	Total/NA	Solid	8021B	52197
MB 880-52197/5-A	Method Blank	Total/NA	Solid	8021B	52197
LCS 880-52197/1-A	Lab Control Sample	Total/NA	Solid	8021B	52197
LCSD 880-52197/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	52197
890-4585-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	52197
890-4585-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	52197

Analysis Batch: 52252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-3	SS03	Total/NA	Solid	8021B	52264
MB 880-52254/5-A	Method Blank	Total/NA	Solid	8021B	52254
MB 880-52264/5-A	Method Blank	Total/NA	Solid	8021B	52264
LCS 880-52264/1-A	Lab Control Sample	Total/NA	Solid	8021B	52264
LCSD 880-52264/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	52264
880-27756-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	52264
880-27756-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	52264

Prep Batch: 52254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-52254/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 52264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-3	SS03	Total/NA	Solid	5035	
MB 880-52264/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-52264/1-A	Lab Control Sample	Total/NA	Solid	5035	

QC Association Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

GC VOA (Continued)

Prep Batch: 52264 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-52264/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-27756-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-27756-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 52267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	Total BTEX	
890-4586-2	SS02	Total/NA	Solid	Total BTEX	
890-4586-3	SS03	Total/NA	Solid	Total BTEX	
890-4586-4	SS04	Total/NA	Solid	Total BTEX	
890-4586-5	SS05	Total/NA	Solid	Total BTEX	
890-4586-6	SS06	Total/NA	Solid	Total BTEX	
890-4586-7	SS07	Total/NA	Solid	Total BTEX	
890-4586-8	SS08	Total/NA	Solid	Total BTEX	
890-4586-9	SS09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 52174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	8015NM Prep	
890-4586-2	SS02	Total/NA	Solid	8015NM Prep	
890-4586-3	SS03	Total/NA	Solid	8015NM Prep	
890-4586-4	SS04	Total/NA	Solid	8015NM Prep	
890-4586-5	SS05	Total/NA	Solid	8015NM Prep	
890-4586-7	SS07	Total/NA	Solid	8015NM Prep	
890-4586-8	SS08	Total/NA	Solid	8015NM Prep	
890-4586-9	SS09	Total/NA	Solid	8015NM Prep	
MB 880-52174/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-52174/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-52174/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4584-A-3-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4584-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 52247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	8015B NM	52174
890-4586-2	SS02	Total/NA	Solid	8015B NM	52174
890-4586-3	SS03	Total/NA	Solid	8015B NM	52174
890-4586-4	SS04	Total/NA	Solid	8015B NM	52174
890-4586-5	SS05	Total/NA	Solid	8015B NM	52174
890-4586-7	SS07	Total/NA	Solid	8015B NM	52174
890-4586-8	SS08	Total/NA	Solid	8015B NM	52174
890-4586-9	SS09	Total/NA	Solid	8015B NM	52174
MB 880-52174/1-A	Method Blank	Total/NA	Solid	8015B NM	52174
LCS 880-52174/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	52174
LCSD 880-52174/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	52174
890-4584-A-3-C MS	Matrix Spike	Total/NA	Solid	8015B NM	52174
890-4584-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	52174

QC Association Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

GC Semi VOA

Analysis Batch: 52374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Total/NA	Solid	8015 NM	
890-4586-2	SS02	Total/NA	Solid	8015 NM	
890-4586-3	SS03	Total/NA	Solid	8015 NM	
890-4586-4	SS04	Total/NA	Solid	8015 NM	
890-4586-5	SS05	Total/NA	Solid	8015 NM	
890-4586-6	SS06	Total/NA	Solid	8015 NM	
890-4586-7	SS07	Total/NA	Solid	8015 NM	
890-4586-8	SS08	Total/NA	Solid	8015 NM	
890-4586-9	SS09	Total/NA	Solid	8015 NM	

Prep Batch: 52751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-6	SS06	Total/NA	Solid	8015NM Prep	
MB 880-52751/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-52751/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-52751/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4545-A-32-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4545-A-32-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 52764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-6	SS06	Total/NA	Solid	8015B NM	52751
MB 880-52751/1-A	Method Blank	Total/NA	Solid	8015B NM	52751
LCS 880-52751/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	52751
LCSD 880-52751/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	52751
890-4545-A-32-D MS	Matrix Spike	Total/NA	Solid	8015B NM	52751
890-4545-A-32-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	52751

HPLC/IC

Leach Batch: 52208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Soluble	Solid	DI Leach	
890-4586-2	SS02	Soluble	Solid	DI Leach	
890-4586-3	SS03	Soluble	Solid	DI Leach	
890-4586-4	SS04	Soluble	Solid	DI Leach	
890-4586-5	SS05	Soluble	Solid	DI Leach	
890-4586-6	SS06	Soluble	Solid	DI Leach	
890-4586-7	SS07	Soluble	Solid	DI Leach	
890-4586-8	SS08	Soluble	Solid	DI Leach	
890-4586-9	SS09	Soluble	Solid	DI Leach	
MB 880-52208/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-52208/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-52208/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4586-2 MS	SS02	Soluble	Solid	DI Leach	
890-4586-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 52332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-1	SS01	Soluble	Solid	300.0	52208
890-4586-2	SS02	Soluble	Solid	300.0	52208

QC Association Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

HPLC/IC (Continued)

Analysis Batch: 52332 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4586-3	SS03	Soluble	Solid	300.0	52208
890-4586-4	SS04	Soluble	Solid	300.0	52208
890-4586-5	SS05	Soluble	Solid	300.0	52208
890-4586-6	SS06	Soluble	Solid	300.0	52208
890-4586-7	SS07	Soluble	Solid	300.0	52208
890-4586-8	SS08	Soluble	Solid	300.0	52208
890-4586-9	SS09	Soluble	Solid	300.0	52208
MB 880-52208/1-A	Method Blank	Soluble	Solid	300.0	52208
LCS 880-52208/2-A	Lab Control Sample	Soluble	Solid	300.0	52208
LCSD 880-52208/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	52208
890-4586-2 MS	SS02	Soluble	Solid	300.0	52208
890-4586-2 MSD	SS02	Soluble	Solid	300.0	52208

Lab Chronicle

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS01
Date Collected: 04/26/23 13:15
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/28/23 22:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 17:01	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 16:48	SMC	EET MID

Client Sample ID: SS02
Date Collected: 04/26/23 13:20
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 00:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 17:22	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 16:53	SMC	EET MID

Client Sample ID: SS03
Date Collected: 04/26/23 13:25
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 00:29	MNR	EET MID
Total/NA	Prep	5035			5.01 g	5 mL	52264	05/01/23 09:43	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	52252	05/02/23 02:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 17:44	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:09	SMC	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS04
Date Collected: 04/26/23 13:30
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-4
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	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 00:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 18:06	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:15	SMC	EET MID

Client Sample ID: SS05
Date Collected: 04/26/23 13:35
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 01:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 18:27	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:31	SMC	EET MID

Client Sample ID: SS06
Date Collected: 04/26/23 13:40
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-6
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			5.03 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 01:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	52751	05/05/23 17:12	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52764	05/06/23 23:19	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:36	SMC	EET MID

Client Sample ID: SS07
Date Collected: 04/26/23 13:45
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-7
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			4.97 g	5 mL	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 01:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Client Sample ID: SS07
Date Collected: 04/26/23 13:45
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 19:11	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:42	SMC	EET MID

Client Sample ID: SS08
Date Collected: 04/26/23 14:20
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-8
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	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 02:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 19:32	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:47	SMC	EET MID

Client Sample ID: SS09
Date Collected: 04/26/23 14:50
Date Received: 04/27/23 08:12

Lab Sample ID: 890-4586-9
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	52197	04/28/23 10:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	52230	04/29/23 02:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			52267	05/01/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			52374	05/02/23 09:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	52174	04/28/23 09:16	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	52247	05/01/23 19:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	52208	04/28/23 11:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	52332	05/01/23 17:52	SMC	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 PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU PC 17 Battery

