Form C-141
Page 6

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2227351943 |
| District RP | |
| Facility ID | |
| Application ID | |

# Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __12/15/2022_____

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

**OCD Only**

Received by: Jocelyn Harimon Date: 12/16/2022

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

Closure Approved by: Robert Hamlet Date: 3/29/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

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|---|---|
| Incident ID | NAPP2227351943 |
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# 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 32.36256 Longitude -103.83810
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name JRU DI2 CTB | Site Type Central Tank Battery |
| Date Release Discovered 9/18/2022 | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| K | 25 | 22S | 30E | EDDY |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☒ Produced Water | Volume Released (bbls) 36.95 | Volume Recovered (bbls) 5.00 |
| | 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: Corrosion on the threads of the transfer pump caused fluids to release fluids to soil. A vacuum truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

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|---|---|
| Incident ID | NAPP2227351943 |
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|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br>☒ Yes ☐ No<br>Yes | If YES, for what reason(s) does the responsible party consider this a major release?<br>A release greater than 25 barrels. |

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Bryan Foust to Mike Bratcher, Robert Hamlet, OCD.enviro@state.nm.us on 9/19/22 via email.

## Initial Response

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

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

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

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: 
Date: 9/30/2022
email: garret.green@exxonmobil.com
Telephone: 575-200-0729

**OCD Only**

Received by: Jocelyn Harimon
Date: 09/30/2022

State of New Mexico
Oil Conservation Division

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|---|---|
| Incident ID | NAPP2227351943 |
| District RP | |
| Facility ID | |
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# Site Assessment/Characterization

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

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

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|---|---|
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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: ____12/15/2022_____

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

**OCD Only**

Received by: ___Jocelyn Harimon_____ Date: ___12/16/2022___

State of New Mexico
Oil Conservation Division

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# Closure

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☒ Description of remediation activities

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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __12/15/2022_____

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

**OCD Only**

Received by: Jocelyn Harimon Date: 12/16/2022

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

December 15, 2022

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

**Re: Closure Request**
**JRU DI2 CTB**
**Incident Number NAPP2227351943**
**Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document site assessment and soil sampling activities at the JRU DI2 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 *Closure Request*, describing site assessment and excavation activities that have occurred and requesting no further action for Incident Number NAPP2227351943.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit K, Section 25, Township 22 South, Range 30 East, in Eddy County, New Mexico (32.36256°N, 103.83810°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On September 18, 2022, corrosion on the threads of a transfer pump caused a release of approximately 36.95 barrels (bbls) of produced water onto the surface of the well pad. A vacuum truck was immediately dispatched to recover free-standing fluids; 5 bbls of produced water were recovered. XTO reported the release to the NMOCD via email on September 19, 2022 and submitted a Release Notification Form C-141 (Form C-141) on September 30, 2022. The release was assigned Incident Number NAPP2227351943.

## 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, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is USGS well 322215103502701, located just over a ½-mile northwest of the Site. The groundwater well has a reported depth to groundwater of 419 feet bgs, but Ensolum could not locate records containing the total depth of the well. Ground surface elevation at the groundwater well location is 3,360 feet above

mean sea level (amsl), which is approximately 19 feet higher in elevation than the Site. All wells used to determine depth to groundwater are depicted on Figure 1. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 5,027 feet northeast of the Site. The Site is greater than 200 feet from any 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 from any freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Potential site receptors are identified on Figure 1.

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

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

## SITE ASSESSMENT ACTIVITIES

On November 14, 2022, 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 within and around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The delineation soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shippment and long term storage, but are considered to have been received in acceptable condition. Laboratory analytical results for delineation soil samples SS01 through SS07 indicated all COC concentrations were compliant with the Closure Criteria.

## DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

Between November 28, 2022, and November 30, 2022, Ensolum returned to the Site to oversee delineation and excavation activities. Four potholes (PH01 through PH04) were advanced in the vicinity of delineation soil samples SS01 through SS04 by use of heavy equipment and hand auger to assess the vertical extent of the release. Discrete delineation soil samples were collected from each pothole at a depth of 2 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 for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The potholes and delineation soil sample locations are depicted on Figure 2. Laboratory analytical results for delineation soil samples indicated all COC concentrations were compliant with the Closure Criteria.

Soil was excavated from the release area in the area represented by delineation soil samples SS03 and SS04, which contained elevated chloride concentrations. Soil was excavated to the strictest Table I Closure Criteria to alleviate concerns from NMOCD regarding the distance of the closest groundwater well, and the age of the depth to water data. Excavation activities were performed by use of heavy equipment. The excavation occurred on the well pad. To direct excavation activities, Ensolum personnel screened soil as described above.

Following removal of soil, Ensolum personnel collected 5-point composite soil samples representing up to 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS04 were collected from the floor of the excavation from depths ranging from 1-foot bgs to 2 feet bgs. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 2 feet bgs. The excavation soil samples were handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 682 square feet. A total of approximately 45 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation areas were secured with fencing.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation soil samples indicated COC concentrations were compliant with the Closure Criteria and most samples were compliant with the most stringent Table I Closure Criteria. XTO excavated soil in an area with elevated chloride concentrations, and results from all excavation soil samples were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the September 18, 2022, release of produced water. Laboratory analytical results for delineation soil samples and excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Closure Criteria. Following excavation of soil containing elevated chloride concentrations, all confirmation samples met the most stringent Table I Closure Criteria. Based on the

soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Excavation of soil has mitigated impacts exceeding the most stringent Table 1 Closure Criteria at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2227351943.

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
Field Geologist

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

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

Appendices:

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

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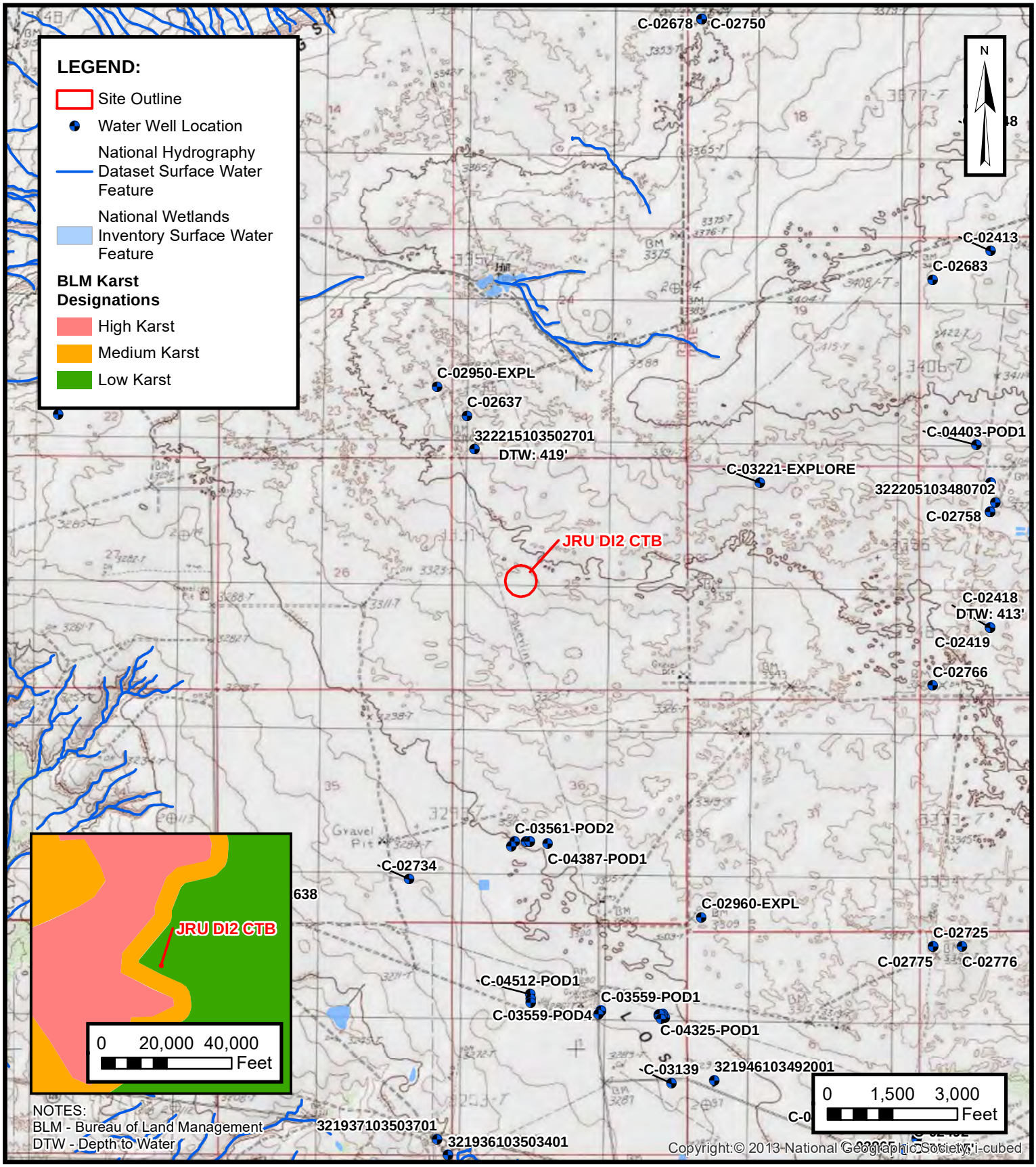
# FIGURES

