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 | NAPP2320634792 |
| 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 32.10434 Longitude -103.80164

*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name PLU 29 Big Sinks West CTB | Site Type Central Tank Battery |
| Date Release Discovered 07/12/2023 | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| F | 29 | 25S | 31E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☒ Produced Water | Volume Released (bbls) 5.38 | Volume Recovered (bbls) 4.00 |
| | 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: Interior corrosion on the 6" tester water line caused fluids to release to pad. A vac truck was dispatched and recovered standing fluid. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2320634792 |
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| Facility ID | |
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| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br>☐ Yes ☒ No | If YES, for what reason(s) does the responsible party consider this a major release?<br>N/A |

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A

## Initial Response

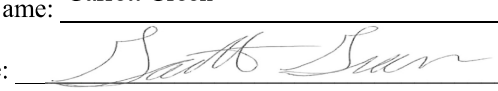
*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

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

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

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: 
Date: 7/25/2023
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

**OCD Only**

Received by: Shelly Wells
Date: 7/25/2023

| Location: | PLU 29 Big Sinks West CTB | |
|---|---|---|
| Spill Date: | 7/11/2023 | |
| **Area 1** | | |
| Approximate Area = | 1034.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 3.00 | inches |
| | | |
| Average Porosity Factor = | 0.03 | |
| | | |
| VOLUME OF LEAK | | |
| Total Crude Oil = | 0.00 | bbls |
| Total Produced Water = | 5.38 | bbls |
| **TOTAL VOLUME OF LEAK** | | |
| **Total Crude Oil =** | **0.00** | **bbls** |
| **Total Produced Water =** | **5.38** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Crude Oil =** | **0.00** | **bbls** |
| **Total Produced Water =** | **4.00** | **bbls** |

| | |
|---|---|
| Incident ID | NAPP2320634792 |
| 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? | >110 (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 | NAPP2320634792 |
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| 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: 10/5/2023

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

**OCD Only**

Received by: Shelly Wells  Date: 10/6/2023

| | |
|---|---|
| Incident ID | NAPP2320634792 |
| 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: 10/05/2023

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

**OCD Only**

Received by: Shelly Wells Date: 10/6/2023

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

Signature: _____ Date: _____

ENSOLUM

October 5, 2023

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

**Re: Deferral Request**
**PLU 29 Big Sinks West CTB**
**Incident Number NAPP2320634792**
**Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document assessment, delineation, excavation, and soil sampling activities at the PLU 29 Big Sinks West Central Tank Battery (CTB; Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water. Based on field observations and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing Site assessment, delineation, and excavation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2320634792 until the Site is reconstructed, and/or the well pad is abandoned.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 29, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.10434°, -103.80164°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On July 12, 2023, internal corrosion on a 6-inch tester produced water pipeline resulted in the release of approximately 5.38 barrels (bbls) of produced water onto the surface of the well pad and around active production equipment and process piping. A vacuum truck was immediately dispatched to the Site and recovered approximately 4.00 bbls of released fluids. XTO submitted a Release Notification Form C-141 (Form C-141) on July 25, 2023. The release was assigned Incident Number NAPP2320634792.

## 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 March 24, 2021, a soil boring permitted by New Mexico Office of the State Engineer (OSE) well C-4500, located approximately 0.97 miles southeast of the Site was drilled utilizing a truck-mounted hollow-stem auger rig. The boring was drilled to a total depth of 110 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 the potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater at that location is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A. All wells used to evaluate depth to groundwater are presented on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a seasonal riverine, located approximately 3,891 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Potential Site receptors are identified on Figure 1.

Based on the closest depth to groundwater data exceeding a distance of 0.5 miles from the Site, as preferred by the NMOCD, the following 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): 100 mg/kg
- Chloride: 600 mg/kg

## SITE ASSESSMENT ACTIVITIES

On August 28, 2023, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven delineation soil samples (SS01 through SS07) were collected at a depth 0.5 feet bgs. Delineation soil samples SS01 through SS03 were collected within the release extent and SS04 through SS07 were collected outside of the release extent to define the edge of the release. The delineation soil samples were field screened for volatile organic compounds (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was collected and a photographic log is included in Appendix B.

The delineation 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 organics (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 were collected may not have equilibrated to the 6 degrees Celsius required for shipment and long-term storage but are considered to have been received in acceptable condition by the laboratory.

Laboratory analytical results from delineation soil samples SS01 through SS03 indicated chloride and TPH concentrations exceeded the Closure Criteria. Soil samples collected outside of the release extent (SS05 through SS07) exhibited COC concentrations in compliance with the Closure Criteria and successfully defined the lateral extent of the release. Based on visible staining in the release area,

elevated field screening results, and laboratory analytical results, additional delineation and excavation of impacted soil appeared warranted.

## DELINEATION AND EXCAVATION ACTIVITIES

On September 19 and 20, 2023, Ensolum personnel returned to the Site to oversee delineation excavation activities. Six potholes (PH01 through PH03, and PH05 through PH07) were advanced via backhoe or hydrovac to assess the lateral and vertical definition of the release. Potholes PH01 through PH03 and PH05 through PH07 were advanced in the vicinity of delineation soil samples SS01 through SS03 and SS05 through SS07, respectively. All potholes were advanced to depths ranging from 2 feet to 3 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 3 feet bgs. The delineation soil samples were field screened, handled, and submitted for analysis for the same COCs as described above. Field screening results and observations from all potholes were logged on a lithologic/soil sampling log, which are included in Appendix C. All delineation soil sample locations are depicted on Figure 2.

Soil was excavated soil to the maximum extent possible (MEP) with a hydrovac and backhoe in the area represented by delineation soil samples SS01/PH01 through SS03/PH03, all of which contained TPH and chloride concentrations exceeding the Closure Criteria. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any on-site, active production equipment. Following the removal of impacted soil, 5-point composite confirmation soil samples were collected every 200 square feet from the floor of the excavation (FS01 through FS03) at a depth of 1.5 feet bgs. and every 200 feet from the sidewalls of the excavation (SW01 through SW03) at depths ranging from ground surface to 1.5 feet bgs.The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thouroughly mixing. Confirmation soil samples were handled and analyzed in the same manner as described above. All floor and sidewall excavation confirmation soil sample locations are depicted on Figure 3.

The final excavation extent measured approximately 599 square feet. A total of approximately 33 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 through SS03 indicated TPH and chloride concentrations exceeded Site Closure Criteria. The soil represented by those soil samples was removed during excavation activities. The excavation confirmation samples were in compliance with Closure Criteria, except for sidewall soil sample SW03 (TPH: 674 mg/kg; chloride: 7,860 mg/kg). Laboratory analytical results are summarized on Table 1, and the complete laboratory analytical reports are included in Appendix D. NMOCD notifications are provided in Appendix E.

## DEFFERAL REQUEST

Due to active production equipment and process piping present in the area, the remaining impacted soil along that sidewall was not removed, and XTO is requesting deferral of final remediation. The estimated area of remaining impacted soil measures an area of 519 square feet, and a total of approximately 58 cubic yards of impacted soil remains in place, assuming a depth of 3 feet bgs based on laboratory analytical results from delineation soil samples. The impacted soil is limited to the area beneath active production equipment and surface piping where remediation would require major facility deconstruction. The release extent has been vertically delineated by soil samples PH01 collected at 3 feet bgs. The release extent has been laterally delineated by delineation soil samples SS06 and excavation sidewall

soil samples SW01 and SW02. The proposed deferral area and all delineation and excavation soil samples used to define the deferral area are depicted on Figure 4.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 110 feet, and the entirety of the release remained on pad. Based on the presence of active production equipment and process piping within the release area and the complete lateral and vertical definition of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2320634792 until final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely,
**Ensolum, LLC**

Meredith Roberts
Staff Geologist

Ashley L. Ager, MS, PG
Principal

cc: Garrett Green, XTO
Tommee Lambert, XTO
BLM

Appendices:

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

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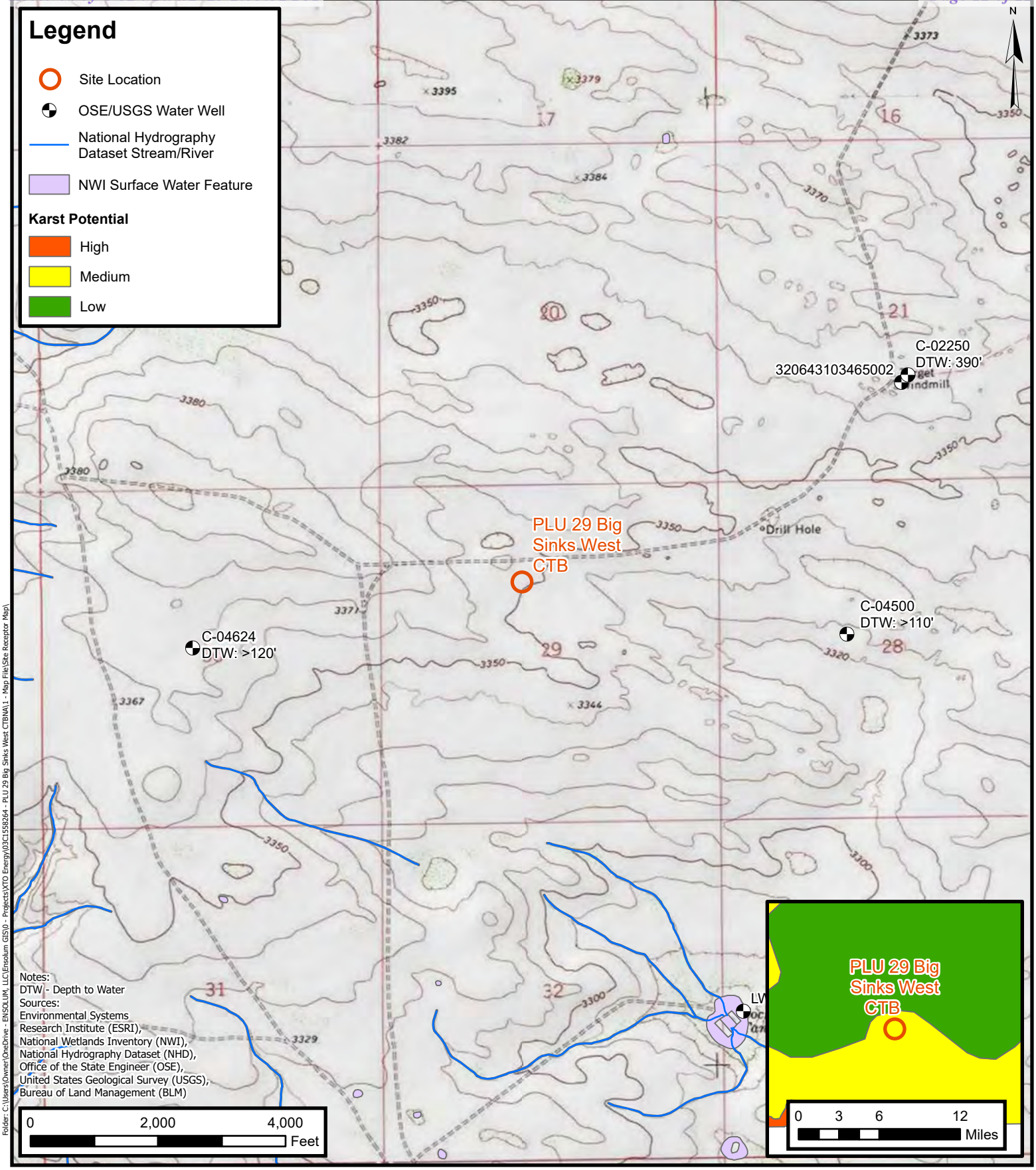
# FIGURES



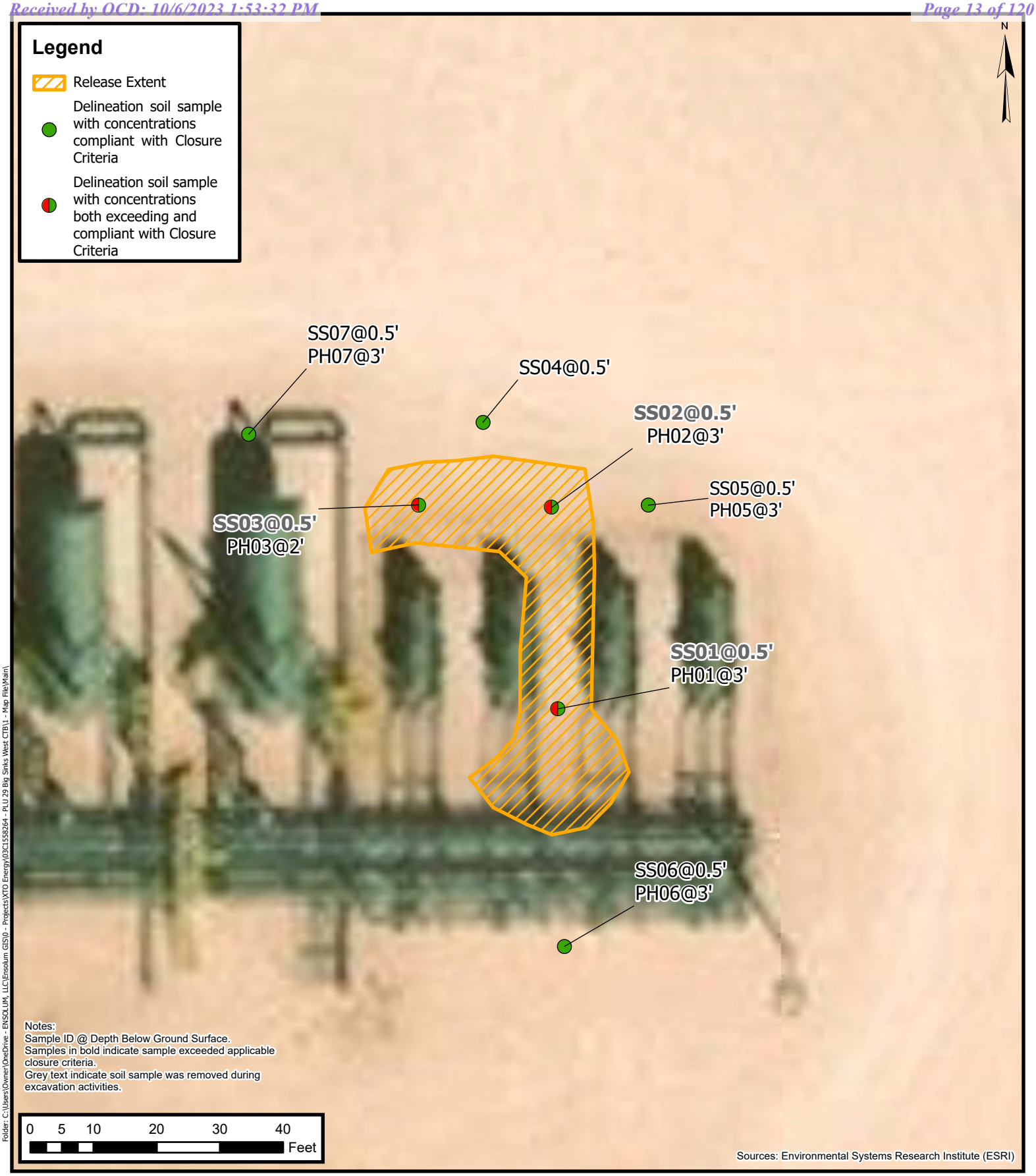

Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy\03C1558264 - PLU 29 Big Sinks West CTB\NA\1 - Map File\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Site Receptor Map