Job ID: 890-4586-1
SDG: 03C1558215

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4586-1	SS01	Solid	04/26/23 13:15	04/27/23 08:12	0.5'
890-4586-2	SS02	Solid	04/26/23 13:20	04/27/23 08:12	0.5'
890-4586-3	SS03	Solid	04/26/23 13:25	04/27/23 08:12	0.5'
890-4586-4	SS04	Solid	04/26/23 13:30	04/27/23 08:12	0.5'
890-4586-5	SS05	Solid	04/26/23 13:35	04/27/23 08:12	0.5'
890-4586-6	SS06	Solid	04/26/23 13:40	04/27/23 08:12	0.5'
890-4586-7	SS07	Solid	04/26/23 13:45	04/27/23 08:12	0.5'
890-4586-8	SS08	Solid	04/26/23 14:20	04/27/23 08:12	0.5'
890-4586-9	SS09	Solid	04/26/23 14:50	04/27/23 08:12	0.5'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337-257-8307	Email:	tmorrissey@ensolum.com

Work Order Comments

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

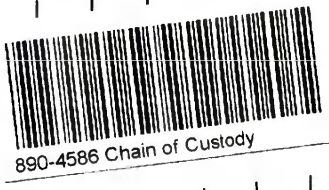
Project Name:	PLU PC 17 Battery	Turn Around	☐ Routine ☑ Rush
Project Number:	03C1558215	Due Date:	3 Day
Project Location:	32.12406, -103.89609	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Ronni Hayes		
Cost Center #:	1081061001		

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.1	
Total Containers:		Corrected Temperature:	3.4	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	BTEX	TPH	Sample Comments
SS01	S	4/26/2023	1315	0.5'	Grab	1		X	X	X	
SS02	S	4/26/2023	1320	0.5'	Grab	1		X	X	X	
SS03	S	4/26/2023	1325	0.5'	Grab	1		X	X	X	API: 30-015-36635
SS04	S	4/26/2023	1330	0.5'	Grab	1		X	X	X	(Poker Lake Unit CVX JV PC #001H)
SS05	S	4/26/2023	1335	0.5'	Grab	1		X	X	X	Incident Number:
SS06	S	4/26/2023	1340	0.5'	Grab	1		X	X	X	nAPP2233951574
SS07	S	4/26/2023	1345	0.5'	Grab	1		X	X	X	
SS08	S	4/26/2023	1420	0.5'	Grab	1		X	X	X	
SS09	S	4/26/2023	1450	0.5'	Grab	1		X	X	X	



ANALYSIS REQUEST

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stutz	4/27/23 0813			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4586-1
SDG Number: 03C1558215

Login Number: 4586
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4586-1
SDG Number: 03C1558215

Login Number: 4586
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/28/23 10:06 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 6/1/2023 10:02:53 AM Revision 1

JOB DESCRIPTION

PLU Pierce Canyon 17
SDG NUMBER 03C1558215

JOB NUMBER

890-4673-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

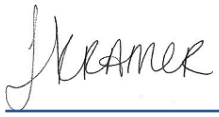
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
6/1/2023 10:02:53 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Laboratory Job ID: 890-4673-1
SDG: 03C1558215

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Job ID: 890-4673-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4673-1

REVISION

The report being provided is a revision of the original report sent on 5/31/2023. The report (revision 1) is being revised due to Per client email, requesting re runs.

Receipt
The samples were received on 5/17/2023 8:33 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 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-4673-1) and BH01A (890-4673-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-53895 and analytical batch 880-54127 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH01 (890-4673-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-53720 and analytical batch 880-53715 was outside the upper control limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-54418 and 880-54418 and analytical batch 880-54489 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 Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Client Sample ID: BH01

Date Collected: 05/16/23 13:35
Date Received: 05/17/23 08:33
Sample Depth: 0.5'

Lab Sample ID: 890-4673-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.484**		0.199		mg/Kg		05/30/23 09:40	05/30/23 14:56	100
Toluene	**4.94**		0.199		mg/Kg		05/30/23 09:40	05/30/23 14:56	100
Ethylbenzene	**2.89**		0.199		mg/Kg		05/30/23 09:40	05/30/23 14:56	100
m-Xylene & p-Xylene	**9.76**		0.398		mg/Kg		05/30/23 09:40	05/30/23 14:56	100
o-Xylene	**1.26**		0.199		mg/Kg		05/30/23 09:40	05/30/23 14:56	100
Xylenes, Total	**11.0**		0.398		mg/Kg		05/30/23 09:40	05/30/23 14:56	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*186*	*S1+*	*70 - 130*	*05/30/23 09:40*	*05/30/23 14:56*	*100*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*05/30/23 09:40*	*05/30/23 14:56*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**19.3**		0.398		mg/Kg			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3650**		49.9		mg/Kg			05/22/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**795**		49.9		mg/Kg		05/19/23 07:57	05/19/23 12:42	1
Diesel Range Organics (Over C10-C28)	**2850**		49.9		mg/Kg		05/19/23 07:57	05/19/23 12:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/19/23 07:57	05/19/23 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*05/19/23 07:57*	*05/19/23 12:42*	*1*
o-Terphenyl	*98*		*70 - 130*	*05/19/23 07:57*	*05/19/23 12:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**406**		4.98		mg/Kg			05/21/23 17:26	1

Client Sample ID: BH01A

Date Collected: 05/16/23 13:45
Date Received: 05/17/23 08:33
Sample Depth: 2'

Lab Sample ID: 890-4673-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		05/22/23 14:03	05/26/23 02:17	20
Toluene	**0.0478**		0.0398		mg/Kg		05/22/23 14:03	05/26/23 02:17	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		05/22/23 14:03	05/26/23 02:17	20
m-Xylene & p-Xylene	**0.0834**		0.0795		mg/Kg		05/22/23 14:03	05/26/23 02:17	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		05/22/23 14:03	05/26/23 02:17	20
Xylenes, Total	**0.0834**		0.0795		mg/Kg		05/22/23 14:03	05/26/23 02:17	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*05/22/23 14:03*	*05/26/23 02:17*	*20*

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Client Sample ID: BH01A

Date Collected: 05/16/23 13:45
Date Received: 05/17/23 08:33
Sample Depth: 2'

Lab Sample ID: 890-4673-2

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*05/22/23 14:03*	*05/26/23 02:17*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.131**		0.0795	mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**207**		50.0	mg/Kg			05/22/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/19/23 07:57	05/19/23 13:03	1
Diesel Range Organics (Over C10-C28)	**207**		50.0	mg/Kg		05/19/23 07:57	05/19/23 13:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/19/23 07:57	05/19/23 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*95*		*70 - 130*	*05/19/23 07:57*	*05/19/23 13:03*	*1*
o-Terphenyl	*98*		*70 - 130*	*05/19/23 07:57*	*05/19/23 13:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**518**		4.99	mg/Kg			05/31/23 20:15	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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)
880-28390-A-5 MB	Method Blank	78	96
880-28876-A-1-A MS	Matrix Spike	105	103
880-28876-A-1-B MSD	Matrix Spike Duplicate	99	110
890-4672-A-1-C MS	Matrix Spike	86	110
890-4672-A-1-D MSD	Matrix Spike Duplicate	91	101
890-4673-1	BH01	186 S1+	115
890-4673-2	BH01A	93	80
LCS 880-53895/1-A	Lab Control Sample	96	88
LCS 880-54365/1-A	Lab Control Sample	106	101
LCSD 880-53895/2-A	Lab Control Sample Dup	93	107
LCSD 880-54365/2-A	Lab Control Sample Dup	99	103
MB 880-53895/5-A	Method Blank	99	111
MB 880-54365/5-A	Method Blank	90	109