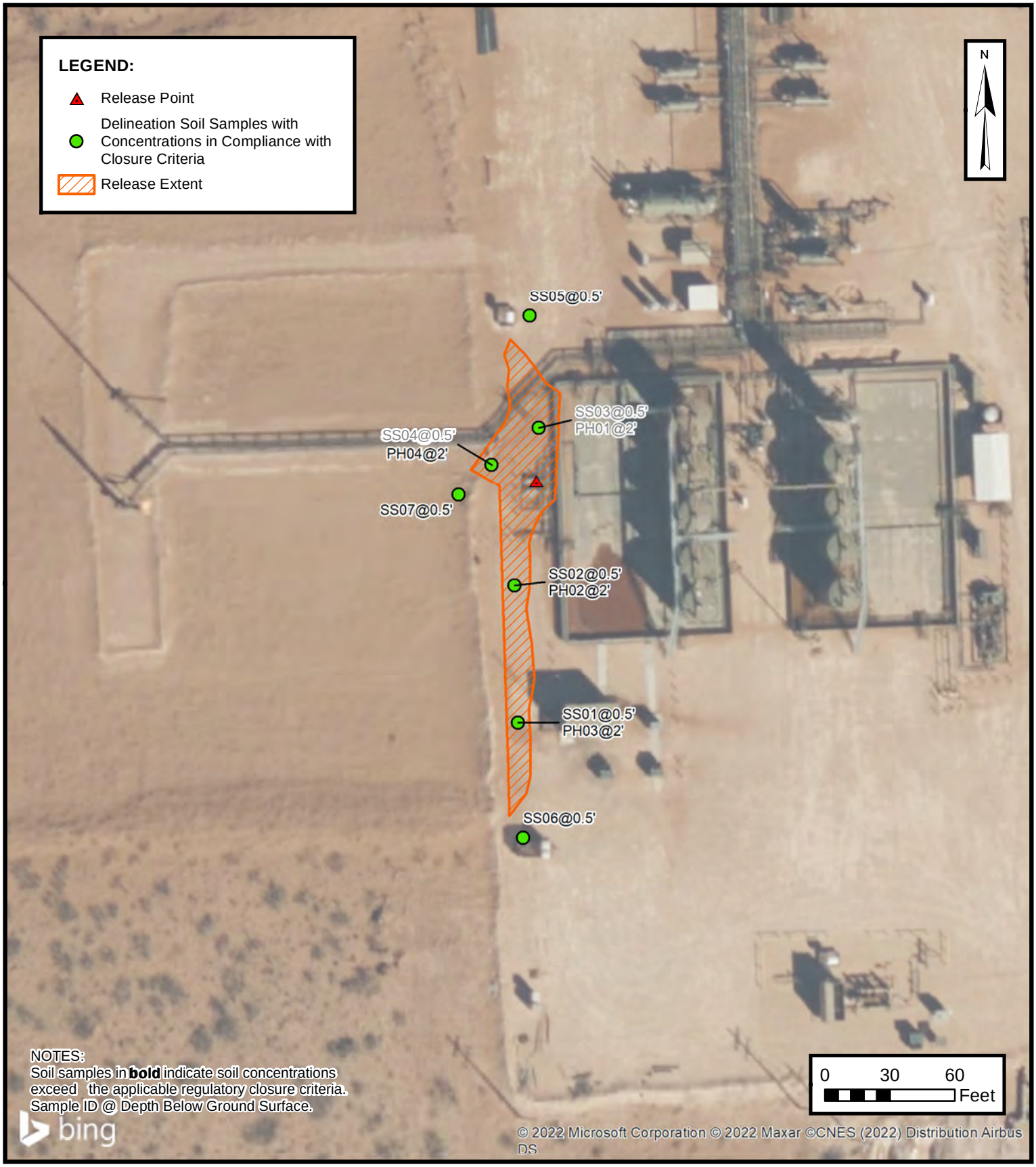



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

**SITE RECEPTOR MAP**

XTO ENERGY, INC
JRU DI2 CTB
NAPP2227351943
Unit K, Sec 25, T22S, R30E
Eddy County, New Mexico

**FIGURE**
**1**

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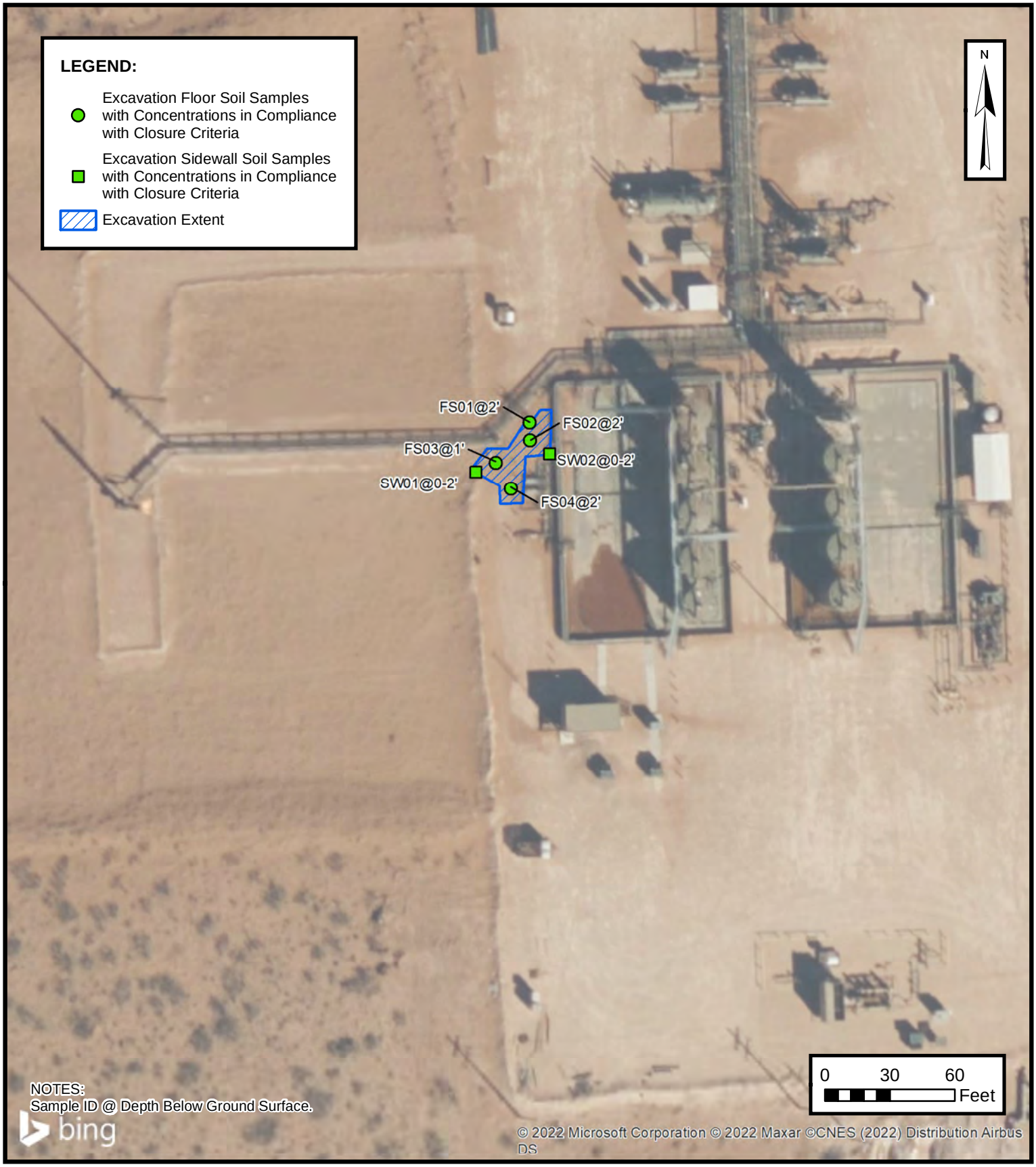
**DELINEATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC
JRU DI2 CTB
NAPP2227351943
Unit K, Sec 25, T22S, R30E
Eddy County, New Mexico

**FIGURE**
**2**




ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

**EXCAVATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC
JRU DI2 CTB
NAPP2227351943
Unit K, Sec 25, T22S, R30E
Eddy County, New Mexico

**FIGURE**

**3**

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# TABLES

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# TABLE 1
# SOIL SAMPLE ANALYTICAL RESULTS
# JRU DI2 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 1 Closure Criteria (NMAC 19.15.29) | | | 10 | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 |
| **Delineation Soil Samples** | | | | | | | | | | |
| SS01 | 11/14/2022 | 0.5 | <0.00198 | <0.00396 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 57.1 |
| PH03 | 11/28/2022 | 2 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 225 |
| SS02 | 11/14/2022 | 0.5 | <0.00201 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 307 |
| PH02 | 11/28/2022 | 2 | <0.00201 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 79.6 |
| ~~SS03~~ | ~~11/14/2022~~ | ~~0.5~~ | ~~<0.00199~~ | ~~<0.00398~~ | ~~<49.9~~ | ~~<49.9~~ | ~~<49.9~~ | ~~<49.9~~ | ~~<49.9~~ | ~~1,380~~ |
| ~~PH01~~ | ~~11/28/2022~~ | ~~2~~ | ~~<0.00201~~ | ~~<0.00402~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~927~~ |
| ~~SS04~~ | ~~11/14/2022~~ | ~~0.5~~ | ~~<0.00198~~ | ~~<0.00397~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~<50.0~~ | ~~900~~ |
| PH04 | 11/28/2022 | 2 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 345 |
| SS05 | 11/14/2022 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 252 |
| SS06 | 11/14/2022 | 0.5 | <0.00202 | <0.00403 | <50.0 | 77.1 | <50.0 | 77.1 | 77.1 | 331 |
| SS07 | 11/14/2022 | 0.5 | <0.00202 | <0.00403 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 13.7 |
| **Excavation Floor Soil Samples** | | | | | | | | | | |
| FS01 | 11/30/2022 | 2 | <0.00202 | <0.00404 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 367 |
| FS02 | 11/30/2022 | 2 | <0.00200 | <0.00401 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 168 |
| FS03 | 11/29/2022 | 1 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 267 |
| FS04 | 11/30/2022 | 2 | <0.00198 | <0.00396 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 284 |
| **Excavation Sidewall Soil Samples** | | | | | | | | | | |
| SW01 | 11/30/2022 | 0 - 2 | <0.00201 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 291 |
| SW02 | 11/30/2022 | 0 - 2 | <0.00202 | <0.00404 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 153 |

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

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# APPENDIX A

## Referenced Well Records

Click to hideNews Bulletins

- See the Water Data for the Nation Blog for the latest news and updates.

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

## Search Results -- 1 sites found

**Agency code =** usgs
**site_no list =**
- 322215103502701

**Minimum number of levels =** 1
Save file of selected sites to local disk for future upload

## USGS 322215103502701 22S.30E.24.3334 P-14

Eddy County, New Mexico
Latitude 32°22'15", Longitude 103°50'27" NAD27
Land-surface elevation 3,360 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) national aquifer.