XTO Energy, Inc.
PLU 29 Big Sinks West CTB
Incident Number: NAPP2320634792
Unit F, Sec 29, T25S, R31E
Eddy County, New Mexico

**FIGURE 1**




Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy\03C1598264 - PLU 29 Big Sinks West CTB\1 - Map File\Main\

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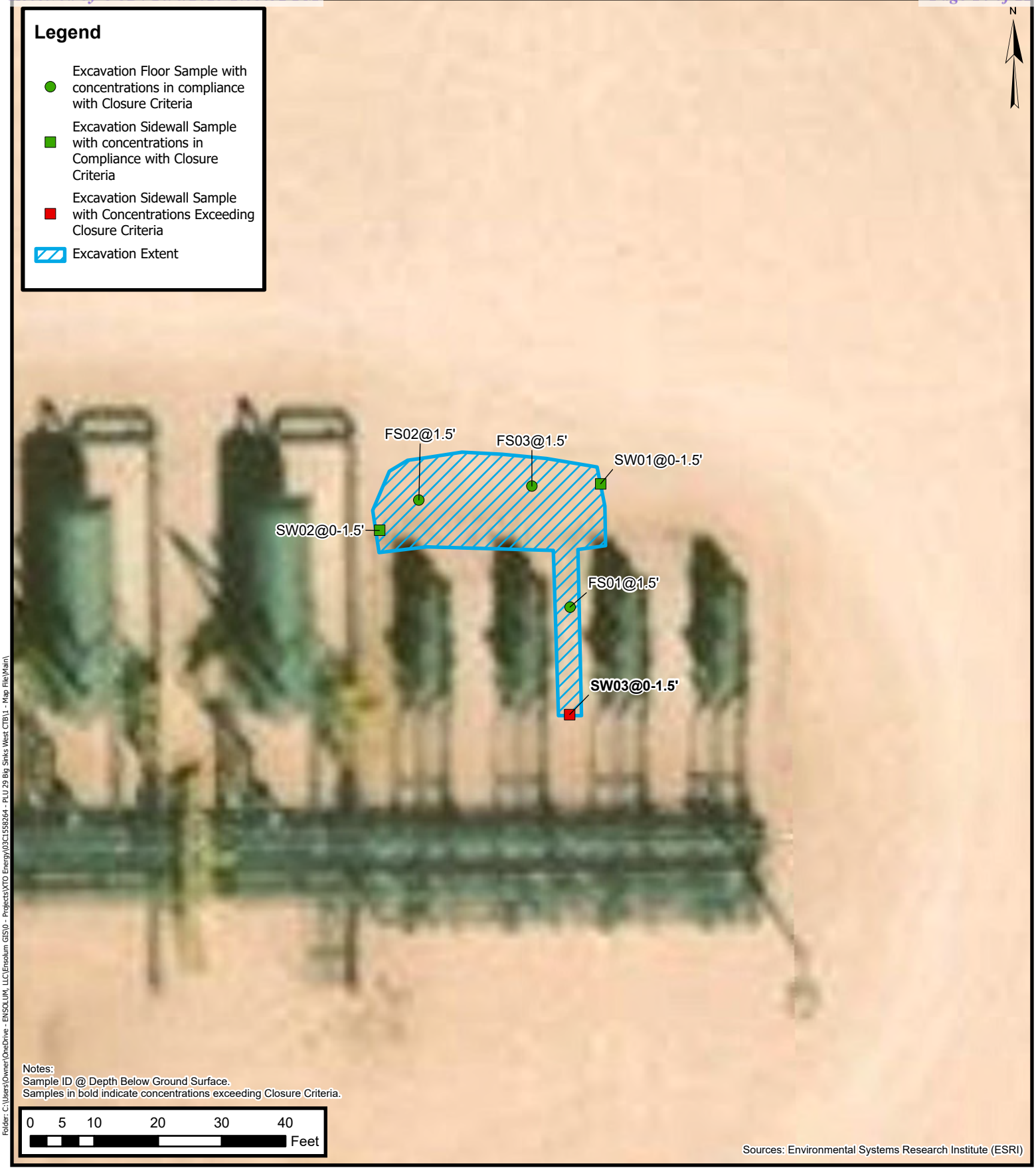
# Delineation Soil Sample Locations

XTO Energy, Inc.
PLU 29 Big Sinks West CTB
Incident Number: NAPP2320634792
Unit F, Section 29, Township 25 South, Range 31 East
Eddy County, New Mexico

**FIGURE 2**

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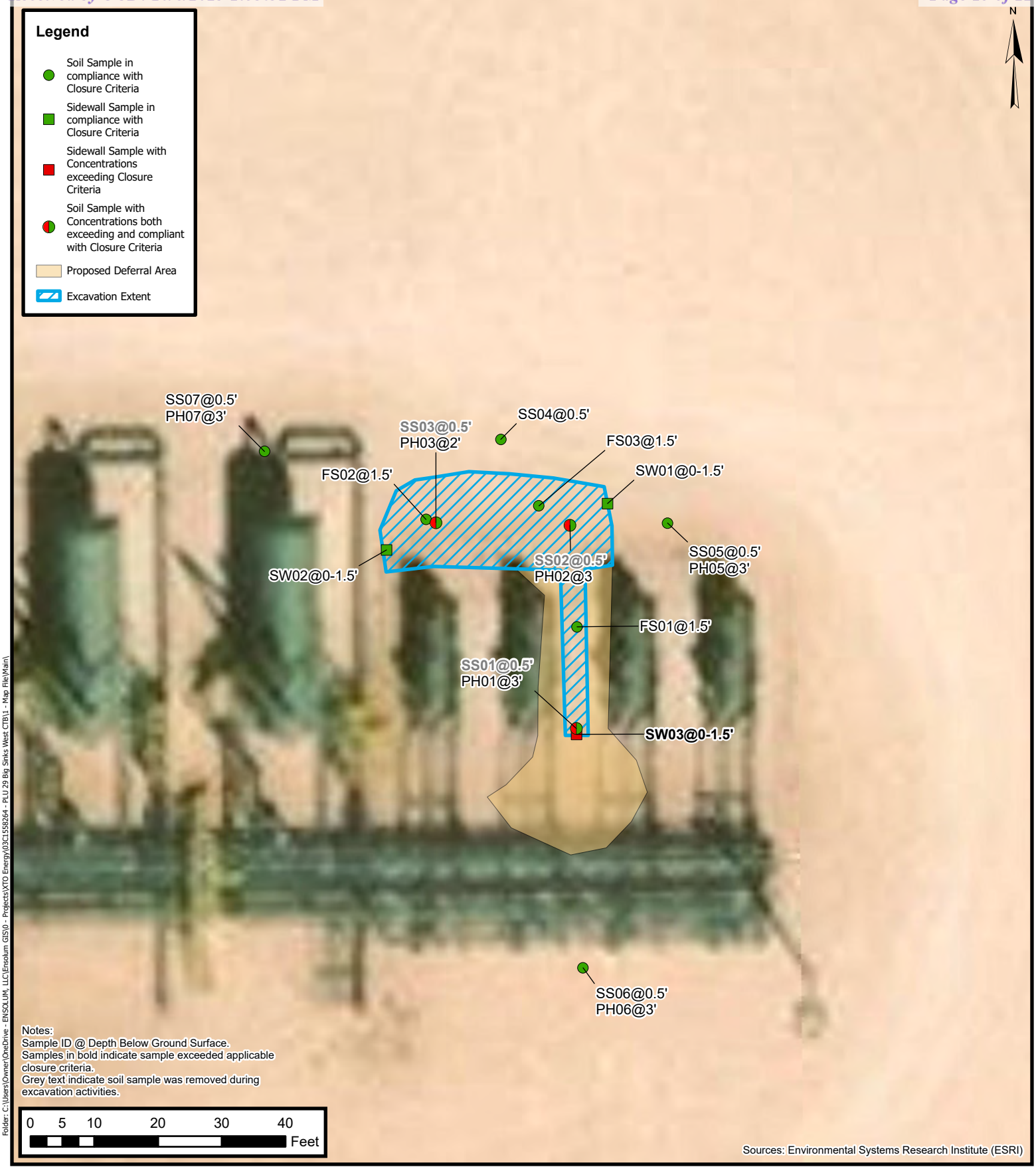
# Excavation Soil Sample Locations

XTO Energy, Inc.
PLU 29 Big Sinks West CTB
Incident Number: NAPP2320634792
Unit F, Section 29, Township 25 South, Range 31 East
Eddy County, New Mexico

**FIGURE 3**

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Environmental, Engineering and Hydrogeologic Consultants

# Deferral Area Map

XTO Energy, Inc.
PLU 29 Big Sinks West CTB
Incident Number: NAPP2320634792
Unit F, Section 29, Township 25 South, Range 31 East
Eddy County, New Mexico

**FIGURE 4**

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# TABLES

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# TABLE 1
## SOIL SAMPLE ANALYTICAL RESULTS
## PLU 29 Big Sinks West CTB
## 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 | NE | 100 | 600 |
| **Delineation Soil Samples** | | | | | | | | | | |
| ~~SS01~~ | ~~08/28/2023~~ | ~~0.5~~ | ~~<0.00200~~ | ~~<0.00401~~ | ~~<49.7~~ | ~~4,700~~ | ~~<49.7~~ | ~~4,700~~ | ~~**4,700**~~ | ~~**26,000**~~ |
| PH01 | 09/19/2023 | 3 | <0.00199 | <0.00398 | <50.4 | <50.4 | <50.4 | <50.4 | <50.4 | 52.8 |
| ~~SS02~~ | ~~08/28/2023~~ | ~~0.5~~ | ~~<0.00202~~ | ~~0.0117~~ | ~~<49.9~~ | ~~3,530~~ | ~~<49.9~~ | ~~3,530~~ | ~~**3,530**~~ | ~~**25,700**~~ |
| PH02 | 09/19/2023 | 3 | <0.00200 | <0.00399 | <50.5 | <50.5 | <50.5 | <50.5 | <50.5 | 58.4 |
| ~~SS03~~ | ~~08/28/2023~~ | ~~0.5~~ | ~~<0.00200~~ | ~~<0.00399~~ | ~~<49.7~~ | ~~7,350~~ | ~~<49.7~~ | ~~7,350~~ | ~~**7,350**~~ | ~~**28,700**~~ |
| PH03 | 09/19/2023 | 2 | <0.00201 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 49.4 |
| SS04 | 08/28/2023 | 0.5 | <0.00198 | <0.00396 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 127 |
| SS05 | 08/28/2023 | 0.5 | <0.00199 | <0.00398 | <50.4 | <50.4 | <50.4 | <50.4 | <50.4 | 124 |
| PH05 | 09/19/2023 | 3 | <0.00200 | <0.00401 | <49.7 | <49.7 | <49.7 | <49.7 | <49.7 | 38.4 |
| SS06 | 08/28/2023 | 0.5 | <0.00202 | <0.00403 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 102 |
| PH06 | 09/19/2023 | 3 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 61.6 |
| SS07 | 08/28/2023 | 0.5 | <0.00201 | <0.00402 | <49.7 | <49.7 | <49.7 | <49.7 | <49.7 | 85.0 |
| PH07 | 09/19/2023 | 3 | <0.00198 | <0.00396 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 45.4 |
| **Confirmation Soil Samples** | | | | | | | | | | |
| FS01 | 09/20/2023 | 1.5 | <0.00200 | <0.00399 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 223 |
| FS02 | 09/19/2023 | 1.5 | <0.00198 | <0.00396 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 310 |
| FS03 | 09/20/2023 | 1.5 | <0.00199 | <0.00398 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 219 |
| SW01 | 09/20/2023 | 0 - 1.5 | <0.00201 | <0.00402 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 44.3 |
| SW02 | 09/20/2023 | 0 - 1.5 | <0.00201 | <0.00402 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 90.8 |
| SW03 | 09/20/2023 | 0 - 1.5 | <0.00199 | <0.00398 | <49.8 | 580 | 94.0 | 674 | **674** | **7,860** |

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria
~~Grey~~ text indicates soil sample removed during excavation activities

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

**1. GENERAL AND WELL LOCATION**

| OSE POD NO. (WELL NO.) | WELL TAG ID NO. | OSE FILE NO(S). |
|---|---|---|
| POD1 (BH-01) | n/a | C-4500 |

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

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

| WELL LOCATION (FROM GPS) | | DEGREES | MINUTES | SECONDS | |
|---|---|---|---|---|---|
| | LATITUDE | 32 | 6 | 6.96 | N |
| | LONGITUDE | 103 | 47 | 6.75 | 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

SE NW Sec. 28 T25S R31E

**2. DRILLING & CASING INFORMATION**

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

| DRILLING STARTED | DRILLING ENDED | DEPTH OF COMPLETED WELL (FT) | BORE HOLE DEPTH (FT) | DEPTH WATER FIRST ENCOUNTERED (FT) |
|---|---|---|---|---|
| 03/24/2021 | 03/24/2021 | temporary well material | 110 | n/a |

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

| DEPTH (feet bgl) FROM | DEPTH (feet bgl) TO | BORE HOLE DIAM (inches) | CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen) | CASING CONNECTION TYPE (add coupling diameter) | CASING INSIDE DIAM. (inches) | CASING WALL THICKNESS (inches) | SLOT SIZE (inches) |
|---|---|---|---|---|---|---|---|
| 0 | 110 | ±6.5 | Boring- HSA | -- | -- | -- | -- |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |

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**3. ANNULAR MATERIAL**

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

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

| FILE NO. | C-4500 | POD NO. | 1 | TRN NO. | 682534 |
|---|---|---|---|---|---|
| LOCATION | Exp 25S.31E.28.144 | | | 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 | 1 | Caliche, no odor, no stain, tan, light-brown | Y ✓ N | |
| 1 | 3 | 2 | Sand, no odor, no stain, m-f, well sorted, brown, trace silt, low consolidation | Y ✓ N | |
| 3 | 7 | 4 | Sandy clay, no odor, no stain, m-f, brown, well sorted, low plasticity, cohesive | Y ✓ N | |
| 7 | 23 | 16 | Caliche,tan, light brown sand, m-f grained, poorly sorted, low consolidation | Y ✓ N | |
| 23 | 110 | 87 | sand, brown, no odor, no stain, fine grained, well sorted, low consolidation | 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:

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: PLU 28 BS 126H, Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface.
Logs adapted from WSP on-site geologist.