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-28597-A-1-E MS	Matrix Spike	90	82
880-28597-A-1-F MSD	Matrix Spike Duplicate	89	80
890-4673-1	BH01	113	98
890-4673-2	BH01A	95	98
LCS 880-53720/2-A	Lab Control Sample	72	71
LCSD 880-53720/3-A	Lab Control Sample Dup	77	74
MB 880-53720/1-A	Method Blank	160 S1+	171 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-53895/5-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 53895

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/22/23 14:03	05/25/23 22:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*05/22/23 14:03*	*05/25/23 22:45*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*05/22/23 14:03*	*05/25/23 22:45*	*1*

Lab Sample ID: LCS 880-53895/1-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 53895

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1201		mg/Kg		120	70 - 130		
Toluene			0.100	0.1067		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.09581		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.09341		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: LCSD 880-53895/2-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 53895

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1220		mg/Kg		122	70 - 130	2	35
Toluene			0.100	0.1114		mg/Kg		111	70 - 130	4	35
Ethylbenzene			0.100	0.09653		mg/Kg		97	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2049		mg/Kg		102	70 - 130	3	35
o-Xylene			0.100	0.09616		mg/Kg		96	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-4672-A-1-C MS
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09516		mg/Kg		95	70 - 130		
Toluene	<0.00201	U	0.100	0.07831		mg/Kg		78	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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

Lab Sample ID: 890-4672-A-1-C MS
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.100	0.06268	F1	mg/Kg		62	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1420		mg/Kg		71	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.06740	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-4672-A-1-D MSD
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09316		mg/Kg		94	70 - 130	2	35
Toluene	<0.00201	U	0.0996	0.08153		mg/Kg		82	70 - 130	4	35
Ethylbenzene	<0.00201	U F1	0.0996	0.07255		mg/Kg		73	70 - 130	15	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1552		mg/Kg		78	70 - 130	9	35
o-Xylene	<0.00201	U F1	0.0996	0.07335		mg/Kg		73	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-28390-A-5 MB
Matrix: Solid
Analysis Batch: 54127

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Toluene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			05/25/23 12:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			05/25/23 12:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*		*05/25/23 12:59*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*		*05/25/23 12:59*	*1*

Lab Sample ID: MB 880-54365/5-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54365

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/30/23 09:40	05/30/23 11:30	1

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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

Lab Sample ID: MB 880-54365/5-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54365

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/30/23 09:40	05/30/23 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*05/30/23 09:40*	*05/30/23 11:30*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*05/30/23 09:40*	*05/30/23 11:30*	*1*

Lab Sample ID: LCS 880-54365/1-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54365

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09839		mg/Kg		98	70 - 130		
Toluene			0.100	0.09022		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.08827		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1870		mg/Kg		93	70 - 130		
o-Xylene			0.100	0.09537		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-54365/2-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54365

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1284		mg/Kg		128	70 - 130	26	35
Toluene			0.100	0.1125		mg/Kg		113	70 - 130	22	35
Ethylbenzene			0.100	0.1041		mg/Kg		104	70 - 130	16	35
m-Xylene & p-Xylene			0.200	0.2159		mg/Kg		108	70 - 130	14	35
o-Xylene			0.100	0.1082		mg/Kg		108	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-28876-A-1-A MS
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54365

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1210		mg/Kg		120	70 - 130		
Toluene	<0.00201	U	0.101	0.1065		mg/Kg		106	70 - 130		
Ethylbenzene	<0.00201	U	0.101	0.1040		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2162		mg/Kg		107	70 - 130		
o-Xylene	<0.00201	U	0.101	0.1073		mg/Kg		106	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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

Lab Sample ID: 880-28876-A-1-A MS
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54365

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-28876-A-1-B MSD
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54365

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.1191		mg/Kg		120	70 - 130	2	35
Toluene	<0.00201	U	0.0996	0.09924		mg/Kg		100	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0996	0.09310		mg/Kg		93	70 - 130	11	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1915		mg/Kg		96	70 - 130	12	35
o-Xylene	<0.00201	U	0.0996	0.09560		mg/Kg		96	70 - 130	12	35

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

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

Lab Sample ID: MB 880-53720/1-A
Matrix: Solid
Analysis Batch: 53715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 53720

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		05/19/23 07:57	05/19/23 08:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/19/23 07:57	05/19/23 08:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/19/23 07:57	05/19/23 08:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	160	S1+	70 - 130	05/19/23 07:57	05/19/23 08:23	1
o-Terphenyl	171	S1+	70 - 130	05/19/23 07:57	05/19/23 08:23	1

Lab Sample ID: LCS 880-53720/2-A
Matrix: Solid
Analysis Batch: 53715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 53720

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	862.7		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	823.8		mg/Kg		82	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	72		70 - 130
o-Terphenyl	71		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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

Lab Sample ID: LCSD 880-53720/3-A
Matrix: Solid
Analysis Batch: 53715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 53720

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	773.4		mg/Kg		77	70 - 130	11	20
Diesel Range Organics (Over C10-C28)			1000	807.4		mg/Kg		81	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Lab Sample ID: 880-28597-A-1-E MS
Matrix: Solid
Analysis Batch: 53715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53720

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	881.1		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	936.4		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: 880-28597-A-1-F MSD
Matrix: Solid
Analysis Batch: 53715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 53720

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	951.5		mg/Kg		95	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	915.9		mg/Kg		89	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-53740/1-A
Matrix: Solid
Analysis Batch: 53794

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			05/21/23 17:10	1

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-53740/2-A
Matrix: Solid
Analysis Batch: 53794

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	263.2		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-53740/3-A
Matrix: Solid
Analysis Batch: 53794

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	264.4		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 890-4673-1 MS
Matrix: Solid
Analysis Batch: 53794

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	406		249	660.8		mg/Kg		102	90 - 110		

Lab Sample ID: 890-4673-1 MSD
Matrix: Solid
Analysis Batch: 53794

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	406		248	656.7		mg/Kg		101	90 - 110	1	20

Lab Sample ID: MB 880-54418/1-A
Matrix: Solid
Analysis Batch: 54489

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			05/31/23 17:22	1

Lab Sample ID: LCS 880-54418/2-A
Matrix: Solid
Analysis Batch: 54489

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	263.7		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-54418/3-A
Matrix: Solid
Analysis Batch: 54489

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	257.0		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 890-4747-A-2-C MS
Matrix: Solid
Analysis Batch: 54489

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	1710	F1	2510	4470		mg/Kg		110	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-4747-A-2-D MSD
Matrix: Solid
Analysis Batch: 54489

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	1710	F1	2510	4584	F1	mg/Kg		115	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

GC VOA

Prep Batch: 53895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-2	BH01A	Total/NA	Solid	5035	
MB 880-53895/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-53895/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-53895/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4672-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-4672-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 54127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-2	BH01A	Total/NA	Solid	8021B	53895
880-28390-A-5 MB	Method Blank	Total/NA	Solid	8021B	
MB 880-53895/5-A	Method Blank	Total/NA	Solid	8021B	53895
LCS 880-53895/1-A	Lab Control Sample	Total/NA	Solid	8021B	53895
LCSD 880-53895/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	53895
890-4672-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	53895
890-4672-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	53895

Analysis Batch: 54295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	Total BTEX	
890-4673-2	BH01A	Total/NA	Solid	Total BTEX	

Analysis Batch: 54337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	8021B	54365
MB 880-54365/5-A	Method Blank	Total/NA	Solid	8021B	54365
LCS 880-54365/1-A	Lab Control Sample	Total/NA	Solid	8021B	54365
LCSD 880-54365/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	54365
880-28876-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	54365
880-28876-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	54365