**Output formats**

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

| Date | Time | ? Water-level date-time accuracy | ? Parameter code | Water level, feet below land surface | Water level, feet above specific vertical datum | Referenced vertical datum | ? Status | ? Method of measurement | ? Measuring agency | ? Source measur |
|---|---|---|---|---|---|---|---|---|---|---|
| 1977-02-24 | | D | 62610 | | 2941.00 | NGVD29 | 1 | O | USGS | |
| 1977-02-24 | | D | 62611 | | 2942.63 | NAVD88 | 1 | O | USGS | |
| 1977-02-24 | | D | 72019 | 419.00 | | | 1 | O | USGS | |

**Explanation**

| Section | Code | Description |
|---|---|---|
| Water-level date-time accuracy | D | Date is accurate to the Day |
| Parameter code | 62610 | Groundwater level above NGVD 1929, feet |
| Parameter code | 62611 | Groundwater level above NAVD 1988, feet |
| Parameter code | 72019 | Depth to water level, feet below land surface |
| Referenced vertical datum | NAVD88 | North American Vertical Datum of 1988 |
| Referenced vertical datum | NGVD29 | National Geodetic Vertical Datum of 1929 |
| Status | 1 | Static |
| Method of measurement | O | Observed. |
| Measuring agency | USGS | U.S. Geological Survey |
| Source of measurement | S | Measured by personnel of reporting agency. |
| Water-level approval status | A | Approved for publication -- Processing and review completed. |

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
**Title: Groundwater for USA: Water Levels**
**URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?**

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-12-14 11:04:19 EST
0.28 0.24 nadww02

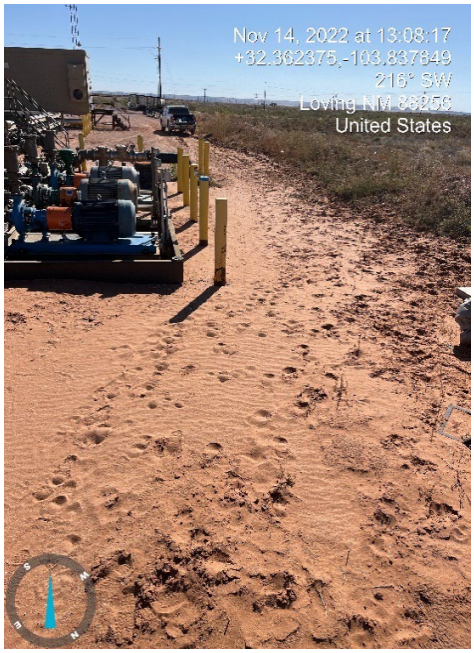
ENSOLUM

# APPENDIX B

## Photographic Log

ENSOLUM

**Photographic Log**
XTO Energy, Inc
JRU DI2 CTB
NAPP2227351943




Photograph 1 Date: 11/14/2022
Description: Release extent
View: Southwest


Photograph 2 Date: 11/28/2022
Description: Excavation activities near SS04
View: Southwest


Photograph 3 Date: 11/30/2022
Description: Final excavation extent
View: North


Photograph 4 Date: 11/30/2022
Description: Final excavation extent
View: Southwest

ENSOLUM

# APPENDIX C

## Lithologic Soil Sampling Logs

| ENSOLUM | Sample Name: PH01 | Date: 11/28/2022 |
|---|---|---|
| | Site Name: JRU DI2 CTB | |
| | Incident Number: NAPP2227351943 | |
| | Job Number: 03E1558140 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Meredith Roberts | Method: Excavator |
| Coordinates: 32.36274, -103.83802 | Hole Diameter: N/A | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | |
| M | <173.6 | 0.0 | N | SS03 | 0.5' | | SP-SM | SAND, red, poorly graded with silt and caliche mixed |
| M | 201.6 | 0.0 | N | | | 1' | SP-SM | SAND, medium brown/ red and poorly graded with caliche mix |
| M | 364 | 0.0 | N | PH01 | 2' | 2' | SP-SM | SAA |
| | | | | | | | | Total depth at 2 feet bgs. |

| ENSOLUM | Sample Name: PH02 | Date: 11/28/2022 |
|---|---|---|
| | Site Name: JRU DI2 CTB | |
| | Incident Number: NAPP2227351943 | |
| | Job Number: 03E1558140 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Meredith Roberts | Method: Excavator |
| Coordinates: 32.36254, -103.83806 | Hole Diameter: N/A | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | |
| M | 464 | 0.0 | N | SS02 | 0.5' | | SP-SM | SAND, red, poorly graded with silt and caliche mixed |
| M | 328 | 0.0 | N | | | 1' | SP-SM | SAND, medium brown/ red and poorly graded with caliche mix |
| M | <168 | 0.0 | N | PH02 | 2' | 2' | SP-SM | SAND, dark red/brown, poorly graded, some caliche |
| | | | | | | | | Total depth at 2 feet bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH03 | Date: 11/28/2022 |
| | Site Name: JRU DI2 CTB | |
| | Incident Number: NAPP2227351943 | |
| | Job Number: 03E1558140 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Meredith Roberts | Method: Hand Auger |
| Coordinates: 32.36237, -103.83806 | Hole Diameter: 4" | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | |
| M | 2,032 | 0.0 | N | SS01 | 0.5' | | CCHE | CALICHE, moist, tan-light brown, poorly consolidated. |
| M | 582.4 | 0.0 | N | | | 1' | CCHE | SAA |
| M | 240.8 | 0.0 | N | PH03 | 2' | 2' | SP-SM | SAND, medium red/brown, poorly graded, some caliche |
| | | | | | | | | Total depth at 2 feet bgs. |

| ENSOLUM | Sample Name: PH04 | Date: 11/28/2022 |
|---|---|---|
| | Site Name: JRU DI2 CTB | |
| | Incident Number: NAPP2227351943 | |
| | Job Number: 03E1558140 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Meredith Roberts | Method: Hand Auger |
| Coordinates: 32.36270, -103.83809 | Hole Diameter: 4" | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | |
| M | 1,126 | 0.0 | N | SS04 | 0.5' | | SP-SM | SAND, red, poorly graded with silt |
| M | <168 | 0.0 | N | | | 1' | SP-SM | SAND, dark red/brown, poorly graded with silt |
| M | 414.4 | 0.0 | N | PH04 | 2' | 2' | SP-SM | SAA |
| | | | | | | | | Total depth at 2 feet bgs. |

ENSOLUM

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/28/2022 4:18:53 PM

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

890-3464-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.



Released to Imaging: 3/29/2023 4:00:01 PM

my EOL

# Eurofins Carlsbad

## Job Notes

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

## Authorization

Generated
11/28/2022 4:18:53 PM

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 890-3464-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-3464-1
Project/Site: JRU D12 CTB SDG: 03E1558140

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## Job ID: 890-3464-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-3464-1**

**Receipt**
The sample was received on 11/15/2022 1:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

**Receipt Exceptions**
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3464-1).

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39927 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## Client Sample ID: SS06

**Date Collected: 11/14/22 13:55**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3464-1

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.00403 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |
| Xylenes, Total | <0.00403 | U | 0.00403 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 06:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *80* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 06:10* | *1* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 06:10* | *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 | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **77.1** | | 50.0 | | mg/Kg | | | 11/21/22 10:28 | 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 | | 11/17/22 10:08 | 11/20/22 03:11 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **77.1** | | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/20/22 03:11 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/20/22 03:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *101* | | *70 - 130* | *11/17/22 10:08* | *11/20/22 03:11* | *1* |
| *o-Terphenyl* | *92* | | *70 - 130* | *11/17/22 10:08* | *11/20/22 03:11* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **331** | | 5.01 | | mg/Kg | | | 11/22/22 03:27 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BFB1 | DFBZ1 | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | | | | | | | | | | |
| 880-21690-A-1-G MS | Matrix Spike | 91 | 100 | | | | | | | | | | |
| 880-21690-A-1-H MSD | Matrix Spike Duplicate | 96 | 105 | | | | | | | | | | |
| 890-3464-1 | SS06 | 80 | 107 | | | | | | | | | | |
| LCS 880-39927/1-A | Lab Control Sample | 89 | 106 | | | | | | | | | | |
| LCSD 880-39927/2-A | Lab Control Sample Dup | 90 | 98 | | | | | | | | | | |
| MB 880-39927/5-A | Method Blank | 77 | 102 | | | | | | | | | | |
| MB 880-40279/5-A | Method Blank | 77 | 102 | | | | | | | | | | |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1CO1 | OTPH1 | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | | | | | | | | | | |
| 890-3461-A-25-B MS | Matrix Spike | 103 | 86 | | | | | | | | | | |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | 102 | 87 | | | | | | | | | | |
| 890-3464-1 | SS06 | 101 | 92 | | | | | | | | | | |
| LCS 880-39787/2-A | Lab Control Sample | 95 | 99 | | | | | | | | | | |
| LCSD 880-39787/3-A | Lab Control Sample Dup | 87 | 94 | | | | | | | | | | |
| MB 880-39787/1-A | Method Blank | 96 | 92 | | | | | | | | | | |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39927/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |

**Lab Sample ID: LCS 880-39927/1-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09422 | | mg/Kg | | 94 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1088 | | mg/Kg | | 109 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1043 | | mg/Kg | | 104 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1874 | | mg/Kg | | 94 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.09251 | | mg/Kg | | 93 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *89* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *106* | | *70 - 130* |

**Lab Sample ID: LCSD 880-39927/2-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09072 | | mg/Kg | | 91 | 70 - 130 | 4 | 35 |
| Toluene | | | 0.100 | 0.1093 | | mg/Kg | | 109 | 70 - 130 | 0 | 35 |
| Ethylbenzene | | | 0.100 | 0.1076 | | mg/Kg | | 108 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1939 | | mg/Kg | | 97 | 70 - 130 | 3 | 35 |
| o-Xylene | | | 0.100 | 0.09534 | | mg/Kg | | 95 | 70 - 130 | 3 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: 880-21690-A-1-G MS**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0996 | 0.07674 | | mg/Kg | | 77 | 70 - 130 | | |
| Toluene | <0.00200 | U F1 | 0.0996 | 0.07473 | | mg/Kg | | 75 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

**Lab Sample ID: 880-21690-A-1-G MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 39927**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00200 | U F1 | 0.0996 | 0.05289 | F1 | mg/Kg | | 53 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00399 | U F1 | 0.199 | 0.09582 | F1 | mg/Kg | | 48 | 70 - 130 |
| o-Xylene | <0.00200 | U F1 | 0.0996 | 0.04915 | F1 | mg/Kg | | 49 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *100* | | *70 - 130* |