RECEIVED OSE NOV 5 2021 PM4:00

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

Shane Eldridge

**6. SIGNATURE**

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

Jack Atkins — Jackie D. Atkins — 05/05/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

| FILE NO. C-4500 | POD NO. 1 | TRN NO. 682534 |
|---|---|---|
| LOCATION | WELL TAG ID NO. | PAGE 2 OF 2 |

ENSOLUM

# APPENDIX B

## Photographic Log

ENSOLUM

**Photographic Log**
XTO Energy, Inc
PLU 29 Big Sinks West CTB
Incident Number NAPP2320634792


Photograph 1 Date: 7/13/2023
Description: Release extent area.
View: South


Photograph 2 Date: 8/28/2023
Description: Release extent area.
View: North


Photograph 3 Date: 9/19/2023
Description: Hydroexcavation extent and deferral area.
View: South


Photograph 4 Date: 9/20/2023
Description: Final excavation extent.
View: Southeast

ENSOLUM

# APPENDIX C

## Lithologic Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH01 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Hydrovac |
| Coordinates: 32.104396, -103.801687 | 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% error factor is included in all chloride screenings.

| 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, medium brown, medium grained, poorly sorted, sub-rounded grains, odor at 1-foot bgs, no staining past 0.5 feet bgs, moist. |
| M | 19,292 | 12.7 | Y | SS01 | 0.5 | | | |
| M | 2,688 | 37.5 | N | | | 1 | | |
| M | 5,364 | 13.3 | N | | | 2 | | 2-3 CALICHE, light brown/white, very indurated. Medium to coarse grained, no stain, no odor, moist. |
| M | <173.6 | 0.5 | N | PH01 | 3 | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH02 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Backhoe |
| Coordinates: 32.104484, -103.801689 | 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% error factor is included in all chloride screenings.

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-1 CALICHE, dark to medium brown, medium to fine grained, poorly sorted, sub-rounded grains, odorous, no staining past 0.5 feet bgs, moist. |
| M | 19,292 | 18.2 | Y | SS02 | 0.5 | | | |
| M | 5,365 | 7.6 | N | | | 1 | | 1-2 CALICHE, medium to light brown, medium to fine grained, no stain, no odor. |
| M | 1,260 | 0.3 | N | | | 2 | | 2-3 CALICHE, light brown/white, very indurated. Medium to coarse grained, no stain, no odor, moist. |
| D | <173.6 | 0.2 | N | PH02 | 3 | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH03 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Backhoe |
| Coordinates: 32.104486, -103.801757 | 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% error factor is included in all chloride screenings.

| 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, dark to medium brown, medium to fine grained, poorly sorted, sub-rounded grains, no odor past 1-foot bgs, no staining past 0.5' bgs, moist. |
| M | 30,262 | 13.6 | Y | SS03 | 0.5 | | | |
| M | 1,165 | 3.3 | N | | | 1 | | |
| D | <173.6 | 0.6 | N | PH03 | 2 | 2 | | 2-3 CALICHE, light brown/white, very indurated. Medium to coarse grained, no stain, no odor, dry. |
| D | <173.6 | 0.2 | N | | | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH05 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Backhoe |
| Coordinates: 32.104484, -103.801640 | 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% error factor is included in all chloride screenings.

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| D | <162.4 | 0.1 | N | SS05 | 0.5 | 0 | CCHE | 0-3 CALICHE, white to light brown, medium to coarse grained, poorly sorted, sub-angular to sub-rounded grains, no stain, no odor, dry. |
| | | | | | | 1 | | |
| | | | | | | 2 | | |
| D | <151.2 | 0.2 | N | PH05 | 3 | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH06 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Backhoe |
| Coordinates: 32.104293, -103.801685 | 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% error factor is included in all chloride screenings.

| 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, white to light brown, medium to coarse grained, poorly sorted, sub-angular to sub-rounded grains, no stain, no odor, dry. |
| D | <162.4 | 0.1 | N | SS06 | 0.5 | 1 | | |
| | | | | | | 2 | SP-SM | 2-3 SAND with silt, reddish brown, fine to medium grained, poorly sorted, no stain, no odor, moist. |
| M | <151.2 | 0.1 | N | PH06 | 3 | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

| | |
|---|---|
| Sample Name: PH07 | Date: 9/19/2023 |
| Site Name: PLU 29 Big Sinks West CTB | |
| Incident Number: NAPP2320634792 | |
| Job Number: 03C1558264 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | |
|---|---|
| Logged By: MR | Method: Backhoe |
| Coordinates: 32.104517, -103.801844 | 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% error factor is included in all chloride screenings.

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| D | <162.4 | 0.3 | N | SS07 | 0.5 | 0 | CCHE | 0-3 CALICHE, white to light brown, medium to coarse grained, poorly sorted, sub-angular to sub-rounded grains, no stain, no odor, dry. |
| | | | | | | 1 | | |
| | | | | | | 2 | | |
| D | <151.2 | 0.2 | N | PH07 | 3 | 3 | | |
| | | | | | | | TD | Total Depth @ 3 feet bgs. |

ENSOLUM

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/7/2023 7:38:57 AM Revision 1

## JOB DESCRIPTION

PLU 29 BIG SINKS WEST CTB
SDG NUMBER 03C1558264

## JOB NUMBER

890-5171-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

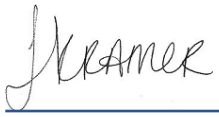
# Eurofins Carlsbad

## 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
9/7/2023 7:38:57 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Laboratory Job ID: 890-5171-1
SDG: 03C1558264

# Table of Contents

# Definitions/Glossary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## 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. |
| U | Indicates the analyte was analyzed for but not detected. |

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| F1 | MS and/or MSD recovery exceeds control limits. |
| F2 | MS/MSD RPD exceeds control limits |
| 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 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Job ID: 890-5171-1

### Laboratory: Eurofins Carlsbad

**Narrative**

**Job Narrative**
**890-5171-1**

REVISION

The report being provided is a revision of the original report sent on 9/1/2023. The report (revision 1) is being revised due to Per client email, requesting TPH and Chloride re run on sample SS04.

**Receipt**
The samples were received on 8/28/2023 4:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-5171-1), SS02 (890-5171-2), SS03 (890-5171-3), SS04 (890-5171-4), SS05 (890-5171-5), SS06 (890-5171-6) and SS07 (890-5171-7).

**GC VOA**
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-61603 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. 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 880-61603/20).

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-61603 recovered above the upper control limit for m-Xylene & p-Xylene and o-Xylene. Another CCV was analyzed and acceptable in the method derived 12 hour period; therefore, the data was qualified and reported. The associated sample is impacted: (CCV 880-61603/51).

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61677 and analytical batch 880-61603 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-61677 and analytical batch 880-61603 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS however were acceptable in the LCSD; therefore, the data have been reported.

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 880-61574 and analytical batch 880-61588 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-5168-A-1-B) and (890-5168-A-1-C MS). 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 (890-5171-1), SS02 (890-5171-2), SS03 (890-5171-3), SS04 (890-5171-4), SS05 (890-5171-5), SS06 (890-5171-6) and SS07 (890-5171-7). 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: (CCV 880-61588/20), (CCV 880-61588/31) and (CCV 880-61588/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-61574 and analytical batch 880-61588 was outside control limits. Sample non-homogeneity is suspected.

# Case Narrative

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Job ID: 890-5171-1 (Continued)

### Laboratory: Eurofins Carlsbad (Continued)

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61771 and analytical batch 880-61784 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS04 (890-5171-4), (890-5185-A-9-C), (890-5185-A-9-D MS) and (890-5185-A-9-E 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: (LCSD 880-61771/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61771 and analytical batch 880-61784 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.

**HPLC/IC**

Method 300_ORGFM_28D: The matrix spike duplicate (MSD) recoveries for preparation batch 880-61576 and analytical batch 880-61643 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.The associated samples are: SS01 (890-5171-1), SS02 (890-5171-2), SS03 (890-5171-3), SS04 (890-5171-4), SS05 (890-5171-5), SS06 (890-5171-6), SS07 (890-5171-7), (890-5174-A-4-B) and (890-5174-A-4-D MSD).

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61800 and analytical batch 880-61917 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.

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS01

**Date Collected: 08/28/23 09:15**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-1**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F1 | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |
| Toluene | <0.00200 | U F1 | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |
| Ethylbenzene | <0.00200 | U F1 | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U *+ F1 | 0.00401 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |
| o-Xylene | <0.00200 | U *+ F1 | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |
| Xylenes, Total | <0.00401 | U *+ F1 | 0.00401 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:12* | *1* |
| *1,4-Difluorobenzene (Surr)* | *89* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:12* | *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 | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **4700** | | 49.7 | | mg/Kg | | | 09/01/23 09:19 | 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 | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 14:32 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **4700** | | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 14:32 | 1 |
| Oil Range Organics (Over C28-C36) | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 14:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *153* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 14:32* | *1* |
| *o-Terphenyl* | *119* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 14:32* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **26000** | | 249 | | mg/Kg | | | 08/31/23 13:47 | 50 |

## Client Sample ID: SS02

**Date Collected: 08/28/23 09:20**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-2**
**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 | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U *+ | 0.00403 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |
| **o-Xylene** | **0.0117** | ***+** | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |
| **Xylenes, Total** | **0.0117** | ***+** | 0.00403 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:32* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS02

**Date Collected: 08/28/23 09:20**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

## Lab Sample ID: 890-5171-2

**Matrix: Solid**

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

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *88* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:32* | *1* |

### Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Total BTEX** | **0.0117** | | 0.00403 | mg/Kg | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **3530** | | 49.9 | mg/Kg | | | 09/01/23 09:19 | 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 | | 08/30/23 15:11 | 08/31/23 15:15 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **3530** | | 49.9 | mg/Kg | | 08/30/23 15:11 | 08/31/23 15:15 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 08/30/23 15:11 | 08/31/23 15:15 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *137* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 15:15* | *1* |
| *o-Terphenyl* | *112* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 15:15* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **25700** | | 249 | mg/Kg | | | 08/31/23 14:06 | 50 |

## Client Sample ID: SS03

**Date Collected: 08/28/23 09:25**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

## Lab Sample ID: 890-5171-3

**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 | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U *+ | 0.00399 | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |
| o-Xylene | <0.00200 | U *+ | 0.00200 | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |
| Xylenes, Total | <0.00399 | U *+ | 0.00399 | mg/Kg | | 08/31/23 15:57 | 08/31/23 23:53 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *123* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:53* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 23:53* | *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 | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **7350** | | 49.7 | mg/Kg | | | 09/01/23 09:19 | 1 |

Eurofins Carlsbad

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS03

**Date Collected: 08/28/23 09:25**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 15:37 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **7350** | | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 15:37 | 1 |
| Oil Range Organics (Over C28-C36) | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 15:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *144* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 15:37* | *1* |
| *o-Terphenyl* | *121* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 15:37* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **28700** | | 252 | | mg/Kg | | | 08/31/23 14:13 | 50 |

## Client Sample ID: SS04

**Date Collected: 08/28/23 09:30**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-4**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U *+ | 0.00396 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |
| **o-Xylene** | **0.00203** | ***+** | 0.00198 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |
| Xylenes, Total | <0.00396 | U *+ | 0.00396 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:13* | *1* |
| *1,4-Difluorobenzene (Surr)* | *70* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:13* | *1* |

### Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00396 | U | 0.00396 | | mg/Kg | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.1 | U | 50.1 | | mg/Kg | | | 09/01/23 09:19 | 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 | <50.1 | U | 50.1 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 17:41 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.1 | U | 50.1 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 17:41 | 1 |
| Oil Range Organics (Over C28-C36) | <50.1 | U | 50.1 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 17:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *160* | *S1+* | *70 - 130* | *09/01/23 15:18* | *09/05/23 17:41* | *1* |
| *o-Terphenyl* | *142* | *S1+* | *70 - 130* | *09/01/23 15:18* | *09/05/23 17:41* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS04

**Lab Sample ID: 890-5171-4**
**Matrix: Solid**
**Date Collected: 08/28/23 09:30**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 127 | | 4.98 | | mg/Kg | | | 09/06/23 15:07 | 1 |

## Client Sample ID: SS05

**Lab Sample ID: 890-5171-5**
**Matrix: Solid**
**Date Collected: 08/28/23 09:35**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

### 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 | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U *+ | 0.00398 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |
| o-Xylene | <0.00199 | U *+ | 0.00199 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |
| Xylenes, Total | <0.00398 | U *+ | 0.00398 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:34* | *1* |
| *1,4-Difluorobenzene (Surr)* | *85* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:34* | *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 | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.4 | U | 50.4 | | mg/Kg | | | 09/01/23 09:19 | 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 | <50.4 | U | 50.4 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:20 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.4 | U | 50.4 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:20 | 1 |
| Oil Range Organics (Over C28-C36) | <50.4 | U | 50.4 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:20 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *131* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 16:20* | *1* |
| *o-Terphenyl* | *117* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 16:20* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 124 | | 5.02 | | mg/Kg | | | 08/31/23 14:25 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS06

**Date Collected: 08/28/23 09:40**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-6**
**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 | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U *+ | 0.00403 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |
| o-Xylene | <0.00202 | U *+ | 0.00202 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |
| Xylenes, Total | <0.00403 | U *+ | 0.00403 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 00:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:54* | *1* |
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 00:54* | *1* |

### Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00403 | U | 0.00403 | | mg/Kg | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.3 | U | 50.3 | | mg/Kg | | | 09/01/23 09:19 | 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 | <50.3 | U | 50.3 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:42 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.3 | U | 50.3 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:42 | 1 |
| Oil Range Organics (Over C28-C36) | <50.3 | U | 50.3 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 16:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *131* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 16:42* | *1* |
| *o-Terphenyl* | *116* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 16:42* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **102** | | 4.99 | | mg/Kg | | | 08/31/23 14:32 | 1 |

## Client Sample ID: SS07

**Date Collected: 08/28/23 09:45**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

**Lab Sample ID: 890-5171-7**
**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 | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U *+ | 0.00402 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |
| o-Xylene | <0.00201 | U *+ | 0.00201 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |
| Xylenes, Total | <0.00402 | U *+ | 0.00402 | | mg/Kg | | 08/31/23 15:57 | 09/01/23 01:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 01:15* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS07