Prep Batch: 54365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	5035	
MB 880-54365/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-54365/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-54365/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-28876-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-28876-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 53715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	8015B NM	53720
890-4673-2	BH01A	Total/NA	Solid	8015B NM	53720
MB 880-53720/1-A	Method Blank	Total/NA	Solid	8015B NM	53720
LCS 880-53720/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	53720
LCSD 880-53720/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	53720
880-28597-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	53720
880-28597-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	53720

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

GC Semi VOA

Prep Batch: 53720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	8015NM Prep	
890-4673-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-53720/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-53720/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-53720/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-28597-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-28597-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 53850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Total/NA	Solid	8015 NM	
890-4673-2	BH01A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 53740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Soluble	Solid	DI Leach	
MB 880-53740/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-53740/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-53740/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4673-1 MS	BH01	Soluble	Solid	DI Leach	
890-4673-1 MSD	BH01	Soluble	Solid	DI Leach	

Analysis Batch: 53794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-1	BH01	Soluble	Solid	300.0	53740
MB 880-53740/1-A	Method Blank	Soluble	Solid	300.0	53740
LCS 880-53740/2-A	Lab Control Sample	Soluble	Solid	300.0	53740
LCSD 880-53740/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	53740
890-4673-1 MS	BH01	Soluble	Solid	300.0	53740
890-4673-1 MSD	BH01	Soluble	Solid	300.0	53740

Leach Batch: 54418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-2	BH01A	Soluble	Solid	DI Leach	
MB 880-54418/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-54418/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-54418/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4747-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4747-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 54489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4673-2	BH01A	Soluble	Solid	300.0	54418
MB 880-54418/1-A	Method Blank	Soluble	Solid	300.0	54418
LCS 880-54418/2-A	Lab Control Sample	Soluble	Solid	300.0	54418
LCSD 880-54418/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	54418
890-4747-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	54418
890-4747-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	54418

Lab Chronicle

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Client Sample ID: BH01

Date Collected: 05/16/23 13:35
Date Received: 05/17/23 08:33

Lab Sample ID: 890-4673-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	54365	05/30/23 09:40	EL	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	54337	05/30/23 14:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54295	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			53850	05/22/23 09:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	53720	05/19/23 07:57	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53715	05/19/23 12:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	53740	05/19/23 09:41	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53794	05/21/23 17:26	CH	EET MID

Client Sample ID: BH01A

Date Collected: 05/16/23 13:45
Date Received: 05/17/23 08:33

Lab Sample ID: 890-4673-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	54127	05/26/23 02:17	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54295	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53850	05/22/23 09:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	53720	05/19/23 07:57	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53715	05/19/23 13:03	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	54418	05/30/23 13:29	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54489	05/31/23 20:15	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4673-1
SDG: 03C1558215

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4673-1	BH01	Solid	05/16/23 13:35	05/17/23 08:33	0.5'
890-4673-2	BH01A	Solid	05/16/23 13:45	05/17/23 08:33	2'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU Pierce Canyon 17	Turn Around	
Project Number:	03C1558215	☑ Routine ☐ Rush	
Project Location:	32.12406,-103.89609	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAMU-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
BH01	S	5/16/2023	13:35	0.5'	Grab/	1		x	x	x
BH01A	S	5/16/2023	13:45	2'	Grab/	1		x	x	x

Parameters

890-4673 Chain of Custody

Sample Comments

Incident ID: NAPP2233951574
Cost Center: 1081061001
API: 30-015-36635
bbelill@ensolum.com

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		5/17/23 7:50 am	2		
3		5/17/23 0830			
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4673-1
SDG Number: 03C1558215

Login Number: 4673
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4673-1
SDG Number: 03C1558215

Login Number: 4673
List Number: 2
Creator: Johnson, Allison

List Source: Eurofins Midland
List Creation: 05/19/23 08:01 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 6/2/2023 10:21:21 AM Revision 1

JOB DESCRIPTION

PLU Pierce Canyon 17
SDG NUMBER 03C1558215

JOB NUMBER

890-4674-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

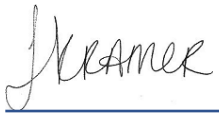
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
6/2/2023 10:21:21 AM
Revision 1

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

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Job ID: 890-4674-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4674-1

REVISION

The report being provided is a revision of the original report sent on 5/30/2023. The report (revision 1) is being revised due to Per client email, requesting PH03B be taken off hold..

Receipt
The samples were received on 5/17/2023 8:21 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 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-4674-1), PH02 (890-4674-2), PH03 (890-4674-3), PH03A (890-4674-4), PH03B (890-4674-5), PH04 (890-4674-6), PH05 (890-4674-7), SS10 (890-4674-8), SS11 (890-4674-9) and SS12 (890-4674-10).

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): PH01 (890-4674-1), PH02 (890-4674-2), PH03 (890-4674-3), PH03A (890-4674-4), PH03B (890-4674-5), PH04 (890-4674-6), PH05 (890-4674-7), SS10 (890-4674-8), SS11 (890-4674-9) and SS12 (890-4674-10). The container labels list 890-4674 while the COC lists 4674-a-6 The client was contacted, and the lab was instructed to jar: ph21 2' 9:10 5-16-23
coc: ph04 9:10 5-16-23 with the sample and coc matching with time and date these are the same sample- will be sent out like normal

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-53895 and analytical batch 880-54127 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-53658 and analytical batch 880-53627 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH01 (890-4674-1), PH02 (890-4674-2), PH03 (890-4674-3), PH03A (890-4674-4) and PH04 (890-4674-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-53627 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-53627/31).

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-54453 and analytical batch 880-54532 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-28880-A-9-A), (880-28880-A-9-B MS) and (880-28880-A-9-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH03B (890-4674-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Case Narrative

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Job ID: 890-4674-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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 880-53659 and analytical batch 880-53760 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 Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH01

Date Collected: 05/15/23 10:20
Date Received: 05/17/23 08:21
Sample Depth: 3'

Lab Sample ID: 890-4674-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:07	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:07	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 04:07	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:07	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 04:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:07*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**54.6**		49.8		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/18/23 10:51	05/18/23 13:33	1
Diesel Range Organics (Over C10-C28)	**54.6**		49.8		mg/Kg		05/18/23 10:51	05/18/23 13:33	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/18/23 10:51	05/18/23 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*224*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 13:33*	*1*
o-Terphenyl	*223*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 13:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**525**		5.03		mg/Kg			05/20/23 14:37	1

Client Sample ID: PH02

Date Collected: 05/15/23 12:30
Date Received: 05/17/23 08:21
Sample Depth: 3'

Lab Sample ID: 890-4674-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 04:28	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 04:28	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:28*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH02
Date Collected: 05/15/23 12:30
Date Received: 05/17/23 08:21
Sample Depth: 3'

Lab Sample ID: 890-4674-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/18/23 10:51	05/18/23 13:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/18/23 10:51	05/18/23 13:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/18/23 10:51	05/18/23 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*225*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 13:55*	*1*
o-Terphenyl	*216*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 13:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**323**		5.03	mg/Kg			05/20/23 14:42	1

Client Sample ID: PH03
Date Collected: 05/15/23 13:00
Date Received: 05/17/23 08:21
Sample Depth: 1'

Lab Sample ID: 890-4674-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0998	U	0.0998	mg/Kg		05/22/23 14:03	05/26/23 07:11	50
Toluene	**0.290**		0.0998	mg/Kg		05/22/23 14:03	05/26/23 07:11	50
Ethylbenzene	**0.239**		0.0998	mg/Kg		05/22/23 14:03	05/26/23 07:11	50
m-Xylene & p-Xylene	**3.09**		0.200	mg/Kg		05/22/23 14:03	05/26/23 07:11	50
o-Xylene	**2.14**		0.0998	mg/Kg		05/22/23 14:03	05/26/23 07:11	50
Xylenes, Total	**5.23**		0.200	mg/Kg		05/22/23 14:03	05/26/23 07:11	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*05/22/23 14:03*	*05/26/23 07:11*	*50*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*05/22/23 14:03*	*05/26/23 07:11*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**5.76**		0.200	mg/Kg			05/30/23 08:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1750**		50.0	mg/Kg			05/19/23 10:39	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH03
Date Collected: 05/15/23 13:00
Date Received: 05/17/23 08:21
Sample Depth: 1'