**Lab Sample ID: 880-21690-A-1-H MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 39927**

| 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 | 0.07160 | | mg/Kg | | 71 | 70 - 130 | 7 | 35 |
| Toluene | <0.00200 | U F1 | 0.100 | 0.06563 | F1 | mg/Kg | | 65 | 70 - 130 | 13 | 35 |
| Ethylbenzene | <0.00200 | U F1 | 0.100 | 0.04332 | F1 | mg/Kg | | 43 | 70 - 130 | 20 | 35 |
| m-Xylene & p-Xylene | <0.00399 | U F1 | 0.200 | 0.07807 | F1 | mg/Kg | | 39 | 70 - 130 | 20 | 35 |
| o-Xylene | <0.00200 | U F1 | 0.100 | 0.04104 | F1 | mg/Kg | | 40 | 70 - 130 | 18 | 35 |

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

**Lab Sample ID: MB 880-40279/5-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40279**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | mg/Kg | | 11/23/22 10:46 | 11/23/22 13:13 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/23/22 10:46* | *11/23/22 13:13* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *11/23/22 10:46* | *11/23/22 13:13* | *1* |

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

**Lab Sample ID: MB 880-39787/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |

Eurofins Carlsbad

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39787/1-A**
**Matrix: Solid**
**Analysis Batch: 39956**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39787**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* | *11/17/22 10:08* | *11/19/22 20:22* | *1* |
| *o-Terphenyl* | *92* | | *70 - 130* | *11/17/22 10:08* | *11/19/22 20:22* | *1* |

**Lab Sample ID: LCS 880-39787/2-A**
**Matrix: Solid**
**Analysis Batch: 39956**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 39787**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 988.3 | | mg/Kg | | 99 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 999.1 | | mg/Kg | | 100 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *95* | | *70 - 130* |
| *o-Terphenyl* | *99* | | *70 - 130* |

**Lab Sample ID: LCSD 880-39787/3-A**
**Matrix: Solid**
**Analysis Batch: 39956**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 39787**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1002 | | mg/Kg | | 100 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 947.6 | | mg/Kg | | 95 | 70 - 130 | 5 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* |
| *o-Terphenyl* | *94* | | *70 - 130* |

**Lab Sample ID: 890-3461-A-25-B MS**
**Matrix: Solid**
**Analysis Batch: 39956**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 39787**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 998 | 833.8 | | mg/Kg | | 84 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 998 | 1015 | | mg/Kg | | 99 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* |
| *o-Terphenyl* | *86* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

**Lab Sample ID: 890-3461-A-25-C MSD**
**Matrix: Solid**
**Analysis Batch: 39956**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 39787**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 997 | 869.2 | | mg/Kg | | 87 | 70 - 130 | 4 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 997 | 1035 | | mg/Kg | | 102 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* |
| *o-Terphenyl* | *87* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-39831/1-A**
**Matrix: Solid**
**Analysis Batch: 40150**

**Client Sample ID: Method Blank**
**Prep Type: Soluble**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 11/22/22 03:10 | 1 |

**Lab Sample ID: LCS 880-39831/2-A**
**Matrix: Solid**
**Analysis Batch: 40150**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 255.5 | | mg/Kg | | 102 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-39831/3-A**
**Matrix: Solid**
**Analysis Batch: 40150**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.9 | | mg/Kg | | 103 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-3464-1 MS**
**Matrix: Solid**
**Analysis Batch: 40150**

**Client Sample ID: SS06**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.6 | | mg/Kg | | 98 | 90 - 110 | | |

**Lab Sample ID: 890-3464-1 MSD**
**Matrix: Solid**
**Analysis Batch: 40150**

**Client Sample ID: SS06**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.9 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 39927

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | 5035 | |
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-39927/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-39927/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-21690-A-1-G MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-21690-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 40266

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | 8021B | 39927 |
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 8021B | 39927 |
| MB 880-40279/5-A | Method Blank | Total/NA | Solid | 8021B | 40279 |
| LCS 880-39927/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 39927 |
| LCSD 880-39927/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 39927 |
| 880-21690-A-1-G MS | Matrix Spike | Total/NA | Solid | 8021B | 39927 |
| 880-21690-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 39927 |

### Prep Batch: 40279

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-40279/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 40486

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 39787

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | 8015NM Prep | |
| MB 880-39787/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-39787/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-39787/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-3461-A-25-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 39956

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | 8015B NM | 39787 |
| MB 880-39787/1-A | Method Blank | Total/NA | Solid | 8015B NM | 39787 |
| LCS 880-39787/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 39787 |
| LCSD 880-39787/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 39787 |
| 890-3461-A-25-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 39787 |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 39787 |

### Analysis Batch: 40081

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## HPLC/IC

### Leach Batch: 39831

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Soluble | Solid | DI Leach | |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-3464-1 MS | SS06 | Soluble | Solid | DI Leach | |
| 890-3464-1 MSD | SS06 | Soluble | Solid | DI Leach | |

### Analysis Batch: 40150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Soluble | Solid | 300.0 | 39831 |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | 300.0 | 39831 |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 39831 |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 39831 |
| 890-3464-1 MS | SS06 | Soluble | Solid | 300.0 | 39831 |
| 890-3464-1 MSD | SS06 | Soluble | Solid | 300.0 | 39831 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## Client Sample ID: SS06

**Date Collected: 11/14/22 13:55**
**Date Received: 11/15/22 13:31**

## Lab Sample ID: 890-3464-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.96 g | 5 mL | 39927 | 11/18/22 12:52 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 06:10 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40486 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40081 | 11/21/22 10:28 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 39787 | 11/17/22 10:08 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 39956 | 11/20/22 03:11 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.99 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 03:27 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3464-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-3464-1 | SS06 | Solid | 11/14/22 13:55 | 11/15/22 13:31 | 0.5' |

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eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Tacoma Morrissey | 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: | 337.257.8307 Email: | | tmorrissey@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU D12 CTB | Turn Around | |
| Project Number: | 03E1558140 | ☑ Routine ☐ Rush | |
| Project Location: | 32.36256, -103.83811 | 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: | TWM007 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 5.8 |
| Total Containers: | | Corrected Temperature: | 5.6 |

**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 | Parameters: Chloride | BTEX | TPH | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SS06 | S | 11/14/22 | 1355 | 0.5' | G | 1 | | X | X | X | Incident #: nAPP2227351943 |
| | | | | | | | | | | NR | Cost Center: 1082251001 |


ANALYSIS REQUEST

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

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 | 2 | 11.15.22 1331 | 4 | | |
| 3 | | | 6 | | |
| 5 | | | | | |

Revised Date 08/25/2020 Rev. 2020.2

Received by OCD: 12/16/2022 12:37:49 PM
Released to Imaging: 3/29/2023 4:00:01 PM
11/28/2022
Page 18 of 20

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3464-1
SDG Number: 03E1558140

**Login Number: 3464**
**List Number: 1**
**Creator: Stutzman, Amanda**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3464-1
SDG Number: 03E1558140

**Login Number: 3464**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 11/16/22 02:15 PM**

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

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/28/2022 4:23:59 PM

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

890-3466-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.



Released to Imaging: 3/29/2023 4:00:01 PM

my EOL

# Eurofins Carlsbad

## Job Notes

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

## Authorization

Generated
11/28/2022 4:23:59 PM

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 890-3466-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-3466-1
Project/Site: JRU D12 CTB SDG: 03E1558140

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## Job ID: 890-3466-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-3466-1**

**Receipt**
The sample was received on 11/15/2022 1:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

**Receipt Exceptions**
The following sample was received and analyzed from an unpreserved bulk soil jar: SS07 (890-3466-1).

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## Client Sample ID: SS07

**Date Collected: 11/14/22 13:40**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3466-1

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |
| Toluene | <0.00202 | U F1 | 0.00202 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |
| Ethylbenzene | <0.00202 | U F1 | 0.00202 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.00403 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |
| o-Xylene | <0.00202 | U F1 | 0.00202 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |
| Xylenes, Total | <0.00403 | U F1 | 0.00403 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *85* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:52* | *1* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:52* | *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 | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 11/21/22 10:28 | 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 | | 11/17/22 10:08 | 11/20/22 03:33 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 11/17/22 10:08 | 11/20/22 03:33 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 11/17/22 10:08 | 11/20/22 03:33 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *97* | | *70 - 130* | *11/17/22 10:08* | *11/20/22 03:33* | *1* |
| *o-Terphenyl* | *95* | | *70 - 130* | *11/17/22 10:08* | *11/20/22 03:33* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **13.7** | | 4.98 | | mg/Kg | | | 11/22/22 03:44 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## 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) |
| 890-3466-1 | SS07 | 85 | 107 |
| 890-3466-1 MS | SS07 | 97 | 104 |
| 890-3466-1 MSD | SS07 | 97 | 105 |
| LCS 880-40226/1-A | Lab Control Sample | 91 | 107 |
| LCSD 880-40226/2-A | Lab Control Sample Dup | 90 | 102 |
| MB 880-39927/5-A | Method Blank | 77 | 102 |
| MB 880-40226/5-A | Method Blank | 77 | 103 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-3461-A-25-B MS | Matrix Spike | 103 | 86 |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | 102 | 87 |
| 890-3466-1 | SS07 | 97 | 95 |
| LCS 880-39787/2-A | Lab Control Sample | 95 | 99 |
| LCSD 880-39787/3-A | Lab Control Sample Dup | 87 | 94 |
| MB 880-39787/1-A | Method Blank | 96 | 92 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39927/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |

**Lab Sample ID: MB 880-40226/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |

**Lab Sample ID: LCS 880-40226/1-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08641 | | mg/Kg | | 86 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09417 | | mg/Kg | | 94 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09022 | | mg/Kg | | 90 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1641 | | mg/Kg | | 82 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.08127 | | mg/Kg | | 81 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* |