**Date Collected: 08/28/23 09:45**
**Date Received: 08/28/23 16:10**
**Sample Depth: 0.5**

## Lab Sample ID: 890-5171-7

**Matrix: Solid**

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

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* | *08/31/23 15:57* | *09/01/23 01:15* | *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 | | | 09/01/23 10:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.7 | U | 49.7 | | mg/Kg | | | 09/01/23 09:19 | 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 | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 17:03 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 17:03 | 1 |
| Oil Range Organics (Over C28-C36) | <49.7 | U | 49.7 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 17:03 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *135* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 17:03* | *1* |
| *o-Terphenyl* | *119* | | *70 - 130* | *08/30/23 15:11* | *08/31/23 17:03* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **85.0** | | 5.00 | | mg/Kg | | | 08/31/23 14:38 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
| 890-5171-1 | SS01 | 98 | 89 |
| 890-5171-1 MS | SS01 | 122 | 106 |
| 890-5171-1 MSD | SS01 | 124 | 108 |
| 890-5171-2 | SS02 | 107 | 88 |
| 890-5171-3 | SS03 | 123 | 97 |
| 890-5171-4 | SS04 | 106 | 70 |
| 890-5171-5 | SS05 | 107 | 85 |
| 890-5171-6 | SS06 | 105 | 73 |
| 890-5171-7 | SS07 | 103 | 73 |
| LCS 880-61677/1-A | Lab Control Sample | 129 | 123 |
| LCSD 880-61677/2-A | Lab Control Sample Dup | 127 | 106 |
| MB 880-61581/5-A | Method Blank | 75 | 77 |
| MB 880-61677/5-A | Method Blank | 78 | 80 |

**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) |
| 890-5168-A-1-C MS | Matrix Spike | 131 S1+ | 102 |
| 890-5168-A-1-D MSD | Matrix Spike Duplicate | 130 | 100 |
| 890-5171-1 | SS01 | 153 S1+ | 119 |
| 890-5171-2 | SS02 | 137 S1+ | 112 |
| 890-5171-3 | SS03 | 144 S1+ | 121 |
| 890-5171-4 | SS04 | 160 S1+ | 142 S1+ |
| 890-5171-5 | SS05 | 131 S1+ | 117 |
| 890-5171-6 | SS06 | 131 S1+ | 116 |
| 890-5171-7 | SS07 | 135 S1+ | 119 |
| 890-5185-A-9-D MS | Matrix Spike | 152 S1+ | 120 |
| 890-5185-A-9-E MSD | Matrix Spike Duplicate | 153 S1+ | 116 |
| LCS 880-61574/2-A | Lab Control Sample | 109 | 123 |
| LCS 880-61771/2-A | Lab Control Sample | 124 | 127 |
| LCSD 880-61574/3-A | Lab Control Sample Dup | 117 | 122 |
| LCSD 880-61771/3-A | Lab Control Sample Dup | 135 S1+ | 119 |
| MB 880-61574/1-A | Method Blank | 161 S1+ | 157 S1+ |
| MB 880-61771/1-A | Method Blank | 164 S1+ | 151 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

**Lab Sample ID: MB 880-61581/5-A**
**Matrix: Solid**
**Analysis Batch: 61603**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 61581**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 08/30/23 17:39 | 08/31/23 12:07 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *75* | | *70 - 130* | *08/30/23 17:39* | *08/31/23 12:07* | *1* |
| *1,4-Difluorobenzene (Surr)* | *77* | | *70 - 130* | *08/30/23 17:39* | *08/31/23 12:07* | *1* |

**Lab Sample ID: MB 880-61677/5-A**
**Matrix: Solid**
**Analysis Batch: 61603**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 61677**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 08/31/23 15:57 | 08/31/23 22:50 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *78* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 22:50* | *1* |
| *1,4-Difluorobenzene (Surr)* | *80* | | *70 - 130* | *08/31/23 15:57* | *08/31/23 22:50* | *1* |

**Lab Sample ID: LCS 880-61677/1-A**
**Matrix: Solid**
**Analysis Batch: 61603**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 61677**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1148 | | mg/Kg | | 115 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1235 | | mg/Kg | | 123 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1217 | | mg/Kg | | 122 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2713 | *+ | mg/Kg | | 136 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1335 | *+ | mg/Kg | | 133 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *129* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *123* | | *70 - 130* |

**Lab Sample ID: LCSD 880-61677/2-A**
**Matrix: Solid**
**Analysis Batch: 61603**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 61677**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1039 | | mg/Kg | | 104 | 70 - 130 | 10 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

**Lab Sample ID: LCSD 880-61677/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61603** — **Prep Batch: 61677**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1183 | | mg/Kg | | 118 | 70 - 130 | 4 | 35 |
| Ethylbenzene | | | 0.100 | 0.1175 | | mg/Kg | | 117 | 70 - 130 | 4 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2599 | | mg/Kg | | 130 | 70 - 130 | 4 | 35 |
| o-Xylene | | | 0.100 | 0.1273 | | mg/Kg | | 127 | 70 - 130 | 5 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *127* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: 890-5171-1 MS** — **Client Sample ID: SS01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61603** — **Prep Batch: 61677**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F1 | 0.0996 | 0.03830 | F1 | mg/Kg | | 37 | 70 - 130 |
| Toluene | <0.00200 | U F1 | 0.0996 | 0.03580 | F1 | mg/Kg | | 36 | 70 - 130 |
| Ethylbenzene | <0.00200 | U F1 | 0.0996 | 0.02974 | F1 | mg/Kg | | 30 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00401 | U *+ F1 | 0.199 | 0.05990 | F1 | mg/Kg | | 30 | 70 - 130 |
| o-Xylene | <0.00200 | U *+ F1 | 0.0996 | 0.03096 | F1 | mg/Kg | | 31 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: 890-5171-1 MSD** — **Client Sample ID: SS01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61603** — **Prep Batch: 61677**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F1 | 0.100 | 0.04498 | F1 | mg/Kg | | 44 | 70 - 130 | 16 | 35 |
| Toluene | <0.00200 | U F1 | 0.100 | 0.03854 | F1 | mg/Kg | | 39 | 70 - 130 | 7 | 35 |
| Ethylbenzene | <0.00200 | U F1 | 0.100 | 0.03083 | F1 | mg/Kg | | 31 | 70 - 130 | 4 | 35 |
| m-Xylene & p-Xylene | <0.00401 | U *+ F1 | 0.200 | 0.06119 | F1 | mg/Kg | | 30 | 70 - 130 | 2 | 35 |
| o-Xylene | <0.00200 | U *+ F1 | 0.100 | 0.04314 | F1 | mg/Kg | | 43 | 70 - 130 | 33 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *124* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *108* | | *70 - 130* |

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

**Lab Sample ID: MB 880-61574/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61588** — **Prep Batch: 61574**

| 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 | | 08/30/23 15:11 | 08/31/23 08:03 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

**Lab Sample ID: MB 880-61574/1-A**
**Matrix: Solid**
**Analysis Batch: 61588**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 61574**

| 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 | | 08/30/23 15:11 | 08/31/23 08:03 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 08/30/23 15:11 | 08/31/23 08:03 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *161* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 08:03* | *1* |
| *o-Terphenyl* | *157* | *S1+* | *70 - 130* | *08/30/23 15:11* | *08/31/23 08:03* | *1* |

**Lab Sample ID: LCS 880-61574/2-A**
**Matrix: Solid**
**Analysis Batch: 61588**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 61574**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 988.1 | | mg/Kg | | 99 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 973.8 | | mg/Kg | | 97 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *109* | | *70 - 130* |
| *o-Terphenyl* | *123* | | *70 - 130* |

**Lab Sample ID: LCSD 880-61574/3-A**
**Matrix: Solid**
**Analysis Batch: 61588**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 61574**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 992.6 | | mg/Kg | | 99 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 965.7 | | mg/Kg | | 97 | 70 - 130 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *117* | | *70 - 130* |
| *o-Terphenyl* | *122* | | *70 - 130* |

**Lab Sample ID: 890-5168-A-1-C MS**
**Matrix: Solid**
**Analysis Batch: 61588**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 61574**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.3 | U F2 | 998 | 1297 | | mg/Kg | | 126 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.3 | U | 998 | 1296 | | mg/Kg | | 125 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *131* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *102* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

**Lab Sample ID: 890-5168-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61588** — **Prep Batch: 61574**

| 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 | <50.3 | U F2 | 998 | 886.2 | F2 | mg/Kg | | 85 | 70 - 130 | 38 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.3 | U | 998 | 1291 | | mg/Kg | | 125 | 70 - 130 | 0 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *130* | | *70 - 130* |
| *o-Terphenyl* | *100* | | *70 - 130* |

**Lab Sample ID: MB 880-61771/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61784** — **Prep Batch: 61771**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 08:20 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 08:20 | 1 |
| Oll Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 09/01/23 15:18 | 09/05/23 08:20 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *164* | *S1+* | *70 - 130* | *09/01/23 15:18* | *09/05/23 08:20* | *1* |
| *o-Terphenyl* | *151* | *S1+* | *70 - 130* | *09/01/23 15:18* | *09/05/23 08:20* | *1* |

**Lab Sample ID: LCS 880-61771/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61784** — **Prep Batch: 61771**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1128 | | mg/Kg | | 113 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 1049 | | mg/Kg | | 105 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *124* | | *70 - 130* |
| *o-Terphenyl* | *127* | | *70 - 130* |

**Lab Sample ID: LCSD 880-61771/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 61784** — **Prep Batch: 61771**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1176 | | mg/Kg | | 118 | 70 - 130 | 4 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 1013 | | mg/Kg | | 101 | 70 - 130 | 4 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

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

**Lab Sample ID: LCSD 880-61771/3-A**
**Matrix: Solid**
**Analysis Batch: 61784**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 61771**

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *135* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *119* | | *70 - 130* |

**Lab Sample ID: 890-5185-A-9-D MS**
**Matrix: Solid**
**Analysis Batch: 61784**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 61771**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.6 | U | 991 | 1070 | | mg/Kg | | 104 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 991 | 1441 | F1 | mg/Kg | | 142 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *152* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

**Lab Sample ID: 890-5185-A-9-E MSD**
**Matrix: Solid**
**Analysis Batch: 61784**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 61771**

| 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 | <49.6 | U | 991 | 1070 | | mg/Kg | | 104 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 991 | 1406 | F1 | mg/Kg | | 138 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *153* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *116* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-61576/1-A**
**Matrix: Solid**
**Analysis Batch: 61643**

**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 | | | 08/31/23 11:25 | 1 |

**Lab Sample ID: LCS 880-61576/2-A**
**Matrix: Solid**
**Analysis Batch: 61643**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 249.3 | | mg/Kg | | 100 | 90 - 110 | | |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: LCSD 880-61576/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61643**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 243.6 | | mg/Kg | | 97 | 90 - 110 | 2 | 20 |

**Lab Sample ID: 890-5174-A-4-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61643**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 137 | F1 | 252 | 399.0 | | mg/Kg | | 104 | 90 - 110 | | |

**Lab Sample ID: 890-5174-A-4-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61643**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 137 | F1 | 252 | 422.4 | F1 | mg/Kg | | 114 | 90 - 110 | 6 | 20 |

**Lab Sample ID: MB 880-61768/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61779**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 09/02/23 03:30 | 1 |

**Lab Sample ID: LCS 880-61768/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61779**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 255.7 | | mg/Kg | | 102 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-61768/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61779**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.2 | | mg/Kg | | 102 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 880-32800-A-1-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61779**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 7680 | | 2520 | 10270 | | mg/Kg | | 103 | 90 - 110 | | |

**Lab Sample ID: 880-32800-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 61779**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 7680 | | 2520 | 10280 | | mg/Kg | | 103 | 90 - 110 | 0 | 20 |

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# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-61800/1-A**
**Matrix: Solid**
**Analysis Batch: 61917**

**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 | | | 09/06/23 14:29 | 1 |

**Lab Sample ID: LCS 880-61800/2-A**
**Matrix: Solid**
**Analysis Batch: 61917**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 250.8 | | mg/Kg | | 100 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-61800/3-A**
**Matrix: Solid**
**Analysis Batch: 61917**

**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 | 248.3 | | mg/Kg | | 99 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-5189-A-1-D MS**
**Matrix: Solid**
**Analysis Batch: 61917**

**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 | 1640 | F1 | 1260 | 3053 | F1 | mg/Kg | | 112 | 90 - 110 | | |

**Lab Sample ID: 890-5189-A-1-E MSD**
**Matrix: Solid**
**Analysis Batch: 61917**

**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 | 1640 | F1 | 1260 | 3041 | F1 | mg/Kg | | 111 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## GC VOA

### Prep Batch: 61581

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-61581/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 61603

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-2 | SS02 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-3 | SS03 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-4 | SS04 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-5 | SS05 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-6 | SS06 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-7 | SS07 | Total/NA | Solid | 8021B | 61677 |
| MB 880-61581/5-A | Method Blank | Total/NA | Solid | 8021B | 61581 |
| MB 880-61677/5-A | Method Blank | Total/NA | Solid | 8021B | 61677 |
| LCS 880-61677/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 61677 |
| LCSD 880-61677/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 61677 |
| 890-5171-1 MS | SS01 | Total/NA | Solid | 8021B | 61677 |
| 890-5171-1 MSD | SS01 | Total/NA | Solid | 8021B | 61677 |

### Prep Batch: 61677

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-5171-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-5171-3 | SS03 | Total/NA | Solid | 5035 | |
| 890-5171-4 | SS04 | Total/NA | Solid | 5035 | |
| 890-5171-5 | SS05 | Total/NA | Solid | 5035 | |
| 890-5171-6 | SS06 | Total/NA | Solid | 5035 | |
| 890-5171-7 | SS07 | Total/NA | Solid | 5035 | |
| MB 880-61677/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-61677/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-61677/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-5171-1 MS | SS01 | Total/NA | Solid | 5035 | |
| 890-5171-1 MSD | SS01 | Total/NA | Solid | 5035 | |

### Analysis Batch: 61727

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-5171-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-5171-3 | SS03 | Total/NA | Solid | Total BTEX | |
| 890-5171-4 | SS04 | Total/NA | Solid | Total BTEX | |
| 890-5171-5 | SS05 | Total/NA | Solid | Total BTEX | |
| 890-5171-6 | SS06 | Total/NA | Solid | Total BTEX | |
| 890-5171-7 | SS07 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 61574

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-5171-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-5171-3 | SS03 | Total/NA | Solid | 8015NM Prep | |
| 890-5171-5 | SS05 | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## GC Semi VOA (Continued)