Lab Sample ID: 890-4674-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	649		50.0		mg/Kg		05/18/23 10:51	05/18/23 14:17	1
Diesel Range Organics (Over C10-C28)	1030		50.0		mg/Kg		05/18/23 10:51	05/18/23 14:17	1
Oil Range Organics (Over C28-C36)	66.5		50.0		mg/Kg		05/18/23 10:51	05/18/23 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*258*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 14:17*	*1*
o-Terphenyl	*244*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 14:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	122		5.03		mg/Kg			05/20/23 16:56	1

Client Sample ID: PH03A
Date Collected: 05/15/23 14:30
Date Received: 05/17/23 08:21
Sample Depth: 6'

Lab Sample ID: 890-4674-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 04:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 04:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 04:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/22/23 14:03	05/26/23 04:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 04:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/22/23 14:03	05/26/23 04:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:48*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*05/22/23 14:03*	*05/26/23 04:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 14:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 14:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*229*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 14:38*	*1*
o-Terphenyl	*232*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 14:38*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH03A
Date Collected: 05/15/23 14:30
Date Received: 05/17/23 08:21
Sample Depth: 6'

Lab Sample ID: 890-4674-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	749		4.98		mg/Kg			05/20/23 17:01	1

Client Sample ID: PH03B
Date Collected: 05/15/23 14:45
Date Received: 05/17/23 08:21
Sample Depth: 8'

Lab Sample ID: 890-4674-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			06/02/23 09:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/18/23 10:51	06/01/23 19:03	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/18/23 10:51	06/01/23 19:03	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/18/23 10:51	06/01/23 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*05/18/23 10:51*	*06/01/23 19:03*	*1*
o-Terphenyl	*102*		*70 - 130*	*05/18/23 10:51*	*06/01/23 19:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	238		4.95		mg/Kg			05/31/23 13:58	1

Client Sample ID: PH04
Date Collected: 05/16/23 09:10
Date Received: 05/17/23 08:21
Sample Depth: 2'

Lab Sample ID: 890-4674-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 05:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 05:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 05:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		05/22/23 14:03	05/26/23 05:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 05:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		05/22/23 14:03	05/26/23 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:09*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			05/26/23 17:42	1

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH04

Date Collected: 05/16/23 09:10
Date Received: 05/17/23 08:21
Sample Depth: 2'

Lab Sample ID: 890-4674-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 15:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 15:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*05/18/23 10:51*	*05/18/23 15:00*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*05/18/23 10:51*	*05/18/23 15:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.6**		4.97		mg/Kg			05/20/23 17:17	1

Client Sample ID: PH05

Date Collected: 05/16/23 09:25
Date Received: 05/17/23 08:21
Sample Depth: 3'

Lab Sample ID: 890-4674-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 05:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 05:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 05:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 05:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/22/23 14:03	05/26/23 05:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/22/23 14:03	05/26/23 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:29*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**55.8**		49.9		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 15:22	1
Diesel Range Organics (Over C10-C28)	**55.8**		49.9		mg/Kg		05/18/23 10:51	05/18/23 15:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/18/23 10:51	05/18/23 15:22	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH05
Date Collected: 05/16/23 09:25
Date Received: 05/17/23 08:21
Sample Depth: 3'

Lab Sample ID: 890-4674-7
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*05/18/23 10:51*	*05/18/23 15:22*	*1*
o-Terphenyl	*119*		*70 - 130*	*05/18/23 10:51*	*05/18/23 15:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**142**		5.03	mg/Kg			05/20/23 17:23	1

Client Sample ID: SS10
Date Collected: 05/16/23 13:50
Date Received: 05/17/23 08:21
Sample Depth: 0.5'

Lab Sample ID: 890-4674-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/22/23 14:03	05/26/23 05:49	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/22/23 14:03	05/26/23 05:49	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/22/23 14:03	05/26/23 05:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/22/23 14:03	05/26/23 05:49	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/22/23 14:03	05/26/23 05:49	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/22/23 14:03	05/26/23 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:49*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/22/23 14:03*	*05/26/23 05:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/18/23 10:51	05/18/23 15:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/18/23 10:51	05/18/23 15:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/18/23 10:51	05/18/23 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*05/18/23 10:51*	*05/18/23 15:43*	*1*
o-Terphenyl	*116*		*70 - 130*	*05/18/23 10:51*	*05/18/23 15:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.6**		5.05	mg/Kg			05/20/23 17:28	1

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: SS11

Date Collected: 05/16/23 13:55
Date Received: 05/17/23 08:21
Sample Depth: 0.5'

Lab Sample ID: 890-4674-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 06:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 06:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 06:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/22/23 14:03	05/26/23 06:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/26/23 06:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/22/23 14:03	05/26/23 06:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*05/22/23 14:03*	*05/26/23 06:10*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/22/23 14:03*	*05/26/23 06:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/18/23 10:51	05/18/23 16:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/18/23 10:51	05/18/23 16:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/18/23 10:51	05/18/23 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*05/18/23 10:51*	*05/18/23 16:28*	*1*
o-Terphenyl	*94*		*70 - 130*	*05/18/23 10:51*	*05/18/23 16:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.5**		5.05		mg/Kg			05/20/23 17:33	1

Client Sample ID: SS12

Date Collected: 05/16/23 14:00
Date Received: 05/17/23 08:21
Sample Depth: 0.5'

Lab Sample ID: 890-4674-10
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 06:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 06:30	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 06:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/22/23 14:03	05/26/23 06:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/22/23 14:03	05/26/23 06:30	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/22/23 14:03	05/26/23 06:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*05/22/23 14:03*	*05/26/23 06:30*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: SS12

Date Collected: 05/16/23 14:00
Date Received: 05/17/23 08:21
Sample Depth: 0.5'

Lab Sample ID: 890-4674-10

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*05/22/23 14:03*	*05/26/23 06:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			05/26/23 17:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			05/19/23 10:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/18/23 10:51	05/18/23 16:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/18/23 10:51	05/18/23 16:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/18/23 10:51	05/18/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*05/18/23 10:51*	*05/18/23 16:50*	*1*
o-Terphenyl	*114*		*70 - 130*	*05/18/23 10:51*	*05/18/23 16:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71.4**		5.05		mg/Kg			05/20/23 17:39	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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)
880-28390-A-5 MB	Method Blank	78	96
890-4672-A-1-C MS	Matrix Spike	86	110
890-4672-A-1-D MSD	Matrix Spike Duplicate	91	101
890-4674-1	PH01	87	98
890-4674-2	PH02	89	90
890-4674-3	PH03	84	71
890-4674-4	PH03A	97	91
890-4674-6	PH04	99	96
890-4674-7	PH05	99	102
890-4674-8	SS10	89	96
890-4674-9	SS11	92	96
890-4674-10	SS12	95	100
LCS 880-53895/1-A	Lab Control Sample	96	88
LCSD 880-53895/2-A	Lab Control Sample Dup	93	107
MB 880-53895/5-A	Method Blank	99	111