**Lab Sample ID: LCSD 880-40226/2-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09015 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-40226/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.09944 | | mg/Kg | | 99 | 70 - 130 | 5 | 35 |
| Ethylbenzene | | | 0.100 | 0.09342 | | mg/Kg | | 93 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1688 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |
| o-Xylene | | | 0.100 | 0.08416 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: 890-3466-1 MS** — **Client Sample ID: SS07**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.101 | 0.07375 | | mg/Kg | | 73 | 70 - 130 |
| Toluene | <0.00202 | U F1 | 0.101 | 0.06939 | F1 | mg/Kg | | 69 | 70 - 130 |
| Ethylbenzene | <0.00202 | U F1 | 0.101 | 0.06488 | F1 | mg/Kg | | 64 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.202 | 0.1175 | F1 | mg/Kg | | 58 | 70 - 130 |
| o-Xylene | <0.00202 | U F1 | 0.101 | 0.06822 | F1 | mg/Kg | | 67 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *104* | | *70 - 130* |

**Lab Sample ID: 890-3466-1 MSD** — **Client Sample ID: SS07**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.0994 | 0.07664 | | mg/Kg | | 77 | 70 - 130 | 4 | 35 |
| Toluene | <0.00202 | U F1 | 0.0994 | 0.06568 | F1 | mg/Kg | | 66 | 70 - 130 | 5 | 35 |
| Ethylbenzene | <0.00202 | U F1 | 0.0994 | 0.06133 | F1 | mg/Kg | | 62 | 70 - 130 | 6 | 35 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.199 | 0.1139 | F1 | mg/Kg | | 57 | 70 - 130 | 3 | 35 |
| o-Xylene | <0.00202 | U F1 | 0.0994 | 0.07168 | | mg/Kg | | 72 | 70 - 130 | 5 | 35 |

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

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

**Lab Sample ID: MB 880-39787/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39787/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/17/22 10:08 | 11/19/22 20:22 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* | *11/17/22 10:08* | *11/19/22 20:22* | *1* |
| *o-Terphenyl* | *92* | | *70 - 130* | *11/17/22 10:08* | *11/19/22 20:22* | *1* |

**Lab Sample ID: LCS 880-39787/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 988.3 | | mg/Kg | | 99 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 999.1 | | mg/Kg | | 100 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *95* | | *70 - 130* |
| *o-Terphenyl* | *99* | | *70 - 130* |

**Lab Sample ID: LCSD 880-39787/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1002 | | mg/Kg | | 100 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 947.6 | | mg/Kg | | 95 | 70 - 130 | 5 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* |
| *o-Terphenyl* | *94* | | *70 - 130* |

**Lab Sample ID: 890-3461-A-25-B MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 998 | 833.8 | | mg/Kg | | 84 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 998 | 1015 | | mg/Kg | | 99 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* |
| *o-Terphenyl* | *86* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

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

**Lab Sample ID: 890-3461-A-25-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 39956** — **Prep Batch: 39787**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 997 | 869.2 | | mg/Kg | | 87 | 70 - 130 | 4 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 997 | 1035 | | mg/Kg | | 102 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* |
| *o-Terphenyl* | *87* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-39831/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 11/22/22 03:10 | 1 |

**Lab Sample ID: LCS 880-39831/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 255.5 | | mg/Kg | | 102 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-39831/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.9 | | mg/Kg | | 103 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-3464-A-1-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.6 | | mg/Kg | | 98 | 90 - 110 | | |

**Lab Sample ID: 890-3464-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.9 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 39927

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 40226

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | 5035 | |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-3466-1 MS | SS07 | Total/NA | Solid | 5035 | |
| 890-3466-1 MSD | SS07 | Total/NA | Solid | 5035 | |

### Analysis Batch: 40266

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | 8021B | 40226 |
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 8021B | 39927 |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 8021B | 40226 |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 40226 |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 40226 |
| 890-3466-1 MS | SS07 | Total/NA | Solid | 8021B | 40226 |
| 890-3466-1 MSD | SS07 | Total/NA | Solid | 8021B | 40226 |

### Analysis Batch: 40490

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 39787

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | 8015NM Prep | |
| MB 880-39787/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-39787/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-39787/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-3461-A-25-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 39956

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | 8015B NM | 39787 |
| MB 880-39787/1-A | Method Blank | Total/NA | Solid | 8015B NM | 39787 |
| LCS 880-39787/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 39787 |
| LCSD 880-39787/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 39787 |
| 890-3461-A-25-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 39787 |
| 890-3461-A-25-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 39787 |

### Analysis Batch: 40082

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## HPLC/IC

### Leach Batch: 39831

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Soluble | Solid | DI Leach | |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 40150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Soluble | Solid | 300.0 | 39831 |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | 300.0 | 39831 |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 39831 |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 39831 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## Client Sample ID: SS07

**Date Collected: 11/14/22 13:40**
**Date Received: 11/15/22 13:31**

## Lab Sample ID: 890-3466-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.96 g | 5 mL | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 12:52 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40490 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40082 | 11/21/22 10:28 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 39787 | 11/17/22 10:08 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 39956 | 11/20/22 03:33 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 03:44 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3466-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-3466-1 | SS07 | Solid | 11/14/22 13:40 | 11/15/22 13:31 | 0.5' |

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11/28/2022

eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Tacoma Morrissey | 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: | 337.257.8507 Email: | | tmorrissey@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU D12 CTB | Turn Around | |
| Project Number: | 03E1558140 | ☑ Routine ☐ Rush | |
| Project Location: | 32.36256, -103.83811 | 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: | IR#7 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 5.8 |
| Total Containers: | | Corrected Temperature: | 5.6 |

**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 | Chloride | BTEX | TPH |
|---|---|---|---|---|---|---|---|---|---|---|
| SS07 | S | 11/14/22 | 1340 | 0.5' | G | 1 | | X | X | X |

ANALYSIS REQUEST

890-3466 Chain of Custody

**Sample Comments**

Incident #:
nAPP2227351943

Cost Center:
1082251001

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 | | | 11-15-22 1331 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 12/16/2022 12:37:49 PM

Released to Imaging: 3/29/2023 4:00:01 PM

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3466-1
SDG Number: 03E1558140

**Login Number: 3466**
**List Number: 1**
**Creator: Stutzman, Amanda**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3466-1
SDG Number: 03E1558140

**Login Number: 3466**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 11/16/22 02:15 PM**

| 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: Tacoma Morrissey
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/28/2022 4:24:53 PM

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

890-3469-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.



Released to Imaging: 3/29/2023 4:00:01 PM

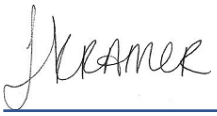
my EOL

# Eurofins Carlsbad

## Job Notes

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

## Authorization



Generated
11/28/2022 4:24:53 PM

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 890-3469-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-3469-1
Project/Site: JRU D12 CTB SDG: 03E1558140

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

| Qualifier | Qualifier Description |
|---|---|
| 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: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## Job ID: 890-3469-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-3469-1**

**Receipt**
The sample was received on 11/15/2022 1:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

**Receipt Exceptions**
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3469-1).

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**GC Semi VOA**
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40185/2-A) and (LCSD 880-40185/3-A). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**
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: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## Client Sample ID: SS05

**Date Collected: 11/14/22 13:35**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3469-1

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *81* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:12* | *1* |
| *1,4-Difluorobenzene (Surr)* | *109* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:12* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 11/23/22 12:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 11/22/22 09:47 | 11/22/22 17:14 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 11/22/22 09:47 | 11/22/22 17:14 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 11/22/22 09:47 | 11/22/22 17:14 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *82* | | *70 - 130* | *11/22/22 09:47* | *11/22/22 17:14* | *1* |
| *o-Terphenyl* | *93* | | *70 - 130* | *11/22/22 09:47* | *11/22/22 17:14* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **252** | | 4.95 | | mg/Kg | | | 11/22/22 03:49 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## 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) | | | | | | | | | | |
| 890-3466-A-1-C MS | Matrix Spike | 97 | 104 | | | | | | | | | | |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | 97 | 105 | | | | | | | | | | |
| 890-3469-1 | SS05 | 81 | 109 | | | | | | | | | | |
| LCS 880-40226/1-A | Lab Control Sample | 91 | 107 | | | | | | | | | | |
| LCSD 880-40226/2-A | Lab Control Sample Dup | 90 | 102 | | | | | | | | | | |
| MB 880-39927/5-A | Method Blank | 77 | 102 | | | | | | | | | | |
| MB 880-40226/5-A | Method Blank | 77 | 103 | | | | | | | | | | |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1CO1 | OTPH1 | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | | | | | | | | | | |
| 890-3469-1 | SS05 | 82 | 93 | | | | | | | | | | |
| 890-3499-A-1-C MS | Matrix Spike | 96 | 101 | | | | | | | | | | |
| 890-3499-A-1-D MSD | Matrix Spike Duplicate | 113 | 118 | | | | | | | | | | |
| LCS 880-40185/2-A | Lab Control Sample | 163 S1+ | 190 S1+ | | | | | | | | | | |
| LCSD 880-40185/3-A | Lab Control Sample Dup | 157 S1+ | 180 S1+ | | | | | | | | | | |
| MB 880-40185/1-A | Method Blank | 108 | 126 | | | | | | | | | | |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39927/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |

**Lab Sample ID: MB 880-40226/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |

**Lab Sample ID: LCS 880-40226/1-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08641 | | mg/Kg | | 86 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09417 | | mg/Kg | | 94 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09022 | | mg/Kg | | 90 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1641 | | mg/Kg | | 82 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.08127 | | mg/Kg | | 81 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* |

**Lab Sample ID: LCSD 880-40226/2-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09015 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-40226/2-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.09944 | | mg/Kg | | 99 | 70 - 130 | 5 | 35 |
| Ethylbenzene | | | 0.100 | 0.09342 | | mg/Kg | | 93 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1688 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |
| o-Xylene | | | 0.100 | 0.08416 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: 890-3466-A-1-C MS**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.101 | 0.07375 | | mg/Kg | | 73 | 70 - 130 |
| Toluene | <0.00202 | U F1 | 0.101 | 0.06939 | F1 | mg/Kg | | 69 | 70 - 130 |
| Ethylbenzene | <0.00202 | U F1 | 0.101 | 0.06488 | F1 | mg/Kg | | 64 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.202 | 0.1175 | F1 | mg/Kg | | 58 | 70 - 130 |
| o-Xylene | <0.00202 | U F1 | 0.101 | 0.06822 | F1 | mg/Kg | | 67 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *104* | | *70 - 130* |