### Prep Batch: 61574 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-6 | SS06 | Total/NA | Solid | 8015NM Prep | |
| 890-5171-7 | SS07 | Total/NA | Solid | 8015NM Prep | |
| MB 880-61574/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-61574/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-61574/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-5168-A-1-C MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-5168-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 61588

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | 8015B NM | 61574 |
| 890-5171-2 | SS02 | Total/NA | Solid | 8015B NM | 61574 |
| 890-5171-3 | SS03 | Total/NA | Solid | 8015B NM | 61574 |
| 890-5171-5 | SS05 | Total/NA | Solid | 8015B NM | 61574 |
| 890-5171-6 | SS06 | Total/NA | Solid | 8015B NM | 61574 |
| 890-5171-7 | SS07 | Total/NA | Solid | 8015B NM | 61574 |
| MB 880-61574/1-A | Method Blank | Total/NA | Solid | 8015B NM | 61574 |
| LCS 880-61574/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 61574 |
| LCSD 880-61574/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 61574 |
| 890-5168-A-1-C MS | Matrix Spike | Total/NA | Solid | 8015B NM | 61574 |
| 890-5168-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 61574 |

### Analysis Batch: 61746

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-5171-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-5171-3 | SS03 | Total/NA | Solid | 8015 NM | |
| 890-5171-4 | SS04 | Total/NA | Solid | 8015 NM | |
| 890-5171-5 | SS05 | Total/NA | Solid | 8015 NM | |
| 890-5171-6 | SS06 | Total/NA | Solid | 8015 NM | |
| 890-5171-7 | SS07 | Total/NA | Solid | 8015 NM | |

### Prep Batch: 61771

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-4 | SS04 | Total/NA | Solid | 8015NM Prep | |
| MB 880-61771/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-61771/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-61771/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-5185-A-9-D MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-5185-A-9-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 61784

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-4 | SS04 | Total/NA | Solid | 8015B NM | 61771 |
| MB 880-61771/1-A | Method Blank | Total/NA | Solid | 8015B NM | 61771 |
| LCS 880-61771/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 61771 |
| LCSD 880-61771/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 61771 |
| 890-5185-A-9-D MS | Matrix Spike | Total/NA | Solid | 8015B NM | 61771 |
| 890-5185-A-9-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 61771 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## HPLC/IC

### Leach Batch: 61576

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-5171-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-5171-3 | SS03 | Soluble | Solid | DI Leach | |
| 890-5171-5 | SS05 | Soluble | Solid | DI Leach | |
| 890-5171-6 | SS06 | Soluble | Solid | DI Leach | |
| 890-5171-7 | SS07 | Soluble | Solid | DI Leach | |
| MB 880-61576/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-61576/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-61576/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-5174-A-4-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-5174-A-4-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 61643

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Soluble | Solid | 300.0 | 61576 |
| 890-5171-2 | SS02 | Soluble | Solid | 300.0 | 61576 |
| 890-5171-3 | SS03 | Soluble | Solid | 300.0 | 61576 |
| 890-5171-5 | SS05 | Soluble | Solid | 300.0 | 61576 |
| 890-5171-6 | SS06 | Soluble | Solid | 300.0 | 61576 |
| 890-5171-7 | SS07 | Soluble | Solid | 300.0 | 61576 |
| MB 880-61576/1-A | Method Blank | Soluble | Solid | 300.0 | 61576 |
| LCS 880-61576/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 61576 |
| LCSD 880-61576/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 61576 |
| 890-5174-A-4-C MS | Matrix Spike | Soluble | Solid | 300.0 | 61576 |
| 890-5174-A-4-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 61576 |

### Leach Batch: 61768

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-61768/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-61768/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-61768/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-32800-A-1-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-32800-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 61779

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-61768/1-A | Method Blank | Soluble | Solid | 300.0 | 61768 |
| LCS 880-61768/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 61768 |
| LCSD 880-61768/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 61768 |
| 880-32800-A-1-C MS | Matrix Spike | Soluble | Solid | 300.0 | 61768 |
| 880-32800-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 61768 |

### Leach Batch: 61800

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-4 | SS04 | Soluble | Solid | DI Leach | |
| MB 880-61800/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-61800/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-61800/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-5189-A-1-D MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-5189-A-1-E MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## HPLC/IC

### Analysis Batch: 61917

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5171-4 | SS04 | Soluble | Solid | 300.0 | 61800 |
| MB 880-61800/1-A | Method Blank | Soluble | Solid | 300.0 | 61800 |
| LCS 880-61800/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 61800 |
| LCSD 880-61800/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 61800 |
| 890-5189-A-1-D MS | Matrix Spike | Soluble | Solid | 300.0 | 61800 |
| 890-5189-A-1-E MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 61800 |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS01
**Date Collected: 08/28/23 09:15**
**Date Received: 08/28/23 16:10**

**Lab Sample ID: 890-5171-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 08/31/23 23:12 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.06 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 14:32 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 50 | 50 mL | 50 mL | 61643 | 08/31/23 13:47 | SMC | EET MID |

## Client Sample ID: SS02
**Date Collected: 08/28/23 09:20**
**Date Received: 08/28/23 16:10**

**Lab Sample ID: 890-5171-2**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.96 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 08/31/23 23:32 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 15:15 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 50 | 50 mL | 50 mL | 61643 | 08/31/23 14:06 | SMC | EET MID |

## Client Sample ID: SS03
**Date Collected: 08/28/23 09:25**
**Date Received: 08/28/23 16:10**

**Lab Sample ID: 890-5171-3**
**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 | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 08/31/23 23:53 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.07 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 15:37 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 50 | 50 mL | 50 mL | 61643 | 08/31/23 14:13 | SMC | EET MID |

## Client Sample ID: SS04
**Date Collected: 08/28/23 09:30**
**Date Received: 08/28/23 16:10**

**Lab Sample ID: 890-5171-4**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.05 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 09/01/23 00:13 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |

Eurofins Carlsbad

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS04
**Date Collected: 08/28/23 09:30**
**Date Received: 08/28/23 16:10**

## Lab Sample ID: 890-5171-4
**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 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.99 g | 10 mL | 61771 | 09/01/23 15:18 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61784 | 09/05/23 17:41 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 61800 | 09/05/23 10:30 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | | | 61917 | 09/06/23 15:07 | CH | EET MID |

## Client Sample ID: SS05
**Date Collected: 08/28/23 09:35**
**Date Received: 08/28/23 16:10**

## Lab Sample ID: 890-5171-5
**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 | | | 5.03 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 09/01/23 00:34 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.93 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 16:20 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 61643 | 08/31/23 14:25 | SMC | EET MID |

## Client Sample ID: SS06
**Date Collected: 08/28/23 09:40**
**Date Received: 08/28/23 16:10**

## Lab Sample ID: 890-5171-6
**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 | | | 4.96 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 09/01/23 00:54 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.95 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 16:42 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 61643 | 08/31/23 14:32 | SMC | EET MID |

## Client Sample ID: SS07
**Date Collected: 08/28/23 09:45**
**Date Received: 08/28/23 16:10**

## Lab Sample ID: 890-5171-7
**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 | | | 4.98 g | 5 mL | 61677 | 08/31/23 15:57 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 61603 | 09/01/23 01:15 | AJ | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 61727 | 09/01/23 10:07 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 61746 | 09/01/23 09:19 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.06 g | 10 mL | 61574 | 08/30/23 15:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 61588 | 08/31/23 17:03 | SM | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## Client Sample ID: SS07

**Date Collected: 08/28/23 09:45**
**Date Received: 08/28/23 16:10**

## Lab Sample ID: 890-5171-7

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 61576 | 08/30/23 16:37 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 61643 | 08/31/23 14:38 | 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 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

## 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 | T104704400-23-26 | 06-30-24 |

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 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

| 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 29 BIG SINKS WEST CTB

Job ID: 890-5171-1
SDG: 03C1558264

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-5171-1 | SS01 | Solid | 08/28/23 09:15 | 08/28/23 16:10 | 0.5 |
| 890-5171-2 | SS02 | Solid | 08/28/23 09:20 | 08/28/23 16:10 | 0.5 |
| 890-5171-3 | SS03 | Solid | 08/28/23 09:25 | 08/28/23 16:10 | 0.5 |
| 890-5171-4 | SS04 | Solid | 08/28/23 09:30 | 08/28/23 16:10 | 0.5 |
| 890-5171-5 | SS05 | Solid | 08/28/23 09:35 | 08/28/23 16:10 | 0.5 |
| 890-5171-6 | SS06 | Solid | 08/28/23 09:40 | 08/28/23 16:10 | 0.5 |
| 890-5171-7 | SS07 | Solid | 08/28/23 09:45 | 08/28/23 16:10 | 0.5 |

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# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Ben Belill | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nat'l Parks Hwy | Address: | 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 989-854-0852 Email: | | bbelill@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | PLU 29 Big Sinks West CTB | Turn Around | |
| Project Number: | 03C1558264 | ☑ Routine ☐ Rush | |
| Project Location: | 32.10434, -103.80164 | Due Date: | |
| Sampler's Name: | Meredith Roberts | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Samples Received Intact: | Yes No | Thermometer ID: | TM007 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 4.4 |
| Total Containers: | | Corrected Temperature: | 4.2 |

**Preservative Codes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | BTEX | Chlorides | TPH | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| SS01 | S | 8/28/23 | 0915 | 0.5' | G | 1 | X | X | X | Incident #: |
| SS02 | ↓ | ↓ | 0920 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | NAPP2320634792 |
| SS03 | | | 0925 | | | | | | | |
| SS04 | | | 0930 | | | | | | | Cost Center: |
| SS05 | | | 0935 | | | | | | | 1818831001 |
| SS06 | | | 0940 | | | | | | | |
| SS07 | ↓ | ↓ | 0945 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| | | | | | | | | | | mroberts@ensolum.com |

890-5171 Chain of Custody

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

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 8.28.23 1610 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5171-1
SDG Number: 03C1558264

**Login Number: 5171**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5171-1
SDG Number: 03C1558264

**Login Number: 5171**
**List Number: 2**
**Creator: Teel, Brianna**

**List Source: Eurofins Midland**
**List Creation: 08/30/23 10:58 AM**

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

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/26/2023 11:23:26 AM

## JOB DESCRIPTION

PLU 29 Big Sinks West CTB
SDG NUMBER 32.10434,-103.8011

## JOB NUMBER

890-5305-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

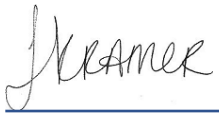
# Eurofins Carlsbad

## 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
9/26/2023 11:23:26 AM

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

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Laboratory Job ID: 890-5305-1
SDG: 32.10434,-103.8011

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-5305-1
Project/Site: PLU 29 Big Sinks West CTB SDG: 32.10434,-103.8011

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Job ID: 890-5305-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-5305-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

**Receipt**
The samples were received on 9/20/2023 12:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-5305-1), PH02 (890-5305-2), PH03 (890-5305-3), PH05 (890-5305-4), PH06 (890-5305-5) and PH07 (890-5305-6).

**GC VOA**
Method 8021B: The surrogate recovery for the blank associated with analytical batch 880-63183 was outside the upper control limits.

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

**GC Semi VOA**
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-63004 and analytical batch 880-63027 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-33484-A-21-B MS) and (880-33484-A-21-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 samples were outside control limits: (CCV 880-63027/20), (CCV 880-63027/31), (CCV 880-63027/5) and (LCS 880-63004/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-63004 and analytical batch 880-63027 contained OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-63004 and analytical batch 880-63027 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.

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

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH01

**Lab Sample ID: 890-5305-1**
**Matrix: Solid**
**Date Collected: 09/19/23 10:15**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 13:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 13:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *78* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 13:48* | *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 | | | 09/25/23 13:48 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.4 | U | 50.4 | | mg/Kg | | | 09/22/23 14:26 | 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 | <50.4 | U | 50.4 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:26 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.4 | U | 50.4 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:26 | 1 |
| OII Range Organics (Over C28-C36) | <50.4 | U | 50.4 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:26 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *76* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 14:26* | *1* |
| *o-Terphenyl* | *73* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 14:26* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **52.8** | | 4.99 | | mg/Kg | | | 09/25/23 16:36 | 1 |

## Client Sample ID: PH02

**Lab Sample ID: 890-5305-2**
**Matrix: Solid**
**Date Collected: 09/19/23 10:30**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:09 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 14:09* | *1* |

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# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH02

**Lab Sample ID: 890-5305-2**
**Matrix: Solid**
**Date Collected: 09/19/23 10:30**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

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

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *77* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 14:09* | *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 | | | 09/25/23 14:09 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.5 | U | 50.5 | mg/Kg | | | 09/22/23 14:49 | 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 | <50.5 | U | 50.5 | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:49 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.5 | U | 50.5 | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:49 | 1 |
| OII Range Organics (Over C28-C36) | <50.5 | U | 50.5 | mg/Kg | | 09/21/23 14:28 | 09/22/23 14:49 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *85* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 14:49* | *1* |
| *o-Terphenyl* | *81* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 14:49* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **58.4** | | 4.96 | mg/Kg | | | 09/25/23 16:42 | 1 |

## Client Sample ID: PH03

**Lab Sample ID: 890-5305-3**
**Matrix: Solid**
**Date Collected: 09/19/23 10:40**
**Date Received: 09/20/23 12:30**
**Sample Depth: 2'**

### 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 | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |
| Toluene | <0.00201 | U | 0.00201 | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | mg/Kg | | 09/25/23 08:39 | 09/25/23 14:29 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *87* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 14:29* | *1* |
| *1,4-Difluorobenzene (Surr)* | *71* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 14:29* | *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 | | | 09/25/23 14:29 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 09/22/23 15:40 | 1 |

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# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH03

**Date Collected: 09/19/23 10:40**
**Date Received: 09/20/23 12:30**
**Sample Depth: 2'**

**Lab Sample ID: 890-5305-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 15:40 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 15:40 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 15:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *74* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 15:40* | *1* |
| *o-Terphenyl* | *70* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 15:40* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **49.4** | | 4.95 | | mg/Kg | | | 09/25/23 16:49 | 1 |

## Client Sample ID: PH05

**Date Collected: 09/19/23 13:55**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

**Lab Sample ID: 890-5305-4**
**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 | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *82* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:13* | *1* |
| *1,4-Difluorobenzene (Surr)* | *71* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:13* | *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 | | | 09/25/23 16:13 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.7 | U | 49.7 | | mg/Kg | | | 09/22/23 16:03 | 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 | <49.7 | U | 49.7 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:03 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.7 | U | 49.7 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:03 | 1 |
| OII Range Organics (Over C28-C36) | <49.7 | U | 49.7 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:03* | *1* |
| *o-Terphenyl* | *83* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:03* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH05