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-28483-A-21-E MS	Matrix Spike	116	113
880-28483-A-21-F MSD	Matrix Spike Duplicate	108	98
880-28880-A-9-B MS	Matrix Spike	146 S1+	105
880-28880-A-9-C MSD	Matrix Spike Duplicate	146 S1+	105
890-4674-1	PH01	224 S1+	223 S1+
890-4674-2	PH02	225 S1+	216 S1+
890-4674-3	PH03	258 S1+	244 S1+
890-4674-4	PH03A	229 S1+	232 S1+
890-4674-5	PH03B	133 S1+	102
890-4674-6	PH04	120	132 S1+
890-4674-7	PH05	116	119
890-4674-8	SS10	112	116
890-4674-9	SS11	96	94
890-4674-10	SS12	112	114
LCS 880-53658/2-A	Lab Control Sample	95	93
LCS 880-54453/2-A	Lab Control Sample	107	84
LCSD 880-53658/3-A	Lab Control Sample Dup	109	109
LCSD 880-54453/3-A	Lab Control Sample Dup	122	93
MB 880-53658/1-A	Method Blank	195 S1+	206 S1+
MB 880-54453/1-A	Method Blank	170 S1+	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-53895/5-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 53895

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/22/23 14:03	05/25/23 22:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/22/23 14:03	05/25/23 22:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*05/22/23 14:03*	*05/25/23 22:45*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*05/22/23 14:03*	*05/25/23 22:45*	*1*

Lab Sample ID: LCS 880-53895/1-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 53895

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1201		mg/Kg		120	70 - 130		
Toluene			0.100	0.1067		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.09581		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.09341		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: LCSD 880-53895/2-A
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 53895

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1220		mg/Kg		122	70 - 130	2	35
Toluene			0.100	0.1114		mg/Kg		111	70 - 130	4	35
Ethylbenzene			0.100	0.09653		mg/Kg		97	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2049		mg/Kg		102	70 - 130	3	35
o-Xylene			0.100	0.09616		mg/Kg		96	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-4672-A-1-C MS
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09516		mg/Kg		95	70 - 130		
Toluene	<0.00201	U	0.100	0.07831		mg/Kg		78	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

Lab Sample ID: 890-4672-A-1-C MS
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.100	0.06268	F1	mg/Kg		62	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1420		mg/Kg		71	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.06740	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-4672-A-1-D MSD
Matrix: Solid
Analysis Batch: 54127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 53895

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09316		mg/Kg		94	70 - 130	2	35
Toluene	<0.00201	U	0.0996	0.08153		mg/Kg		82	70 - 130	4	35
Ethylbenzene	<0.00201	U F1	0.0996	0.07255		mg/Kg		73	70 - 130	15	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1552		mg/Kg		78	70 - 130	9	35
o-Xylene	<0.00201	U F1	0.0996	0.07335		mg/Kg		73	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-28390-A-5 MB
Matrix: Solid
Analysis Batch: 54127

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Toluene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			05/25/23 12:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			05/25/23 12:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			05/25/23 12:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*		*05/25/23 12:59*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*		*05/25/23 12:59*	*1*

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

Lab Sample ID: MB 880-53658/1-A
Matrix: Solid
Analysis Batch: 53627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 53658

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		05/18/23 08:00	05/18/23 08:37	1

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

Lab Sample ID: MB 880-53658/1-A
Matrix: Solid
Analysis Batch: 53627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 53658

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		05/18/23 08:00	05/18/23 08:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/18/23 08:00	05/18/23 08:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*195*	*S1+*	*70 - 130*	*05/18/23 08:00*	*05/18/23 08:37*	*1*
o-Terphenyl	*206*	*S1+*	*70 - 130*	*05/18/23 08:00*	*05/18/23 08:37*	*1*

Lab Sample ID: LCS 880-53658/2-A
Matrix: Solid
Analysis Batch: 53627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 53658

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	962.5		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	988.7		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: LCSD 880-53658/3-A
Matrix: Solid
Analysis Batch: 53627

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 53658

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	947.9		mg/Kg		95	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	980.4		mg/Kg		98	70 - 130	1	20

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

Lab Sample ID: 880-28483-A-21-E MS
Matrix: Solid
Analysis Batch: 53627

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 53658

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	997	1015		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1075		mg/Kg		104	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

Lab Sample ID: 880-28483-A-21-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 53627 — **Prep Batch: 53658**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	908.9		mg/Kg		89	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	967.5		mg/Kg		93	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: MB 880-54453/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 54532 — **Prep Batch: 54453**

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		05/31/23 09:15	06/01/23 08:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/31/23 09:15	06/01/23 08:40	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/31/23 09:15	06/01/23 08:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*170*	*S1+*	*70 - 130*	*05/31/23 09:15*	*06/01/23 08:40*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*05/31/23 09:15*	*06/01/23 08:40*	*1*

Lab Sample ID: LCS 880-54453/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 54532 — **Prep Batch: 54453**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	913.7		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	946.1		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Lab Sample ID: LCSD 880-54453/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 54532 — **Prep Batch: 54453**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1008		mg/Kg		101	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1013		mg/Kg		101	70 - 130	7	20

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

Lab Sample ID: LCSD 880-54453/3-A
Matrix: Solid
Analysis Batch: 54532

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54453

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 880-28880-A-9-B MS
Matrix: Solid
Analysis Batch: 54532

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54453

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	1201		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1124		mg/Kg		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	146	S1+	70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 880-28880-A-9-C MSD
Matrix: Solid
Analysis Batch: 54532

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54453

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	997	1191		mg/Kg		119	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1120		mg/Kg		112	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	146	S1+	70 - 130
o-Terphenyl	105		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-53660/1-A
Matrix: Solid
Analysis Batch: 53759

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			05/20/23 15:09	1

Lab Sample ID: LCS 880-53660/2-A
Matrix: Solid
Analysis Batch: 53759

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.4		mg/Kg		105	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-53660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53759

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 880-28573-A-11-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53759

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	327		249	570.1		mg/Kg		98	90 - 110

Lab Sample ID: 880-28573-A-11-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53759

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	327		249	574.1		mg/Kg		99	90 - 110	1	20

Lab Sample ID: MB 880-53659/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53760

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/20/23 12:02	1

Lab Sample ID: LCS 880-53659/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53760

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	259.1		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-53659/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53760

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.2		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 880-28575-A-4-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53760

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	57.2	F1	252	339.0	F1	mg/Kg		112	90 - 110

Lab Sample ID: 880-28575-A-4-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 53760

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	57.2	F1	252	339.6	F1	mg/Kg		112	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-54462/1-A
Matrix: Solid
Analysis Batch: 54494

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			05/31/23 12:06	1

Lab Sample ID: LCS 880-54462/2-A
Matrix: Solid
Analysis Batch: 54494

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.5		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-54462/3-A
Matrix: Solid
Analysis Batch: 54494

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	245.1		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 880-28929-A-14-B MS
Matrix: Solid
Analysis Batch: 54494

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	51.5		249	291.3		mg/Kg		96	90 - 110		

Lab Sample ID: 880-28929-A-14-C MSD
Matrix: Solid
Analysis Batch: 54494

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	51.5		249	290.6		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

GC VOA

Prep Batch: 53895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	5035	
890-4674-2	PH02	Total/NA	Solid	5035	
890-4674-3	PH03	Total/NA	Solid	5035	
890-4674-4	PH03A	Total/NA	Solid	5035	
890-4674-6	PH04	Total/NA	Solid	5035	
890-4674-7	PH05	Total/NA	Solid	5035	
890-4674-8	SS10	Total/NA	Solid	5035	
890-4674-9	SS11	Total/NA	Solid	5035	
890-4674-10	SS12	Total/NA	Solid	5035	
MB 880-53895/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-53895/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-53895/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4672-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-4672-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 54127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	8021B	53895
890-4674-2	PH02	Total/NA	Solid	8021B	53895
890-4674-3	PH03	Total/NA	Solid	8021B	53895
890-4674-4	PH03A	Total/NA	Solid	8021B	53895
890-4674-6	PH04	Total/NA	Solid	8021B	53895
890-4674-7	PH05	Total/NA	Solid	8021B	53895
890-4674-8	SS10	Total/NA	Solid	8021B	53895
890-4674-9	SS11	Total/NA	Solid	8021B	53895
890-4674-10	SS12	Total/NA	Solid	8021B	53895
880-28390-A-5 MB	Method Blank	Total/NA	Solid	8021B	
MB 880-53895/5-A	Method Blank	Total/NA	Solid	8021B	53895
LCS 880-53895/1-A	Lab Control Sample	Total/NA	Solid	8021B	53895
LCSD 880-53895/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	53895
890-4672-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	53895
890-4672-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	53895