**Lab Sample ID: 890-3466-A-1-D MSD**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.0994 | 0.07664 | | mg/Kg | | 77 | 70 - 130 | 4 | 35 |
| Toluene | <0.00202 | U F1 | 0.0994 | 0.06568 | F1 | mg/Kg | | 66 | 70 - 130 | 5 | 35 |
| Ethylbenzene | <0.00202 | U F1 | 0.0994 | 0.06133 | F1 | mg/Kg | | 62 | 70 - 130 | 6 | 35 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.199 | 0.1139 | F1 | mg/Kg | | 57 | 70 - 130 | 3 | 35 |
| o-Xylene | <0.00202 | U F1 | 0.0994 | 0.07168 | | mg/Kg | | 72 | 70 - 130 | 5 | 35 |

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

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

**Lab Sample ID: MB 880-40185/1-A**
**Matrix: Solid**
**Analysis Batch: 40170**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40185**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 11/22/22 08:09 | 11/22/22 08:21 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-40185/1-A**
**Matrix: Solid**
**Analysis Batch: 40170**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40185**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/22/22 08:09 | 11/22/22 08:21 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/22/22 08:09 | 11/22/22 08:21 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *108* | | *70 - 130* | *11/22/22 08:09* | *11/22/22 08:21* | *1* |
| *o-Terphenyl* | *126* | | *70 - 130* | *11/22/22 08:09* | *11/22/22 08:21* | *1* |

**Lab Sample ID: LCS 880-40185/2-A**
**Matrix: Solid**
**Analysis Batch: 40170**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40185**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 816.2 | | mg/Kg | | 82 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 988.2 | | mg/Kg | | 99 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *163* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *190* | *S1+* | *70 - 130* |

**Lab Sample ID: LCSD 880-40185/3-A**
**Matrix: Solid**
**Analysis Batch: 40170**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40185**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 827.6 | | mg/Kg | | 83 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 925.3 | | mg/Kg | | 93 | 70 - 130 | 7 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *157* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *180* | *S1+* | *70 - 130* |

**Lab Sample ID: 890-3499-A-1-C MS**
**Matrix: Solid**
**Analysis Batch: 40170**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 40185**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 999 | 865.2 | | mg/Kg | | 84 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 999 | 1010 | | mg/Kg | | 99 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* |
| *o-Terphenyl* | *101* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

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

**Lab Sample ID: 890-3499-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40170** — **Prep Batch: 40185**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 999 | 1028 | | mg/Kg | | 101 | 70 - 130 | 17 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 999 | 1191 | | mg/Kg | | 117 | 70 - 130 | 16 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *113* | | *70 - 130* |
| *o-Terphenyl* | *118* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-39831/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 11/22/22 03:10 | 1 |

**Lab Sample ID: LCS 880-39831/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 255.5 | | mg/Kg | | 102 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-39831/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.9 | | mg/Kg | | 103 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-3464-A-1-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.6 | | mg/Kg | | 98 | 90 - 110 | | |

**Lab Sample ID: 890-3464-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.9 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 39927

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 40226

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | 5035 | |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-3466-A-1-C MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 40266

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | 8021B | 40226 |
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 8021B | 39927 |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 8021B | 40226 |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 40226 |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 40226 |
| 890-3466-A-1-C MS | Matrix Spike | Total/NA | Solid | 8021B | 40226 |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 40226 |

### Analysis Batch: 40491

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Analysis Batch: 40170

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | 8015B NM | 40185 |
| MB 880-40185/1-A | Method Blank | Total/NA | Solid | 8015B NM | 40185 |
| LCS 880-40185/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 40185 |
| LCSD 880-40185/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 40185 |
| 890-3499-A-1-C MS | Matrix Spike | Total/NA | Solid | 8015B NM | 40185 |
| 890-3499-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 40185 |

### Prep Batch: 40185

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | 8015NM Prep | |
| MB 880-40185/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-40185/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-40185/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-3499-A-1-C MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-3499-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 40307

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## HPLC/IC

### Leach Batch: 39831

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Soluble | Solid | DI Leach | |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 40150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Soluble | Solid | 300.0 | 39831 |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | 300.0 | 39831 |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 39831 |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 39831 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## Client Sample ID: SS05

**Date Collected: 11/14/22 13:35**
**Date Received: 11/15/22 13:31**

## Lab Sample ID: 890-3469-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 13:12 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40491 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40307 | 11/23/22 12:17 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 40185 | 11/22/22 09:47 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 40170 | 11/22/22 17:14 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 03:49 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3469-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-3469-1 | SS05 | Solid | 11/14/22 13:35 | 11/15/22 13:31 | 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: | Tacoma Morrissey | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nati Parks Hwy | Address: | 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 337.257.8307 | Email: | tmorrissey@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU D12 CTB | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03E1558140 | Due Date: | |
| Project Location: | 32.36256, -103.83811 | TAT starts the day received by the lab, if received by 4:30pm | |
| Sampler's Name: | Meredith Roberts | | |
| P.O #: | | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Samples Received Intact: | Yes No | Thermometer ID: | TMM007 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 5.8 |
| Total Containers: | | Corrected Temperature: | 5.6 |

**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 | Parameters: Chloride | BTEX | TPH | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| SS05 | S | 11/14/22 | 1335 | 0.5' | G | 1 | X | X | X | Incident #: nAPP2227351943 |
| | | | | | | | | | | Cost Center: 108225001 |

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 | | 11-15-22 1331 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 12/16/2022 12:37:49 PM

Released to Imaging: 3/29/2023 4:00:01 PM

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3469-1
SDG Number: 03E1558140

**Login Number: 3469**
**List Number: 1**
**Creator: Stutzman, Amanda**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3469-1
SDG Number: 03E1558140

**Login Number: 3469**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 11/17/22 02:07 PM**

| 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: Tacoma Morrissey
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/28/2022 4:24:52 PM

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

890-3472-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.



Released to Imaging: 3/29/2023 4:00:01 PM

my EOL

# Eurofins Carlsbad

## Job Notes

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

## Authorization

Generated
11/28/2022 4:24:52 PM

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 890-3472-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

| Qualifier | Qualifier Description |
|---|---|
| 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: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Job ID: 890-3472-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-3472-1**

**Receipt**
The samples were received on 11/15/2022 1:31 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3472-1), SS02 (890-3472-2), SS03 (890-3472-3) and SS04 (890-3472-4).

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40226 and analytical batch 880-40266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**GC Semi VOA**
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-39929 and analytical batch 880-40028 was outside the upper control limits.

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

**HPLC/IC**
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: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS01

**Lab Sample ID: 890-3472-1**
**Matrix: Solid**
**Date Collected: 11/14/22 12:45**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

### 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 | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *87* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:32* | *1* |
| *1,4-Difluorobenzene (Surr)* | *114* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:32* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00396 | U | 0.00396 | | mg/Kg | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 11/22/22 10:43 | 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 | | 11/18/22 13:39 | 11/21/22 21:40 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 21:40 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 21:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *91* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 21:40* | *1* |
| *o-Terphenyl* | *86* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 21:40* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **57.1** | | 5.04 | | mg/Kg | | | 11/22/22 03:55 | 1 |

## Client Sample ID: SS02

**Lab Sample ID: 890-3472-2**
**Matrix: Solid**
**Date Collected: 11/14/22 12:50**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

### 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 | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 13:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *88* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:53* | *1* |

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# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS02

**Date Collected: 11/14/22 12:50**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3472-2

**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *109* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 13:53* | *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 | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 11/22/22 10:43 | 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 | | 11/18/22 13:39 | 11/21/22 22:44 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 11/18/22 13:39 | 11/21/22 22:44 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 11/18/22 13:39 | 11/21/22 22:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *97* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 22:44* | *1* |
| *o-Terphenyl* | *92* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 22:44* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **307** | | 4.97 | mg/Kg | | | 11/22/22 04:01 | 1 |

## Client Sample ID: SS03

**Date Collected: 11/14/22 12:55**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3472-3

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *85* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 14:13* | *1* |
| *1,4-Difluorobenzene (Surr)* | *108* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 14:13* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | mg/Kg | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 11/22/22 10:43 | 1 |

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# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS03

**Lab Sample ID: 890-3472-3**
**Matrix: Solid**
**Date Collected: 11/14/22 12:55**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

### 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 | | 11/18/22 13:39 | 11/21/22 23:06 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 23:06 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 23:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *112* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 23:06* | *1* |
| *o-Terphenyl* | *104* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 23:06* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1380** | | 25.0 | | mg/Kg | | | 11/22/22 04:18 | 5 |

## Client Sample ID: SS04

**Lab Sample ID: 890-3472-4**
**Matrix: Solid**
**Date Collected: 11/14/22 13:30**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

### 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 | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |
| m-Xylene & p-Xylene | <0.00397 | U | 0.00397 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |
| Xylenes, Total | <0.00397 | U | 0.00397 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 14:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 14:34* | *1* |
| *1,4-Difluorobenzene (Surr)* | *109* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 14:34* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00397 | U | 0.00397 | | mg/Kg | | | 11/28/22 15:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 11/22/22 10:43 | 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 | | 11/18/22 13:39 | 11/21/22 23:27 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 23:27 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 23:27 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *112* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 23:27* | *1* |
| *o-Terphenyl* | *106* | | *70 - 130* | *11/18/22 13:39* | *11/21/22 23:27* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS04

**Date Collected: 11/14/22 13:30**
**Date Received: 11/15/22 13:31**
**Sample Depth: 0.5'**

## Lab Sample ID: 890-3472-4

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 900 | | 4.98 | | mg/Kg | | | 11/22/22 04:23 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## 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) |
| 890-3466-A-1-C MS | Matrix Spike | 97 | 104 |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | 97 | 105 |
| 890-3472-1 | SS01 | 87 | 114 |
| 890-3472-2 | SS02 | 88 | 109 |
| 890-3472-3 | SS03 | 85 | 108 |
| 890-3472-4 | SS04 | 97 | 109 |
| LCS 880-40226/1-A | Lab Control Sample | 91 | 107 |
| LCSD 880-40226/2-A | Lab Control Sample Dup | 90 | 102 |
| MB 880-39927/5-A | Method Blank | 77 | 102 |
| MB 880-40226/5-A | Method Blank | 77 | 103 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-3472-1 | SS01 | 91 | 86 |
| 890-3472-1 MS | SS01 | 94 | 83 |
| 890-3472-1 MSD | SS01 | 112 | 84 |
| 890-3472-2 | SS02 | 97 | 92 |
| 890-3472-3 | SS03 | 112 | 104 |
| 890-3472-4 | SS04 | 112 | 106 |
| LCS 880-39929/2-A | Lab Control Sample | 119 | 108 |
| LCSD 880-39929/3-A | Lab Control Sample Dup | 109 | 99 |
| MB 880-39929/1-A | Method Blank | 133 S1+ | 140 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39927/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39927**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/18/22 12:52 | 11/24/22 00:48 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *11/18/22 12:52* | *11/24/22 00:48* | *1* |