**Date Collected: 09/19/23 13:55**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

**Lab Sample ID: 890-5305-4**
**Matrix: Solid**

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 38.4 | | 4.97 | | mg/Kg | | | 09/25/23 17:09 | 1 |

## Client Sample ID: PH06

**Date Collected: 09/19/23 14:00**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

**Lab Sample ID: 890-5305-5**
**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 | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:34* | *1* |
| *1,4-Difluorobenzene (Surr)* | *72* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:34* | *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 | | | 09/25/23 16:34 | 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 | | | 09/22/23 16:27 | 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 | | 09/21/23 14:28 | 09/22/23 16:27 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:27 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:27 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *88* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:27* | *1* |
| *o-Terphenyl* | *81* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:27* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 61.6 | | 5.02 | | mg/Kg | | | 09/25/23 17:16 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH07

**Date Collected: 09/19/23 13:50**
**Date Received: 09/20/23 12:30**
**Sample Depth: 3'**

## Lab Sample ID: 890-5305-6

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 16:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:54* | *1* |
| *1,4-Difluorobenzene (Surr)* | *71* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 16:54* | *1* |

### Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00396 | U | 0.00396 | | mg/Kg | | | 09/25/23 16:54 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.2 | U | 50.2 | | mg/Kg | | | 09/22/23 16:52 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:52 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:52 | 1 |
| OII Range Organics (Over C28-C36) | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 16:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *84* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:52* | *1* |
| *o-Terphenyl* | *80* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 16:52* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **45.4** | | 5.04 | | mg/Kg | | | 09/25/23 17:36 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | BFB1 | DFBZ1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-5305-1 | PH01 | 91 | 78 |
| 890-5305-2 | PH02 | 90 | 77 |
| 890-5305-3 | PH03 | 87 | 71 |
| 890-5305-4 | PH05 | 82 | 71 |
| 890-5305-5 | PH06 | 91 | 72 |
| 890-5305-6 | PH07 | 90 | 71 |
| 890-5322-A-1-A MS | Matrix Spike | 115 | 85 |
| 890-5322-A-1-B MSD | Matrix Spike Duplicate | 113 | 102 |
| LCS 880-63187/1-A | Lab Control Sample | 112 | 100 |
| LCSD 880-63187/2-A | Lab Control Sample Dup | 109 | 99 |
| MB 880-63187/5-A | Method Blank | 73 | 94 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-33484-A-21-B MS | Matrix Spike | 76 | 66 S1- |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | 75 | 65 S1- |
| 890-5305-1 | PH01 | 76 | 73 |
| 890-5305-2 | PH02 | 85 | 81 |
| 890-5305-3 | PH03 | 74 | 70 |
| 890-5305-4 | PH05 | 87 | 83 |
| 890-5305-5 | PH06 | 88 | 81 |
| 890-5305-6 | PH07 | 84 | 80 |
| LCS 880-63004/2-A | Lab Control Sample | 146 S1+ | 146 S1+ |
| LCSD 880-63004/3-A | Lab Control Sample Dup | 106 | 105 |
| MB 880-63004/1-A - IN3 | Method Blank | 127 | 132 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

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

**Lab Sample ID: MB 880-63187/5-A**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 09/25/23 08:39 | 09/25/23 11:24 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *73* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 11:24* | *1* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* | *09/25/23 08:39* | *09/25/23 11:24* | *1* |

**Lab Sample ID: LCS 880-63187/1-A**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09824 | | mg/Kg | | 98 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1035 | | mg/Kg | | 104 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1031 | | mg/Kg | | 103 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2213 | | mg/Kg | | 111 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1090 | | mg/Kg | | 109 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: LCSD 880-63187/2-A**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09053 | | mg/Kg | | 91 | 70 - 130 | 8 | 35 |
| Toluene | | | 0.100 | 0.09587 | | mg/Kg | | 96 | 70 - 130 | 8 | 35 |
| Ethylbenzene | | | 0.100 | 0.09682 | | mg/Kg | | 97 | 70 - 130 | 6 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2050 | | mg/Kg | | 103 | 70 - 130 | 8 | 35 |
| o-Xylene | | | 0.100 | 0.1012 | | mg/Kg | | 101 | 70 - 130 | 7 | 35 |

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

**Lab Sample ID: 890-5322-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0998 | 0.08472 | | mg/Kg | | 85 | 70 - 130 | | |
| Toluene | <0.00200 | U | 0.0998 | 0.09480 | | mg/Kg | | 95 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

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

**Lab Sample ID: 890-5322-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00200 | U | 0.0998 | 0.09506 | | mg/Kg | | 95 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.200 | 0.2009 | | mg/Kg | | 101 | 70 - 130 |
| o-Xylene | <0.00200 | U | 0.0998 | 0.09958 | | mg/Kg | | 100 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *115* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *85* | | *70 - 130* |

**Lab Sample ID: 890-5322-A-1-B MSD**
**Matrix: Solid**
**Analysis Batch: 63183**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 63187**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0990 | 0.08138 | | mg/Kg | | 82 | 70 - 130 | 4 | 35 |
| Toluene | <0.00200 | U | 0.0990 | 0.09016 | | mg/Kg | | 91 | 70 - 130 | 5 | 35 |
| Ethylbenzene | <0.00200 | U | 0.0990 | 0.09062 | | mg/Kg | | 92 | 70 - 130 | 5 | 35 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.198 | 0.1926 | | mg/Kg | | 97 | 70 - 130 | 4 | 35 |
| o-Xylene | <0.00200 | U | 0.0990 | 0.09519 | | mg/Kg | | 96 | 70 - 130 | 4 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *113* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* |

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

**Lab Sample ID: LCS 880-63004/2-A**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 877.2 | | mg/Kg | | 88 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 908.9 | | mg/Kg | | 91 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *146* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *146* | *S1+* | *70 - 130* |

**Lab Sample ID: LCSD 880-63004/3-A**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 909.1 | | mg/Kg | | 91 | 70 - 130 | 4 | 20 |
| Diesel Range Organics (Over C10-C28) | 1000 | 959.9 | | mg/Kg | | 96 | 70 - 130 | 5 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

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

**Lab Sample ID: LCSD 880-63004/3-A**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *106* | | *70 - 130* |
| *o-Terphenyl* | *105* | | *70 - 130* |

**Lab Sample ID: 880-33484-A-21-B MS**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.6 | U F1 | 1010 | 702.1 | | mg/Kg | | 70 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 1010 | 678.3 | F1 | mg/Kg | | 64 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *76* | | *70 - 130* |
| *o-Terphenyl* | *66* | *S1-* | *70 - 130* |

**Lab Sample ID: 880-33484-A-21-C MSD**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| 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 | <49.6 | U F1 | 1010 | 693.8 | F1 | mg/Kg | | 69 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 1010 | 666.0 | F1 | mg/Kg | | 63 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *75* | | *70 - 130* |
| *o-Terphenyl* | *65* | *S1-* | *70 - 130* |

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

**Lab Sample ID: MB 880-63004/1-A**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 - IN3 | <50.0 | U | 50.0 | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |
| Diesel Range Organics (Over C10-C28) - IN3 | <50.0 | U | 50.0 | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |
| OII Range Organics (Over C28-C36) - IN3 | <50.0 | U | 50.0 | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane - IN3* | *127* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 07:49* | *1* |
| *o-Terphenyl - IN3* | *132* | *S1+* | *70 - 130* | *09/21/23 14:28* | *09/22/23 07:49* | *1* |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-62982/1-A**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | | | 09/25/23 14:55 | 1 |

**Lab Sample ID: LCS 880-62982/2-A**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 880-62982/3-A**
**Matrix: Solid**
**Analysis Batch: 63230**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 246.1 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 890-5305-3 MS**
**Matrix: Solid**
**Analysis Batch: 63230**

**Client Sample ID: PH03**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 49.4 | | 248 | 289.9 | | mg/Kg | | 97 | 90 - 110 | | |

**Lab Sample ID: 890-5305-3 MSD**
**Matrix: Solid**
**Analysis Batch: 63230**

**Client Sample ID: PH03**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 49.4 | | 248 | 289.6 | | mg/Kg | | 97 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## GC VOA

### Analysis Batch: 63183

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | 8021B | 63187 |
| 890-5305-2 | PH02 | Total/NA | Solid | 8021B | 63187 |
| 890-5305-3 | PH03 | Total/NA | Solid | 8021B | 63187 |
| 890-5305-4 | PH05 | Total/NA | Solid | 8021B | 63187 |
| 890-5305-5 | PH06 | Total/NA | Solid | 8021B | 63187 |
| 890-5305-6 | PH07 | Total/NA | Solid | 8021B | 63187 |
| MB 880-63187/5-A | Method Blank | Total/NA | Solid | 8021B | 63187 |
| LCS 880-63187/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 63187 |
| LCSD 880-63187/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 63187 |
| 890-5322-A-1-A MS | Matrix Spike | Total/NA | Solid | 8021B | 63187 |
| 890-5322-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 63187 |

### Prep Batch: 63187

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | 5035 | |
| 890-5305-2 | PH02 | Total/NA | Solid | 5035 | |
| 890-5305-3 | PH03 | Total/NA | Solid | 5035 | |
| 890-5305-4 | PH05 | Total/NA | Solid | 5035 | |
| 890-5305-5 | PH06 | Total/NA | Solid | 5035 | |
| 890-5305-6 | PH07 | Total/NA | Solid | 5035 | |
| MB 880-63187/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-63187/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-63187/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-5322-A-1-A MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 890-5322-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 63272

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | Total BTEX | |
| 890-5305-2 | PH02 | Total/NA | Solid | Total BTEX | |
| 890-5305-3 | PH03 | Total/NA | Solid | Total BTEX | |
| 890-5305-4 | PH05 | Total/NA | Solid | Total BTEX | |
| 890-5305-5 | PH06 | Total/NA | Solid | Total BTEX | |
| 890-5305-6 | PH07 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 63004

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | 8015NM Prep | |
| 890-5305-2 | PH02 | Total/NA | Solid | 8015NM Prep | |
| 890-5305-3 | PH03 | Total/NA | Solid | 8015NM Prep | |
| 890-5305-4 | PH05 | Total/NA | Solid | 8015NM Prep | |
| 890-5305-5 | PH06 | Total/NA | Solid | 8015NM Prep | |
| 890-5305-6 | PH07 | Total/NA | Solid | 8015NM Prep | |
| MB 880-63004/1-A - IN3 | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-63004/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-63004/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-33484-A-21-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## GC Semi VOA

### Analysis Batch: 63027

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5305-2 | PH02 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5305-3 | PH03 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5305-4 | PH05 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5305-5 | PH06 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5305-6 | PH07 | Total/NA | Solid | 8015B NM | 63004 |
| MB 880-63004/1-A - IN3 | Method Blank | Total/NA | Solid | 8015B NM | 63004 |
| LCS 880-63004/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 63004 |
| LCSD 880-63004/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 63004 |
| 880-33484-A-21-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 63004 |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 63004 |

### Analysis Batch: 63154

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Total/NA | Solid | 8015 NM | |
| 890-5305-2 | PH02 | Total/NA | Solid | 8015 NM | |
| 890-5305-3 | PH03 | Total/NA | Solid | 8015 NM | |
| 890-5305-4 | PH05 | Total/NA | Solid | 8015 NM | |
| 890-5305-5 | PH06 | Total/NA | Solid | 8015 NM | |
| 890-5305-6 | PH07 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 62982

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Soluble | Solid | DI Leach | |
| 890-5305-2 | PH02 | Soluble | Solid | DI Leach | |
| 890-5305-3 | PH03 | Soluble | Solid | DI Leach | |
| 890-5305-4 | PH05 | Soluble | Solid | DI Leach | |
| 890-5305-5 | PH06 | Soluble | Solid | DI Leach | |
| 890-5305-6 | PH07 | Soluble | Solid | DI Leach | |
| MB 880-62982/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-62982/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-62982/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-5305-3 MS | PH03 | Soluble | Solid | DI Leach | |
| 890-5305-3 MSD | PH03 | Soluble | Solid | DI Leach | |

### Analysis Batch: 63230

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-2 | PH02 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-3 | PH03 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-4 | PH05 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-5 | PH06 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-6 | PH07 | Soluble | Solid | 300.0 | 62982 |
| MB 880-62982/1-A | Method Blank | Soluble | Solid | 300.0 | 62982 |
| LCS 880-62982/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 62982 |
| LCSD 880-62982/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 62982 |
| 890-5305-3 MS | PH03 | Soluble | Solid | 300.0 | 62982 |
| 890-5305-3 MSD | PH03 | Soluble | Solid | 300.0 | 62982 |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH01

**Date Collected: 09/19/23 10:15**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 13:48 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 13:48 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63154 | 09/22/23 14:26 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.92 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 14:26 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 16:36 | CH | EET MID |

## Client Sample ID: PH02

**Date Collected: 09/19/23 10:30**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-2**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 14:09 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 14:09 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63154 | 09/22/23 14:49 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.90 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 14:49 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 16:42 | CH | EET MID |

## Client Sample ID: PH03

**Date Collected: 09/19/23 10:40**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-3**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.97 g | 5 mL | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 14:29 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 14:29 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63154 | 09/22/23 15:40 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 15:40 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 16:49 | CH | EET MID |

## Client Sample ID: PH05

**Date Collected: 09/19/23 13:55**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-4**
**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 | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 16:13 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 16:13 | SM | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

## Client Sample ID: PH05

**Date Collected: 09/19/23 13:55**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-4**
**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 | | | 63154 | 09/22/23 16:03 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.07 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 16:03 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:09 | CH | EET MID |

## Client Sample ID: PH06

**Date Collected: 09/19/23 14:00**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-5**
**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 | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 16:34 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 16:34 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63154 | 09/22/23 16:27 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 16:27 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:16 | CH | EET MID |

## Client Sample ID: PH07

**Date Collected: 09/19/23 13:50**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5305-6**
**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 | | | 5.05 g | 5 mL | 63187 | 09/25/23 08:39 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63183 | 09/25/23 16:54 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63272 | 09/25/23 16:54 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63154 | 09/22/23 16:52 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.97 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 16:52 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:36 | 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 Job ID: 890-5305-1
Project/Site: PLU 29 Big Sinks West CTB SDG: 32.10434,-103.8011

## 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 | T104704400-23-26 | 06-30-24 |

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 29 Big Sinks West CTB

Job ID: 890-5305-1
SDG: 32.10434,-103.8011

| 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
Job ID: 890-5305-1
Project/Site: PLU 29 Big Sinks West CTB
SDG: 32.10434,-103.8011