Analysis Batch: 54296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	Total BTEX	
890-4674-2	PH02	Total/NA	Solid	Total BTEX	
890-4674-3	PH03	Total/NA	Solid	Total BTEX	
890-4674-4	PH03A	Total/NA	Solid	Total BTEX	
890-4674-6	PH04	Total/NA	Solid	Total BTEX	
890-4674-7	PH05	Total/NA	Solid	Total BTEX	
890-4674-8	SS10	Total/NA	Solid	Total BTEX	
890-4674-9	SS11	Total/NA	Solid	Total BTEX	
890-4674-10	SS12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 53627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	8015B NM	53658
890-4674-2	PH02	Total/NA	Solid	8015B NM	53658

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

GC Semi VOA (Continued)

Analysis Batch: 53627 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-3	PH03	Total/NA	Solid	8015B NM	53658
890-4674-4	PH03A	Total/NA	Solid	8015B NM	53658
890-4674-6	PH04	Total/NA	Solid	8015B NM	53658
890-4674-7	PH05	Total/NA	Solid	8015B NM	53658
890-4674-8	SS10	Total/NA	Solid	8015B NM	53658
890-4674-9	SS11	Total/NA	Solid	8015B NM	53658
890-4674-10	SS12	Total/NA	Solid	8015B NM	53658
MB 880-53658/1-A	Method Blank	Total/NA	Solid	8015B NM	53658
LCS 880-53658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	53658
LCSD 880-53658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	53658
880-28483-A-21-E MS	Matrix Spike	Total/NA	Solid	8015B NM	53658
880-28483-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	53658

Prep Batch: 53658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	8015NM Prep	
890-4674-2	PH02	Total/NA	Solid	8015NM Prep	
890-4674-3	PH03	Total/NA	Solid	8015NM Prep	
890-4674-4	PH03A	Total/NA	Solid	8015NM Prep	
890-4674-6	PH04	Total/NA	Solid	8015NM Prep	
890-4674-7	PH05	Total/NA	Solid	8015NM Prep	
890-4674-8	SS10	Total/NA	Solid	8015NM Prep	
890-4674-9	SS11	Total/NA	Solid	8015NM Prep	
890-4674-10	SS12	Total/NA	Solid	8015NM Prep	
MB 880-53658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-53658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-53658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-28483-A-21-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-28483-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 53755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Total/NA	Solid	8015 NM	
890-4674-2	PH02	Total/NA	Solid	8015 NM	
890-4674-3	PH03	Total/NA	Solid	8015 NM	
890-4674-4	PH03A	Total/NA	Solid	8015 NM	
890-4674-5	PH03B	Total/NA	Solid	8015 NM	
890-4674-6	PH04	Total/NA	Solid	8015 NM	
890-4674-7	PH05	Total/NA	Solid	8015 NM	
890-4674-8	SS10	Total/NA	Solid	8015 NM	
890-4674-9	SS11	Total/NA	Solid	8015 NM	
890-4674-10	SS12	Total/NA	Solid	8015 NM	

Prep Batch: 54453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-5	PH03B	Total/NA	Solid	8015NM Prep	
MB 880-54453/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-54453/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-54453/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-28880-A-9-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-28880-A-9-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

GC Semi VOA

Analysis Batch: 54532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-5	PH03B	Total/NA	Solid	8015B NM	54453
MB 880-54453/1-A	Method Blank	Total/NA	Solid	8015B NM	54453
LCS 880-54453/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	54453
LCSD 880-54453/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	54453
880-28880-A-9-B MS	Matrix Spike	Total/NA	Solid	8015B NM	54453
880-28880-A-9-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	54453

HPLC/IC

Leach Batch: 53659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Soluble	Solid	DI Leach	
890-4674-2	PH02	Soluble	Solid	DI Leach	
MB 880-53659/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-53659/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-53659/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-28575-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-28575-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 53660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-3	PH03	Soluble	Solid	DI Leach	
890-4674-4	PH03A	Soluble	Solid	DI Leach	
890-4674-6	PH04	Soluble	Solid	DI Leach	
890-4674-7	PH05	Soluble	Solid	DI Leach	
890-4674-8	SS10	Soluble	Solid	DI Leach	
890-4674-9	SS11	Soluble	Solid	DI Leach	
890-4674-10	SS12	Soluble	Solid	DI Leach	
MB 880-53660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-53660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-53660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-28573-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-28573-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 53759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-3	PH03	Soluble	Solid	300.0	53660
890-4674-4	PH03A	Soluble	Solid	300.0	53660
890-4674-6	PH04	Soluble	Solid	300.0	53660
890-4674-7	PH05	Soluble	Solid	300.0	53660
890-4674-8	SS10	Soluble	Solid	300.0	53660
890-4674-9	SS11	Soluble	Solid	300.0	53660
890-4674-10	SS12	Soluble	Solid	300.0	53660
MB 880-53660/1-A	Method Blank	Soluble	Solid	300.0	53660
LCS 880-53660/2-A	Lab Control Sample	Soluble	Solid	300.0	53660
LCSD 880-53660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	53660
880-28573-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	53660
880-28573-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	53660

QC Association Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

HPLC/IC

Analysis Batch: 53760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-1	PH01	Soluble	Solid	300.0	53659
890-4674-2	PH02	Soluble	Solid	300.0	53659
MB 880-53659/1-A	Method Blank	Soluble	Solid	300.0	53659
LCS 880-53659/2-A	Lab Control Sample	Soluble	Solid	300.0	53659
LCSD 880-53659/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	53659
880-28575-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	53659
880-28575-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	53659

Leach Batch: 54462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-5	PH03B	Soluble	Solid	DI Leach	
MB 880-54462/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-54462/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-54462/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-28929-A-14-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-28929-A-14-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 54494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4674-5	PH03B	Soluble	Solid	300.0	54462
MB 880-54462/1-A	Method Blank	Soluble	Solid	300.0	54462
LCS 880-54462/2-A	Lab Control Sample	Soluble	Solid	300.0	54462
LCSD 880-54462/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	54462
880-28929-A-14-B MS	Matrix Spike	Soluble	Solid	300.0	54462
880-28929-A-14-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	54462

Lab Chronicle

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH01
Date Collected: 05/15/23 10:20
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 04:07	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 13:33	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	53659	05/18/23 10:56	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53760	05/20/23 14:37	CH	EET MID

Client Sample ID: PH02
Date Collected: 05/15/23 12:30
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 04:28	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 13:55	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	53659	05/18/23 10:56	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53760	05/20/23 14:42	CH	EET MID

Client Sample ID: PH03
Date Collected: 05/15/23 13:00
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-3
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	54127	05/26/23 07:11	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/30/23 08:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 14:17	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 16:56	CH	EET MID

Client Sample ID: PH03A
Date Collected: 05/15/23 14:30
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 04:48	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: PH03A
Date Collected: 05/15/23 14:30
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-4
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			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 14:38	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:01	CH	EET MID

Client Sample ID: PH03B
Date Collected: 05/15/23 14:45
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			53755	06/02/23 09:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	54453	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54532	06/01/23 19:03	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	54462	05/31/23 09:38	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54494	05/31/23 13:58	CH	EET MID

Client Sample ID: PH04
Date Collected: 05/16/23 09:10
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-6
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 05:09	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 15:00	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:17	CH	EET MID

Client Sample ID: PH05
Date Collected: 05/16/23 09:25
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-7
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 05:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 15:22	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:23	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Client Sample ID: SS10
Date Collected: 05/16/23 13:50
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-8
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 05:49	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 15:43	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:28	CH	EET MID