**Lab Sample ID: MB 880-40226/5-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 11/22/22 15:18 | 11/24/22 12:23 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *77* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* | *11/22/22 15:18* | *11/24/22 12:23* | *1* |

**Lab Sample ID: LCS 880-40226/1-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08641 | | mg/Kg | | 86 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09417 | | mg/Kg | | 94 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09022 | | mg/Kg | | 90 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1641 | | mg/Kg | | 82 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.08127 | | mg/Kg | | 81 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* |

**Lab Sample ID: LCSD 880-40226/2-A**
**Matrix: Solid**
**Analysis Batch: 40266**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09015 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-40226/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.09944 | | mg/Kg | | 99 | 70 - 130 | 5 | 35 |
| Ethylbenzene | | | 0.100 | 0.09342 | | mg/Kg | | 93 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1688 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |
| o-Xylene | | | 0.100 | 0.08416 | | mg/Kg | | 84 | 70 - 130 | 3 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: 890-3466-A-1-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.101 | 0.07375 | | mg/Kg | | 73 | 70 - 130 |
| Toluene | <0.00202 | U F1 | 0.101 | 0.06939 | F1 | mg/Kg | | 69 | 70 - 130 |
| Ethylbenzene | <0.00202 | U F1 | 0.101 | 0.06488 | F1 | mg/Kg | | 64 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.202 | 0.1175 | F1 | mg/Kg | | 58 | 70 - 130 |
| o-Xylene | <0.00202 | U F1 | 0.101 | 0.06822 | F1 | mg/Kg | | 67 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *104* | | *70 - 130* |

**Lab Sample ID: 890-3466-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40266** — **Prep Batch: 40226**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.0994 | 0.07664 | | mg/Kg | | 77 | 70 - 130 | 4 | 35 |
| Toluene | <0.00202 | U F1 | 0.0994 | 0.06568 | F1 | mg/Kg | | 66 | 70 - 130 | 5 | 35 |
| Ethylbenzene | <0.00202 | U F1 | 0.0994 | 0.06133 | F1 | mg/Kg | | 62 | 70 - 130 | 6 | 35 |
| m-Xylene & p-Xylene | <0.00403 | U F1 | 0.199 | 0.1139 | F1 | mg/Kg | | 57 | 70 - 130 | 3 | 35 |
| o-Xylene | <0.00202 | U F1 | 0.0994 | 0.07168 | | mg/Kg | | 72 | 70 - 130 | 5 | 35 |

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

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

**Lab Sample ID: MB 880-39929/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40028** — **Prep Batch: 39929**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 20:36 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-39929/1-A**
**Matrix: Solid**
**Analysis Batch: 40028**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 39929**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 20:36 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 11/18/22 13:39 | 11/21/22 20:36 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *133* | *S1+* | *70 - 130* | *11/18/22 13:39* | *11/21/22 20:36* | *1* |
| *o-Terphenyl* | *140* | *S1+* | *70 - 130* | *11/18/22 13:39* | *11/21/22 20:36* | *1* |

**Lab Sample ID: LCS 880-39929/2-A**
**Matrix: Solid**
**Analysis Batch: 40028**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 39929**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1006 | | mg/Kg | | 101 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 998.1 | | mg/Kg | | 100 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *119* | | *70 - 130* |
| *o-Terphenyl* | *108* | | *70 - 130* |

**Lab Sample ID: LCSD 880-39929/3-A**
**Matrix: Solid**
**Analysis Batch: 40028**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 39929**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 976.6 | | mg/Kg | | 98 | 70 - 130 | 3 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 907.0 | | mg/Kg | | 91 | 70 - 130 | 10 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *109* | | *70 - 130* |
| *o-Terphenyl* | *99* | | *70 - 130* |

**Lab Sample ID: 890-3472-1 MS**
**Matrix: Solid**
**Analysis Batch: 40028**

**Client Sample ID: SS01**
**Prep Type: Total/NA**
**Prep Batch: 39929**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 999 | 996.2 | | mg/Kg | | 98 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 999 | 1106 | | mg/Kg | | 111 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *94* | | *70 - 130* |
| *o-Terphenyl* | *83* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

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

**Lab Sample ID: 890-3472-1 MSD** — **Client Sample ID: SS01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 40028** — **Prep Batch: 39929**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 997 | 1056 | | mg/Kg | | 104 | 70 - 130 | 6 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 997 | 1133 | | mg/Kg | | 114 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *112* | | *70 - 130* |
| *o-Terphenyl* | *84* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-39831/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 11/22/22 03:10 | 1 |

**Lab Sample ID: LCS 880-39831/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 255.5 | | mg/Kg | | 102 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-39831/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.9 | | mg/Kg | | 103 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-3464-A-1-C MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.6 | | mg/Kg | | 98 | 90 - 110 | | |

**Lab Sample ID: 890-3464-A-1-D MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 40150**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 331 | | 251 | 576.9 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 39927

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 40226

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-3472-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-3472-3 | SS03 | Total/NA | Solid | 5035 | |
| 890-3472-4 | SS04 | Total/NA | Solid | 5035 | |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-3466-A-1-C MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 40266

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | 8021B | 40226 |
| 890-3472-2 | SS02 | Total/NA | Solid | 8021B | 40226 |
| 890-3472-3 | SS03 | Total/NA | Solid | 8021B | 40226 |
| 890-3472-4 | SS04 | Total/NA | Solid | 8021B | 40226 |
| MB 880-39927/5-A | Method Blank | Total/NA | Solid | 8021B | 39927 |
| MB 880-40226/5-A | Method Blank | Total/NA | Solid | 8021B | 40226 |
| LCS 880-40226/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 40226 |
| LCSD 880-40226/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 40226 |
| 890-3466-A-1-C MS | Matrix Spike | Total/NA | Solid | 8021B | 40226 |
| 890-3466-A-1-D MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 40226 |

### Analysis Batch: 40492

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-3472-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-3472-3 | SS03 | Total/NA | Solid | Total BTEX | |
| 890-3472-4 | SS04 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 39929

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-3472-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-3472-3 | SS03 | Total/NA | Solid | 8015NM Prep | |
| 890-3472-4 | SS04 | Total/NA | Solid | 8015NM Prep | |
| MB 880-39929/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-39929/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-39929/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-3472-1 MS | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-3472-1 MSD | SS01 | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 40028

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | 8015B NM | 39929 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## GC Semi VOA (Continued)

### Analysis Batch: 40028 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-2 | SS02 | Total/NA | Solid | 8015B NM | 39929 |
| 890-3472-3 | SS03 | Total/NA | Solid | 8015B NM | 39929 |
| 890-3472-4 | SS04 | Total/NA | Solid | 8015B NM | 39929 |
| MB 880-39929/1-A | Method Blank | Total/NA | Solid | 8015B NM | 39929 |
| LCS 880-39929/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 39929 |
| LCSD 880-39929/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 39929 |
| 890-3472-1 MS | SS01 | Total/NA | Solid | 8015B NM | 39929 |
| 890-3472-1 MSD | SS01 | Total/NA | Solid | 8015B NM | 39929 |

### Analysis Batch: 40201

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-3472-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-3472-3 | SS03 | Total/NA | Solid | 8015 NM | |
| 890-3472-4 | SS04 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 39831

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-3472-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-3472-3 | SS03 | Soluble | Solid | DI Leach | |
| 890-3472-4 | SS04 | Soluble | Solid | DI Leach | |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 40150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Soluble | Solid | 300.0 | 39831 |
| 890-3472-2 | SS02 | Soluble | Solid | 300.0 | 39831 |
| 890-3472-3 | SS03 | Soluble | Solid | 300.0 | 39831 |
| 890-3472-4 | SS04 | Soluble | Solid | 300.0 | 39831 |
| MB 880-39831/1-A | Method Blank | Soluble | Solid | 300.0 | 39831 |
| LCS 880-39831/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 39831 |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-C MS | Matrix Spike | Soluble | Solid | 300.0 | 39831 |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 39831 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS01

**Date Collected: 11/14/22 12:45**
**Date Received: 11/15/22 13:31**

**Lab Sample ID: 890-3472-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.05 g | 5 mL | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 13:32 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40492 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40201 | 11/22/22 10:43 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 39929 | 11/18/22 13:39 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 40028 | 11/21/22 21:40 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 03:55 | CH | EET MID |

## Client Sample ID: SS02

**Date Collected: 11/14/22 12:50**
**Date Received: 11/15/22 13:31**

**Lab Sample ID: 890-3472-2**
**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 | | | 4.97 g | 5 mL | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 13:53 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40492 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40201 | 11/22/22 10:43 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 39929 | 11/18/22 13:39 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 40028 | 11/21/22 22:44 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 04:01 | CH | EET MID |

## Client Sample ID: SS03

**Date Collected: 11/14/22 12:55**
**Date Received: 11/15/22 13:31**

**Lab Sample ID: 890-3472-3**
**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 | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 14:13 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40492 | 11/28/22 15:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 40201 | 11/22/22 10:43 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 39929 | 11/18/22 13:39 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 40028 | 11/21/22 23:06 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 40150 | 11/22/22 04:18 | CH | EET MID |

## Client Sample ID: SS04

**Date Collected: 11/14/22 13:30**
**Date Received: 11/15/22 13:31**

**Lab Sample ID: 890-3472-4**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.04 g | 5 mL | 40226 | 11/22/22 15:18 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 40266 | 11/24/22 14:34 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 40492 | 11/28/22 15:35 | AJ | EET MID |