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-5305-1 | PH01 | Solid | 09/19/23 10:15 | 09/20/23 12:30 | 3' |
| 890-5305-2 | PH02 | Solid | 09/19/23 10:30 | 09/20/23 12:30 | 3' |
| 890-5305-3 | PH03 | Solid | 09/19/23 10:40 | 09/20/23 12:30 | 2' |
| 890-5305-4 | PH05 | Solid | 09/19/23 13:55 | 09/20/23 12:30 | 3' |
| 890-5305-5 | PH06 | Solid | 09/19/23 14:00 | 09/20/23 12:30 | 3' |
| 890-5305-6 | PH07 | Solid | 09/19/23 13:50 | 09/20/23 12:30 | 3' |

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# Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Ben Belill | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nat'l Parks Hwy | Address: | 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 989-854-0852 Email: | | bbelill@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | PLU 29 BIG SINKS WEST CTB | Turn Around | |
| Project Number: | 03C1558264 | ☑ Routine ☐ Rush | |
| Project Location: | ~~03~~ NM 32.10439, -103.8016 | Due Date: | |
| Sampler's Name: | Meredith Roberts | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | | | |

| SAMPLE RECEIPT | Temp Blank: | Yes No | Wet Ice: | Yes No |
|---|---|---|---|---|
| Samples Received Intact: | (Yes) No | Thermometer ID: | TNM007 | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 2.6 | |
| Total Containers: | | Corrected Temperature: | 2.2 | |

**Preservative Codes**

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

ANALYSIS REQUEST

890-5305 Chain of Custody

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | BTEX | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|
| PH01 | S | 9/19/23 | 1015 | 3' | G | 1 | X | X | X |
| PH02 | | | 1030 | 3' | | | | | |
| PH03 | | | 1040 | 2' | | | | | |
| PH05 | | | 1355 | 3' | | | | | |
| PH06 | | | 1400 | 3' | | | | | |
| PH07 | | | 1350 | 3' | | | | | |

MR

**Sample Comments**

Incident #: nAPP2320634792

Cost Center: 1818831001

mroberts@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



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 9/20 1230 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5305-1
SDG Number: 32.10434,-103.8011

**Login Number: 5305**
**List Number: 1**
**Creator: Lopez, Abraham**

**List Source: Eurofins Carlsbad**

| 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. | N/A | Refer to Job Narrative for details. |
| 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"). | True | |

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5305-1
SDG Number: 32.10434,-103.8011

**Login Number: 5305**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 09/21/23 10:54 AM**

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

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/26/2023 1:59:04 PM

## JOB DESCRIPTION

PLU 29 Big Sinks West CTB
SDG NUMBER 32.10434,-103.80614

## JOB NUMBER

890-5308-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

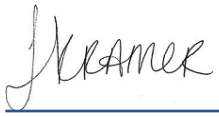
# Eurofins Carlsbad

## 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
9/26/2023 1:59:04 PM

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

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Laboratory Job ID: 890-5308-1
SDG: 32.10434,-103.80614

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-5308-1
Project/Site: PLU 29 Big Sinks West CTB SDG: 32.10434,-103.80614

## Qualifiers

### GC VOA

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

### 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 |
|---|---|
| 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 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Job ID: 890-5308-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-5308-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

**Receipt**
The samples were received on 9/20/2023 12:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-5308-1), FS02 (890-5308-2), FS03 (890-5308-3), SW01 (890-5308-4), SW02 (890-5308-5) and SW03 (890-5308-6).

**GC VOA**
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63094 and analytical batch 880-63185 was outside the control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS03 (890-5308-3), SW01 (890-5308-4), SW03 (890-5308-6) and (890-5308-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63185 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63203 and analytical batch 880-63185 was outside the control limits.

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

**GC Semi VOA**
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-63004 and analytical batch 880-63027 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-33484-A-21-B MS) and (880-33484-A-21-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 samples were outside control limits: FS02 (890-5308-2) and FS03 (890-5308-3). 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: (CCV 880-63027/20), (CCV 880-63027/31), (CCV 880-63027/5) and (LCS 880-63004/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-63004 and analytical batch 880-63027 contained OII Range Organics

# Case Narrative

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Job ID: 890-5308-1 (Continued)

### Laboratory: Eurofins Carlsbad (Continued)

(Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-63004 and analytical batch 880-63027 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.

**HPLC/IC**

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

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: FS01

**Lab Sample ID: 890-5308-1**
**Matrix: Solid**
**Date Collected: 09/20/23 10:00**
**Date Received: 09/20/23 12:30**
**Sample Depth: 1.5**

### 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 | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *127* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:31* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:31* | *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 | | | 09/26/23 01:31 | 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 | | | 09/22/23 17:16 | 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 | | 09/21/23 14:28 | 09/22/23 17:16 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U | 49.8 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 17:16 | 1 |
| OII Range Organics (Over C28-C36) | <49.8 | U | 49.8 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 17:16 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *75* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 17:16* | *1* |
| *o-Terphenyl* | *72* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 17:16* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **223** | | 5.04 | | mg/Kg | | | 09/25/23 17:42 | 1 |

## Client Sample ID: FS02

**Lab Sample ID: 890-5308-2**
**Matrix: Solid**
**Date Collected: 09/19/23 13:15**
**Date Received: 09/20/23 12:30**
**Sample Depth: 1.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *126* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:57* | *1* |

Eurofins Carlsbad

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: FS02

**Lab Sample ID: 890-5308-2**
**Matrix: Solid**
**Date Collected: 09/19/23 13:15**
**Date Received: 09/20/23 12:30**
**Sample Depth: 1.5**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:57* | *1* |

### Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00396 | U | 0.00396 | mg/Kg | | | 09/26/23 01:57 | 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 | | | 09/22/23 17:39 | 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 | | 09/21/23 14:28 | 09/22/23 17:39 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 09/21/23 14:28 | 09/22/23 17:39 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 09/21/23 14:28 | 09/22/23 17:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *70* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 17:39* | *1* |
| *o-Terphenyl* | *67* | *S1-* | *70 - 130* | *09/21/23 14:28* | *09/22/23 17:39* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **310** | | 5.04 | mg/Kg | | | 09/25/23 17:49 | 1 |

## Client Sample ID: FS03

**Lab Sample ID: 890-5308-3**
**Matrix: Solid**
**Date Collected: 09/20/23 10:05**
**Date Received: 09/20/23 12:30**
**Sample Depth: 1.5**

### 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 | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *163* | *S1+* | *70 - 130* | *09/25/23 09:44* | *09/26/23 02:22* | *1* |
| *1,4-Difluorobenzene (Surr)* | *109* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 02:22* | *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 | | | 09/26/23 02:22 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.2 | U | 50.2 | mg/Kg | | | 09/22/23 18:01 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: FS03

**Date Collected: 09/20/23 10:05**
**Date Received: 09/20/23 12:30**
**Sample Depth: 1.5**

**Lab Sample ID: 890-5308-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:01 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:01 | 1 |
| Oil Range Organics (Over C28-C36) | <50.2 | U | 50.2 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *72* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:01* | *1* |
| *o-Terphenyl* | *68* | *S1-* | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:01* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **219** | | 4.99 | | mg/Kg | | | 09/25/23 17:56 | 1 |

## Client Sample ID: SW01

**Date Collected: 09/20/23 10:10**
**Date Received: 09/20/23 12:30**
**Sample Depth: 0 - 1.5**

**Lab Sample ID: 890-5308-4**
**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 | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 02:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *146* | *S1+* | *70 - 130* | *09/25/23 09:44* | *09/26/23 02:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 02:48* | *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 | | | 09/26/23 02:48 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.1 | U | 50.1 | | mg/Kg | | | 09/22/23 18:23 | 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 | <50.1 | U | 50.1 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:23 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.1 | U | 50.1 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:23 | 1 |
| Oil Range Organics (Over C28-C36) | <50.1 | U | 50.1 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *88* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:23* | *1* |
| *o-Terphenyl* | *83* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:23* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: SW01

**Lab Sample ID: 890-5308-4**
**Matrix: Solid**
**Date Collected: 09/20/23 10:10**
**Date Received: 09/20/23 12:30**
**Sample Depth: 0 - 1.5**

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 44.3 | | 4.98 | | mg/Kg | | | 09/25/23 18:02 | 1 |

## Client Sample ID: SW02

**Lab Sample ID: 890-5308-5**
**Matrix: Solid**
**Date Collected: 09/20/23 10:15**
**Date Received: 09/20/23 12:30**
**Sample Depth: 0 - 1.5**

### 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 | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *123* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 03:13* | *1* |
| *1,4-Difluorobenzene (Surr)* | *93* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 03:13* | *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 | | | 09/26/23 03:13 | 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 | | | 09/22/23 18:45 | 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 | | 09/21/23 14:28 | 09/22/23 18:45 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:45 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 18:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:45* | *1* |
| *o-Terphenyl* | *82* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 18:45* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 90.8 | | 5.03 | | mg/Kg | | | 09/25/23 18:09 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: SW03

**Date Collected: 09/20/23 10:20**
**Date Received: 09/20/23 12:30**
**Sample Depth: 0 - 1.5**

## Lab Sample ID: 890-5308-6

**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 | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 03:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *137* | *S1+* | *70 - 130* | *09/25/23 09:44* | *09/26/23 03:39* | *1* |
| *1,4-Difluorobenzene (Surr)* | *110* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 03:39* | *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 | | | 09/26/23 03:39 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **674** | | 49.8 | | mg/Kg | | | 09/22/23 19:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.8 | U | 49.8 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 19:07 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **580** | | 49.8 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 19:07 | 1 |
| **Oil Range Organics (Over C28-C36)** | **94.0** | | 49.8 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 19:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *86* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 19:07* | *1* |
| *o-Terphenyl* | *83* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 19:07* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **7860** | | 50.5 | | mg/Kg | | | 09/25/23 18:16 | 10 |

# Surrogate Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
| 890-5308-1 | FS01 | 127 | 102 |
| 890-5308-1 MS | FS01 | 119 | 105 |
| 890-5308-1 MSD | FS01 | 133 S1+ | 92 |
| 890-5308-2 | FS02 | 126 | 92 |
| 890-5308-3 | FS03 | 163 S1+ | 109 |
| 890-5308-4 | SW01 | 146 S1+ | 107 |
| 890-5308-5 | SW02 | 123 | 93 |
| 890-5308-6 | SW03 | 137 S1+ | 110 |
| LCS 880-63203/1-A | Lab Control Sample | 121 | 102 |
| LCSD 880-63203/2-A | Lab Control Sample Dup | 129 | 110 |
| MB 880-63094/5-A | Method Blank | 68 S1- | 90 |
| MB 880-63203/5-A | Method Blank | 68 S1- | 92 |

**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) |
| 880-33484-A-21-B MS | Matrix Spike | 76 | 66 S1- |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | 75 | 65 S1- |
| 890-5308-1 | FS01 | 75 | 72 |
| 890-5308-2 | FS02 | 70 | 67 S1- |
| 890-5308-3 | FS03 | 72 | 68 S1- |
| 890-5308-4 | SW01 | 88 | 83 |
| 890-5308-5 | SW02 | 87 | 82 |
| 890-5308-6 | SW03 | 86 | 83 |
| LCS 880-63004/2-A | Lab Control Sample | 146 S1+ | 146 S1+ |
| LCSD 880-63004/3-A | Lab Control Sample Dup | 106 | 105 |
| MB 880-63004/1-A - IN3 | Method Blank | 127 | 132 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

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

**Lab Sample ID: MB 880-63094/5-A**
**Matrix: Solid**
**Analysis Batch: 63185**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 63094**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 09/22/23 14:56 | 09/25/23 11:44 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *68* | *S1-* | *70 - 130* | *09/22/23 14:56* | *09/25/23 11:44* | *1* |
| *1,4-Difluorobenzene (Surr)* | *90* | | *70 - 130* | *09/22/23 14:56* | *09/25/23 11:44* | *1* |

**Lab Sample ID: MB 880-63203/5-A**
**Matrix: Solid**
**Analysis Batch: 63185**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 63203**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 09/25/23 09:44 | 09/26/23 01:06 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *68* | *S1-* | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:06* | *1* |
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* | *09/25/23 09:44* | *09/26/23 01:06* | *1* |

**Lab Sample ID: LCS 880-63203/1-A**
**Matrix: Solid**
**Analysis Batch: 63185**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 63203**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09860 | | mg/Kg | | 99 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1098 | | mg/Kg | | 110 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1004 | | mg/Kg | | 100 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2062 | | mg/Kg | | 103 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1076 | | mg/Kg | | 108 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *121* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: LCSD 880-63203/2-A**
**Matrix: Solid**
**Analysis Batch: 63185**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 63203**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1215 | | mg/Kg | | 122 | 70 - 130 | 21 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

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

**Lab Sample ID: LCSD 880-63203/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63185** — **Prep Batch: 63203**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1272 | | mg/Kg | | 127 | 70 - 130 | 15 | 35 |
| Ethylbenzene | | | 0.100 | 0.1187 | | mg/Kg | | 119 | 70 - 130 | 17 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2358 | | mg/Kg | | 118 | 70 - 130 | 13 | 35 |
| o-Xylene | | | 0.100 | 0.1280 | | mg/Kg | | 128 | 70 - 130 | 17 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *129* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *110* | | *70 - 130* |

**Lab Sample ID: 890-5308-1 MS** — **Client Sample ID: FS01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63185** — **Prep Batch: 63203**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0998 | 0.1165 | | mg/Kg | | 117 | 70 - 130 |
| Toluene | <0.00200 | U | 0.0998 | 0.1103 | | mg/Kg | | 110 | 70 - 130 |
| Ethylbenzene | <0.00200 | U | 0.0998 | 0.1193 | | mg/Kg | | 118 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.200 | 0.2356 | | mg/Kg | | 118 | 70 - 130 |
| o-Xylene | <0.00200 | U | 0.0998 | 0.1120 | | mg/Kg | | 112 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *119* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* |

**Lab Sample ID: 890-5308-1 MSD** — **Client Sample ID: FS01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63185** — **Prep Batch: 63203**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.100 | 0.1135 | | mg/Kg | | 113 | 70 - 130 | 3 | 35 |
| Toluene | <0.00200 | U | 0.100 | 0.1258 | | mg/Kg | | 126 | 70 - 130 | 13 | 35 |
| Ethylbenzene | <0.00200 | U | 0.100 | 0.1036 | | mg/Kg | | 102 | 70 - 130 | 14 | 35 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.200 | 0.2324 | | mg/Kg | | 116 | 70 - 130 | 1 | 35 |
| o-Xylene | <0.00200 | U | 0.100 | 0.1140 | | mg/Kg | | 114 | 70 - 130 | 2 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *133* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* |

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

**Lab Sample ID: LCS 880-63004/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63027** — **Prep Batch: 63004**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 877.2 | | mg/Kg | | 88 | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

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

**Lab Sample ID: LCS 880-63004/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63027** — **Prep Batch: 63004**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | | | 1000 | 908.9 | | mg/Kg | | 91 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *146* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *146* | *S1+* | *70 - 130* |