Client Sample ID: SS11
Date Collected: 05/16/23 13:55
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-9
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 06:10	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 16:28	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:33	CH	EET MID

Client Sample ID: SS12
Date Collected: 05/16/23 14:00
Date Received: 05/17/23 08:21

Lab Sample ID: 890-4674-10
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	53895	05/22/23 14:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54127	05/26/23 06:30	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			54296	05/26/23 17:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			53755	05/19/23 10:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	53658	05/18/23 10:51	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	53627	05/18/23 16:50	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	53660	05/18/23 11:14	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	53759	05/20/23 17:39	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU Pierce Canyon 17

Job ID: 890-4674-1
SDG: 03C1558215

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4674-1	PH01	Solid	05/15/23 10:20	05/17/23 08:21	3'
890-4674-2	PH02	Solid	05/15/23 12:30	05/17/23 08:21	3'
890-4674-3	PH03	Solid	05/15/23 13:00	05/17/23 08:21	1'
890-4674-4	PH03A	Solid	05/15/23 14:30	05/17/23 08:21	6'
890-4674-5	PH03B	Solid	05/15/23 14:45	05/17/23 08:21	8'
890-4674-6	PH04	Solid	05/16/23 09:10	05/17/23 08:21	2'
890-4674-7	PH05	Solid	05/16/23 09:25	05/17/23 08:21	3'
890-4674-8	SS10	Solid	05/16/23 13:50	05/17/23 08:21	0.5'
890-4674-9	SS11	Solid	05/16/23 13:55	05/17/23 08:21	0.5'
890-4674-10	SS12	Solid	05/16/23 14:00	05/17/23 08:21	0.5'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

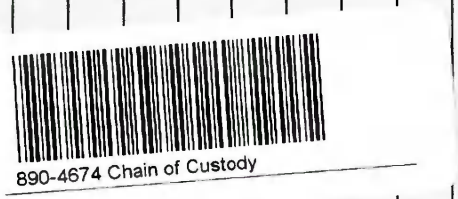
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Pierce Canyon 17	Turn Around	
Project Number:	03C1558215	☑ Routine ☐ Rush	
Project Location:	32.12406,-103.89609	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IAM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH01	S	5/15/2023	10:20	3'	Grab/	1		x	x	x
PH02	S	5/15/2023	12:30	3'	Grab/	1		x	x	x
PH03	S	5/15/2023	13:00	1'	Grab/	1		x	x	x
PH03A	S	5/15/2023	14:30	6'	Grab/	1		x	x	x
PH03B (hold)	S	5/15/2023	14:45	8'	Grab/	1		x	x	x
PH04	S	5/16/2023	9:10	2'	Grab/	1		x	x	x
PH05	S	5/16/2023	9:25	3'	Grab/	1		x	x	x
~~SS10~~	~~S~~	~~5/16/2023~~	~~13:50~~	~~0.5'~~	~~Grab/~~	~~1~~		x	x	x
SS11	S	5/16/2023	13:55	0.5'	Grab/	1		x	x	x
SS12	S	5/16/2023	14:00	0.5'	Grab/	1		x	x	x

ANALYSIS REQUEST



Preservative Codes

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

Sample Comments

Incident ID:
NAPP2233951574
Cost Center:
1081061001
API:
30-015-36635

bbelill@ensolum.com

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		5/17/23 7:50 am	2		
3	Amanda Stuff	5/17/23 08:31			
5			6		

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4674-1
SDG Number: 03C1558215

Login Number: 4674
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4674-1
SDG Number: 03C1558215

Login Number: 4674
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 05/18/23 10:36 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

Green, Garrett J

From: Green, Garrett J
Sent: Thursday, December 1, 2022 11:38 AM
To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Cc: DelawareSpills /SM
Subject: XTO 24 Hour Notification - Pierce Canyon 17 Battery - Released:11/30/22

Follow Up Flag: Follow up
Flag Status: Completed

All,

This is notification of a release greater than 25 barrels that occurred yesterday at the Pierce Canyon 17 Battery near the GPS coordinates given below. Most of the fluids remained in containment and all standing fluids were recovered by vacuum truck. Details will be provided with a form C-141. Please contact us with any questions or concerns.

GPS: 32.12423,-103.89587

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

From: Green, Garrett J
To: Tacoma Morrissey; Ben Belill
Subject: Fwd: [EXTERNAL] XTO - 48-Hour Liner Inspection Notification - Pierce Canyon 17 Tank Battery - Incident Number nAPP2233951574
Date: Friday, May 12, 2023 6:51:12 PM

[**EXTERNAL EMAIL**]

Sent from my iPhone

Begin forwarded message:

From: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Date: May 12, 2023 at 4:07:00 PM MDT
To: "Green, Garrett J" <garrett.green@exxonmobil.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>
Subject: RE: [EXTERNAL] XTO - 48-Hour Liner Inspection Notification - Pierce Canyon 17 Tank Battery - Incident Number nAPP2233951574

External Email - Think Before You Click

Garrett,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

JH

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

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, May 12, 2023 1:23 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Ben Belill <bbelill@ensolum.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: [EXTERNAL] XTO - 48-Hour Liner Inspection Notification - Pierce Canyon 17 Tank Battery - Incident Number nAPP2233951574

Good Morning,

This is sent as a 48-hour notification, XTO is scheduled to inspect the following lined containment listed below on Tuesday, May 16, 2023. Please call us with any questions or concerns.

Site: PLU PC 17 BATTERY
Incident Number: nAPP2233951574
Time: 1:30 pm MST
GPS Coordinates: (32.12406, -103.89609)

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

From: Green, Garrett J
To: Tacoma Morrissey; Ben Belill
Subject: Fwd: [EXTERNAL] XTO - Sampling Notification (Week of 5/15/23 - 5/19/23)
Date: Friday, May 12, 2023 5:50:39 PM

[**EXTERNAL EMAIL**]

Sent from my iPhone

Begin forwarded message:

From: "Enviro, OCD, EMNRD" <OCD.Enviro@emnrd.nm.gov>
Date: May 12, 2023 at 4:02:13 PM MDT
To: "Green, Garrett J" <garrett.green@exxonmobil.com>
Cc: "Bratcher, Michael, EMNRD" <mike.bratcher@emnrd.nm.gov>, "Hamlet, Robert, EMNRD" <Robert.Hamlet@emnrd.nm.gov>
Subject: RE: [EXTERNAL] XTO - Sampling Notification (Week of 5/15/23 - 5/19/23)

External Email - Think Before You Click

Garrett,

Please be aware that notification requirements are **two business days**, per rule. When sampling at multiple sites, a more detailed schedule of days at each site should be provide. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

JH

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

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, May 11, 2023 11:04 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 5/15/23 - 5/19/23)

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

All,

XTO plans to complete final sampling activities at the sites listed below for the week of May 15, 2023.

Monday
- Ross Draw 3031/ nAPP2227244441 & NAPP2300442748

Tuesday
- Ross Draw 3031/ nAPP2227244441 and NAPP2300442748
- Outrider Fed 28 Pad B / NAPP2306936047

Wednesday
- Outrider Fed 28 Pad B / NAPP2306936047

Thursday
- Outrider Fed 28 Pad B / NAPP2306936047
- PLU PC 17 BATTERY/ nAPP2233951574

Friday
- Sizzler 2H / NMAP1822337753
- PLU PC 17 BATTERY/ nAPP2233951574
- JRU 108 / nAPP2217931599

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

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

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

CONDITIONS

Action 227931

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 227931
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. The variance request for the confirmation samples every 500 ft2 is approved. Since a tear was found in the liner and the sample was over the limit for (GRO+DRO), the liner will need to pulled up and the release under the liner will need to be horizontally delineated. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Sidewall/Edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the report has been reviewed.	11/17/2023