**Lab Sample ID: LCSD 880-63004/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63027** — **Prep Batch: 63004**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 909.1 | | mg/Kg | | 91 | 70 - 130 | 4 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 959.9 | | mg/Kg | | 96 | 70 - 130 | 5 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *106* | | *70 - 130* |
| *o-Terphenyl* | *105* | | *70 - 130* |

**Lab Sample ID: 880-33484-A-21-B MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63027** — **Prep Batch: 63004**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.6 | U F1 | 1010 | 702.1 | | mg/Kg | | 70 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 1010 | 678.3 | F1 | mg/Kg | | 64 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *76* | | *70 - 130* |
| *o-Terphenyl* | *66* | *S1-* | *70 - 130* |

**Lab Sample ID: 880-33484-A-21-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 63027** — **Prep Batch: 63004**

| 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 | <49.6 | U F1 | 1010 | 693.8 | F1 | mg/Kg | | 69 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.6 | U F1 | 1010 | 666.0 | F1 | mg/Kg | | 63 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *75* | | *70 - 130* |
| *o-Terphenyl* | *65* | *S1-* | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

**Lab Sample ID: MB 880-63004/1-A**
**Matrix: Solid**
**Analysis Batch: 63027**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 63004**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 - IN3 | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |
| Diesel Range Organics (Over C10-C28) - IN3 | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |
| Oil Range Organics (Over C28-C36) - IN3 | <50.0 | U | 50.0 | | mg/Kg | | 09/21/23 14:28 | 09/22/23 07:49 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane - IN3* | *127* | | *70 - 130* | *09/21/23 14:28* | *09/22/23 07:49* | *1* |
| *o-Terphenyl - IN3* | *132* | *S1+* | *70 - 130* | *09/21/23 14:28* | *09/22/23 07:49* | *1* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-62982/1-A**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | | | 09/25/23 14:55 | 1 |

**Lab Sample ID: LCS 880-62982/2-A**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 880-62982/3-A**
**Matrix: Solid**
**Analysis Batch: 63230**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 246.1 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 880-33457-A-1-B MS**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | 4860 | | 2520 | 7339 | | mg/Kg | | 98 | 90 - 110 | | |

**Lab Sample ID: 880-33457-A-1-C MSD**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | 4860 | | 2520 | 7343 | | mg/Kg | | 99 | 90 - 110 | 0 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: 890-5305-A-3-B MS**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | 49.4 | | 248 | 289.9 | | mg/Kg | | 97 | 90 - 110 | | |

**Lab Sample ID: 890-5305-A-3-C MSD**
**Matrix: Solid**
**Analysis Batch: 63230**

**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 | 49.4 | | 248 | 289.6 | | mg/Kg | | 97 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## GC VOA

### Prep Batch: 63094

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-63094/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 63185

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-2 | FS02 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-3 | FS03 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-4 | SW01 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-5 | SW02 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-6 | SW03 | Total/NA | Solid | 8021B | 63203 |
| MB 880-63094/5-A | Method Blank | Total/NA | Solid | 8021B | 63094 |
| MB 880-63203/5-A | Method Blank | Total/NA | Solid | 8021B | 63203 |
| LCS 880-63203/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 63203 |
| LCSD 880-63203/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 63203 |
| 890-5308-1 MS | FS01 | Total/NA | Solid | 8021B | 63203 |
| 890-5308-1 MSD | FS01 | Total/NA | Solid | 8021B | 63203 |

### Prep Batch: 63203

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | 5035 | |
| 890-5308-2 | FS02 | Total/NA | Solid | 5035 | |
| 890-5308-3 | FS03 | Total/NA | Solid | 5035 | |
| 890-5308-4 | SW01 | Total/NA | Solid | 5035 | |
| 890-5308-5 | SW02 | Total/NA | Solid | 5035 | |
| 890-5308-6 | SW03 | Total/NA | Solid | 5035 | |
| MB 880-63203/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-63203/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-63203/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-5308-1 MS | FS01 | Total/NA | Solid | 5035 | |
| 890-5308-1 MSD | FS01 | Total/NA | Solid | 5035 | |

### Analysis Batch: 63350

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 890-5308-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 890-5308-3 | FS03 | Total/NA | Solid | Total BTEX | |
| 890-5308-4 | SW01 | Total/NA | Solid | Total BTEX | |
| 890-5308-5 | SW02 | Total/NA | Solid | Total BTEX | |
| 890-5308-6 | SW03 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 63004

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-5308-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| 890-5308-3 | FS03 | Total/NA | Solid | 8015NM Prep | |
| 890-5308-4 | SW01 | Total/NA | Solid | 8015NM Prep | |
| 890-5308-5 | SW02 | Total/NA | Solid | 8015NM Prep | |
| 890-5308-6 | SW03 | Total/NA | Solid | 8015NM Prep | |
| MB 880-63004/1-A - IN3 | Method Blank | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## GC Semi VOA (Continued)

### Prep Batch: 63004 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| LCS 880-63004/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-63004/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-33484-A-21-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 63027

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5308-2 | FS02 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5308-3 | FS03 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5308-4 | SW01 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5308-5 | SW02 | Total/NA | Solid | 8015B NM | 63004 |
| 890-5308-6 | SW03 | Total/NA | Solid | 8015B NM | 63004 |
| MB 880-63004/1-A - IN3 | Method Blank | Total/NA | Solid | 8015B NM | 63004 |
| LCS 880-63004/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 63004 |
| LCSD 880-63004/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 63004 |
| 880-33484-A-21-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 63004 |
| 880-33484-A-21-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 63004 |

### Analysis Batch: 63155

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 890-5308-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 890-5308-3 | FS03 | Total/NA | Solid | 8015 NM | |
| 890-5308-4 | SW01 | Total/NA | Solid | 8015 NM | |
| 890-5308-5 | SW02 | Total/NA | Solid | 8015 NM | |
| 890-5308-6 | SW03 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 62982

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-5308-2 | FS02 | Soluble | Solid | DI Leach | |
| 890-5308-3 | FS03 | Soluble | Solid | DI Leach | |
| 890-5308-4 | SW01 | Soluble | Solid | DI Leach | |
| 890-5308-5 | SW02 | Soluble | Solid | DI Leach | |
| 890-5308-6 | SW03 | Soluble | Solid | DI Leach | |
| MB 880-62982/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-62982/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-62982/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-33457-A-1-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-33457-A-1-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |
| 890-5305-A-3-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-5305-A-3-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 63230

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Soluble | Solid | 300.0 | 62982 |
| 890-5308-2 | FS02 | Soluble | Solid | 300.0 | 62982 |
| 890-5308-3 | FS03 | Soluble | Solid | 300.0 | 62982 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## HPLC/IC (Continued)

### Analysis Batch: 63230 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5308-4 | SW01 | Soluble | Solid | 300.0 | 62982 |
| 890-5308-5 | SW02 | Soluble | Solid | 300.0 | 62982 |
| 890-5308-6 | SW03 | Soluble | Solid | 300.0 | 62982 |
| MB 880-62982/1-A | Method Blank | Soluble | Solid | 300.0 | 62982 |
| LCS 880-62982/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 62982 |
| LCSD 880-62982/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 62982 |
| 880-33457-A-1-B MS | Matrix Spike | Soluble | Solid | 300.0 | 62982 |
| 880-33457-A-1-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 62982 |
| 890-5305-A-3-B MS | Matrix Spike | Soluble | Solid | 300.0 | 62982 |
| 890-5305-A-3-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 62982 |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: FS01

**Date Collected: 09/20/23 10:00**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5308-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 01:31 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 01:31 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63155 | 09/22/23 17:16 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.05 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 17:16 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:42 | CH | EET MID |

## Client Sample ID: FS02

**Date Collected: 09/19/23 13:15**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5308-2**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.05 g | 5 mL | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 01:57 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 01:57 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63155 | 09/22/23 17:39 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 17:39 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:49 | CH | EET MID |

## Client Sample ID: FS03

**Date Collected: 09/20/23 10:05**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5308-3**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 02:22 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 02:22 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63155 | 09/22/23 18:01 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.96 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 18:01 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 17:56 | CH | EET MID |

## Client Sample ID: SW01

**Date Collected: 09/20/23 10:10**
**Date Received: 09/20/23 12:30**

**Lab Sample ID: 890-5308-4**
**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 | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 02:48 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 02:48 | SM | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

## Client Sample ID: SW01

**Lab Sample ID: 890-5308-4**
**Matrix: Solid**
**Date Collected: 09/20/23 10:10**
**Date Received: 09/20/23 12:30**

| 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 | | | 63155 | 09/22/23 18:23 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.98 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 18:23 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 18:02 | CH | EET MID |

## Client Sample ID: SW02

**Lab Sample ID: 890-5308-5**
**Matrix: Solid**
**Date Collected: 09/20/23 10:15**
**Date Received: 09/20/23 12:30**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.98 g | 5 mL | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 03:13 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 03:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63155 | 09/22/23 18:45 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 18:45 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 63230 | 09/25/23 18:09 | CH | EET MID |

## Client Sample ID: SW03

**Lab Sample ID: 890-5308-6**
**Matrix: Solid**
**Date Collected: 09/20/23 10:20**
**Date Received: 09/20/23 12:30**

| 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 | 63203 | 09/25/23 09:44 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 63185 | 09/26/23 03:39 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 63350 | 09/26/23 03:39 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 63155 | 09/22/23 19:07 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.04 g | 10 mL | 63004 | 09/21/23 14:28 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 63027 | 09/22/23 19:07 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.95 g | 50 mL | 62982 | 09/21/23 11:34 | AG | EET MID |
| Soluble | Analysis | 300.0 | | 10 | 50 mL | 50 mL | 63230 | 09/25/23 18:16 | 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
Job ID: 890-5308-1
Project/Site: PLU 29 Big Sinks West CTB
SDG: 32.10434,-103.80614

## 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 | T104704400-23-26 | 06-30-24 |

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 Job ID: 890-5308-1
Project/Site: PLU 29 Big Sinks West CTB SDG: 32.10434,-103.80614

| 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 29 Big Sinks West CTB

Job ID: 890-5308-1
SDG: 32.10434,-103.80614

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-5308-1 | FS01 | Solid | 09/20/23 10:00 | 09/20/23 12:30 | 1.5 |
| 890-5308-2 | FS02 | Solid | 09/19/23 13:15 | 09/20/23 12:30 | 1.5 |
| 890-5308-3 | FS03 | Solid | 09/20/23 10:05 | 09/20/23 12:30 | 1.5 |
| 890-5308-4 | SW01 | Solid | 09/20/23 10:10 | 09/20/23 12:30 | 0 - 1.5 |
| 890-5308-5 | SW02 | Solid | 09/20/23 10:15 | 09/20/23 12:30 | 0 - 1.5 |
| 890-5308-6 | SW03 | Solid | 09/20/23 10:20 | 09/20/23 12:30 | 0 - 1.5 |

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) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nat'l Parks Hwy | Address: | 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 989-854-0852 | Email: | |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | PLU 24 Big Sinks West CTB | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03C1558264 | Due Date: | |
| Project Location: | 32.10434, -103.80164 | TAT starts the day received by the lab, if received by 4:30pm | |
| Sampler's Name: | Meredith Roberts | | |
| PO #: | | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes (No) | Wet Ice: | Yes No |
| Samples Received Intact: | (Yes) No | Thermometer ID: | IWM007 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 2.6 |
| Total Containers: | | Corrected Temperature: | 2.2 |

**ANALYSIS REQUEST**

**Preservative Codes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | BTEX | Chloride | TPH | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FS01 | S | 9/20/23 | 1000 | 1.5' | C | 1 | | X | X | X | Incident #: |
| FS02 | | 9/19/23 | 1315 | 1.5' | | | | | | | nAPP2320634792 |
| FS03 | | 9/20/23 | 1005 | 1.5' | | | | | | | |
| SW01 | | 9/20/23 | 1010 | 0-1.5' | | | | | | | Cost Center: |
| SW02 | | 9/20/23 | 1015 | 0-1.5' | | | | | | | 1818831001 |
| SW03 | | 9/20/23 | 1020 | 0-1.5' | | | | | | | |
| | | | | | | | | | | | mroberts@ensolum.com |

890-5308 Chain of Custody

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



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 MRoberts | | 9/20 1230 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5308-1
SDG Number: 32.10434,-103.80614

**Login Number: 5308**
**List Number: 1**
**Creator: Lopez, Abraham**

**List Source: Eurofins Carlsbad**

| 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. | 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: 890-5308-1
SDG Number: 32.10434,-103.80614

**Login Number: 5308**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 09/21/23 10:54 AM**

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

ENSOLUM

# APPENDIX E

## NMOCD Notifications

**From:** Collins, Melanie
**To:** ocd.enviro (ocd.enviro@emnrd.nm.gov)
**Cc:** Green, Garrett J; Ben Belill; Lambert, Tommee L
**Subject:** XTO - Sampling Notification (Week of 9/18/23 - 9/22/23)
**Date:** Thursday, September 14, 2023 8:57:21 AM
**Attachments:** image001.png

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[ **EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of September 18, 2023.

Monday
- PLU 29 Big Sinks West CTB / NAPP2320634792

Tuesday
- Indian Flats Bass 6 / NMAP1823048577

Wednesday
- Indian Flats Bass 6 / NMAP1823048577

Thursday
- JRU 29 DI 9 Riser / NAPP2322141858

Friday
- JRU 29 DI 9 Riser / NAPP2322141858
- Poker Lake Unit 301H / NAPP2322646789

Thank you,

*Melanie Collins*
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

## Collins, Melanie

**From:** OCDOnline@state.nm.us
**Sent:** Tuesday, July 25, 2023 10:40 AM
**To:** Collins, Melanie
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 243977



To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has accepted the submitted *Notification of a release* (NOR), for incident ID (n#) nAPP2320634792, with the following conditions:

- **When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.**

Please reference nAPP2320634792, on all subsequent C-141 submissions and communications regarding the remediation of this release.
**NOTE:** As of December 2019, NMOCD has discontinued the use of the "RP" number.
If you have any questions regarding this application, or don't know why you have received this email, please contact us.

ocd.enviro@state.nm.us

**New Mexico Energy, Minerals and Natural Resources Department**
1220 South St. Francis Drive
Santa Fe, NM 87505

**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 273340

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>273340 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rhamlet | XTO's deferral requests final remediation for Incident Number NAPP2320634792 until final reclamation of the well pad or major construction. Ensolum and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The area requested for deferral is in the immediate vicinity of active production equipment and process piping within the release area, where remediation would require a major facility deconstruction (Figure 4). The area has been delineated and documented in the report. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. | 2/19/2024 |