Eurofins Carlsbad

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Client Sample ID: SS04

**Date Collected: 11/14/22 13:30**
**Date Received: 11/15/22 13:31**

## Lab Sample ID: 890-3472-4

**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 | | | 40201 | 11/22/22 10:43 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 39929 | 11/18/22 13:39 | DM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 40028 | 11/21/22 23:27 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 39831 | 11/17/22 14:43 | CH | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 40150 | 11/22/22 04:23 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 890-3472-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-3472-1 | SS01 | Solid | 11/14/22 12:45 | 11/15/22 13:31 | 0.5' |
| 890-3472-2 | SS02 | Solid | 11/14/22 12:50 | 11/15/22 13:31 | 0.5' |
| 890-3472-3 | SS03 | Solid | 11/14/22 12:55 | 11/15/22 13:31 | 0.5' |
| 890-3472-4 | SS04 | Solid | 11/14/22 13:30 | 11/15/22 13:31 | 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: | Tacoma Morrissey | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nat'l Parks Hwy | Address: | ~~Carlsbad~~ MR 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 337.257.8307 Email: | | tmorrissey@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | JRU D12 CTB | Turn Around | |
| Project Number: | 32.36256, -103.83811 | ☑ Routine ☐ Rush | |
| Project Location: | 03E1558140 | 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: | TWN007 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 5.8 |
| Total Containers: | | Corrected Temperature: | 5.6 |

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 | BTEX | TPH | Chloride | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| SS01 | S | 11/14/22 | 1245 | 0.5' | G | 1 | X | X | X | Incident #: nAPP2227351943 |
| SS02 | ↓ | ↓ | 1250 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| SS03 | | | 1255 | | | | | | | |
| SS04 | | | 1330 | | | | | | → MR | Cost Center: 1082251001 |

890-3472 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 | | | 11.15.22 1331 | 4 | | |
| 3 | | | | 6 | | |
| 5 | | | | | | |

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 12/16/2022 12:37:49 PM

Released to Imaging: 3/29/2023 4:00:01 PM

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3472-1
SDG Number: 03E1558140

**Login Number: 3472**
**List Number: 1**
**Creator: Stutzman, Amanda**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3472-1
SDG Number: 03E1558140

**Login Number: 3472**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 11/17/22 02:07 PM**

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

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 12/12/2022 2:42:42 PM

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

880-22109-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.



Released to Imaging: 3/29/2023 4:00:01 PM

# Eurofins Midland

## Job Notes

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

## Authorization

Generated
12/12/2022 2:42:42 PM

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 880-22109-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 880-22109-1
Project/Site: JRU D12 CTB SDG: 03E1558140

## 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 |
|---|---|
| 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: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Job ID: 880-22109-1

**Laboratory: Eurofins Midland**

**Narrative**

**Job Narrative**
**880-22109-1**

**Receipt**
The samples were received on 11/30/2022 2:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

**GC VOA**
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (880-22109-1) and FS02 (880-22109-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW02 (880-22109-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41388 and analytical batch 880-41419 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

**GC Semi VOA**
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-22110-A-1-D) and (880-22110-A-1-E 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: FS01 (880-22109-1) and FS02 (880-22109-2). 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: FS04 (880-22109-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: FS01

**Lab Sample ID: 880-22109-1**
**Date Collected: 11/30/22 08:30**
**Matrix: Solid**
**Date Received: 11/30/22 14:12**

### 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 | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 00:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *133* | *S1+* | *70 - 130* | *12/08/22 15:31* | *12/10/22 00:54* | *1* |
| *1,4-Difluorobenzene (Surr)* | *96* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 00:54* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:01 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:01 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *143* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:01* | *1* |
| *o-Terphenyl* | *135* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:01* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **367** | | 25.0 | | mg/Kg | | | 12/03/22 17:40 | 5 |

## Client Sample ID: FS02

**Lab Sample ID: 880-22109-2**
**Date Collected: 11/30/22 11:05**
**Matrix: Solid**
**Date Received: 11/30/22 14:12**

### 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 | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *47* | *S1-* | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:15* | *1* |
| *1,4-Difluorobenzene (Surr)* | *83* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:15* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: FS02

**Date Collected: 11/30/22 11:05**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-2**
**Matrix: Solid**

### 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 | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:23 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:23 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *159* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:23* | *1* |
| *o-Terphenyl* | *148* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:23* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **168** | | 5.02 | | mg/Kg | | | 12/03/22 18:05 | 1 |

## Client Sample ID: FS03

**Date Collected: 11/29/22 14:25**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *126* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:35* | *1* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:35* | *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 | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | | 12/05/22 11:32 | 12/06/22 17:46 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:46 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: FS03

**Date Collected: 11/29/22 14:25**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 17:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *119* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:46* | *1* |
| *o-Terphenyl* | *114* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 17:46* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **267** | | 4.97 | | mg/Kg | | | 12/04/22 12:32 | 1 |

## Client Sample ID: FS04

**Date Collected: 11/30/22 11:25**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-4**
**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 | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |
| **o-Xylene** | **0.00268** | | 0.00198 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 01:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *120* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:56* | *1* |
| *1,4-Difluorobenzene (Surr)* | *87* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 01:56* | *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 | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | | 12/05/22 11:32 | 12/06/22 18:08 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:08 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:08 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *137* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:08* | *1* |
| *o-Terphenyl* | *131* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:08* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **284** | | 4.98 | | mg/Kg | | | 12/03/22 18:13 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: SW01

**Date Collected: 11/30/22 11:30**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-5**
**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 | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 03:19* | *1* |
| *1,4-Difluorobenzene (Surr)* | *77* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 03:19* | *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 | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:29 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:29 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:29* | *1* |
| *o-Terphenyl* | *98* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:29* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **291** | | 4.97 | | mg/Kg | | | 12/03/22 18:21 | 1 |

## Client Sample ID: SW02

**Date Collected: 11/30/22 11:40**
**Date Received: 11/30/22 14:12**

**Lab Sample ID: 880-22109-6**
**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 | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 12/08/22 15:31 | 12/10/22 03:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *134* | *S1+* | *70 - 130* | *12/08/22 15:31* | *12/10/22 03:39* | *1* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* | *12/08/22 15:31* | *12/10/22 03:39* | *1* |

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# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: SW02

**Date Collected: 11/30/22 11:40**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22109-6

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 12/12/22 15:15 | 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 | | | 12/07/22 09:45 | 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 | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:51 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:51 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 18:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *121* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:51* | *1* |
| *o-Terphenyl* | *116* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 18:51* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **153** | | 5.02 | | mg/Kg | | | 12/03/22 18:29 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

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

| Lab Sample ID | Client Sample ID | Percent Surrogate Recovery (Acceptance Limits) BFB1 (70-130) | DFBZ1 (70-130) |
|---|---|---|---|
| 880-22109-1 | FS01 | 133 S1+ | 96 |
| 880-22109-2 | FS02 | 47 S1- | 83 |
| 880-22109-3 | FS03 | 126 | 94 |
| 880-22109-4 | FS04 | 120 | 87 |
| 880-22109-5 | SW01 | 102 | 77 |
| 880-22109-6 | SW02 | 134 S1+ | 98 |
| 890-3574-A-1-G MS | Matrix Spike | 124 | 84 |
| 890-3574-A-1-H MSD | Matrix Spike Duplicate | 116 | 92 |
| LCS 880-41388/1-A | Lab Control Sample | 105 | 90 |
| LCSD 880-41388/2-A | Lab Control Sample Dup | 108 | 90 |
| MB 880-40824/5-A | Method Blank | 102 | 88 |
| MB 880-41388/5-A | Method Blank | 107 | 85 |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

| Lab Sample ID | Client Sample ID | Percent Surrogate Recovery (Acceptance Limits) 1CO1 (70-130) | OTPH1 (70-130) |
|---|---|---|---|
| 880-22109-1 | FS01 | 143 S1+ | 135 S1+ |
| 880-22109-2 | FS02 | 159 S1+ | 148 S1+ |
| 880-22109-3 | FS03 | 119 | 114 |
| 880-22109-4 | FS04 | 137 S1+ | 131 S1+ |
| 880-22109-5 | SW01 | 102 | 98 |
| 880-22109-6 | SW02 | 121 | 116 |
| 880-22110-A-1-E MS | Matrix Spike | 142 S1+ | 112 |
| 880-22110-A-1-F MSD | Matrix Spike Duplicate | 120 | 99 |
| LCS 880-41024/2-A | Lab Control Sample | 129 | 120 |
| LCSD 880-41024/3-A | Lab Control Sample Dup | 129 | 117 |
| MB 880-41024/1-A | Method Blank | 130 | 127 |

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-40824/5-A**
**Matrix: Solid**
**Analysis Batch: 41419**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40824**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 15:55 | 12/09/22 11:49 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | *12/01/22 15:55* | *12/09/22 11:49* | *1* |
| *1,4-Difluorobenzene (Surr)* | *88* | | *70 - 130* | *12/01/22 15:55* | *12/09/22 11:49* | *1* |

**Lab Sample ID: MB 880-41388/5-A**
**Matrix: Solid**
**Analysis Batch: 41419**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 41388**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/08/22 15:31 | 12/09/22 22:28 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | *12/08/22 15:31* | *12/09/22 22:28* | *1* |
| *1,4-Difluorobenzene (Surr)* | *85* | | *70 - 130* | *12/08/22 15:31* | *12/09/22 22:28* | *1* |

**Lab Sample ID: LCS 880-41388/1-A**
**Matrix: Solid**
**Analysis Batch: 41419**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 41388**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09419 | | mg/Kg | | 94 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09374 | | mg/Kg | | 94 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09567 | | mg/Kg | | 96 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2095 | | mg/Kg | | 105 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1041 | | mg/Kg | | 104 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *90* | | *70 - 130* |

**Lab Sample ID: LCSD 880-41388/2-A**
**Matrix: Solid**
**Analysis Batch: 41419**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 41388**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09887 | | mg/Kg | | 99 | 70 - 130 | 5 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-41388/2-A**
**Matrix: Solid**
**Analysis Batch: 41419**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 41388**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.09599 | | mg/Kg | | 96 | 70 - 130 | 2 | 35 |
| Ethylbenzene | | | 0.100 | 0.09558 | | mg/Kg | | 96 | 70 - 130 | 0 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2089 | | mg/Kg | | 104 | 70 - 130 | 0 | 35 |
| o-Xylene | | | 0.100 | 0.1045 | | mg/Kg | | 105 | 70 - 130 | 0 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *90* | | *70 - 130* |

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

**Lab Sample ID: MB 880-41024/1-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| 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 | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *130* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 08:55* | *1* |
| *o-Terphenyl* | *127* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 08:55* | *1* |

**Lab Sample ID: LCS 880-41024/2-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 840.2 | | mg/Kg | | 84 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 897.2 | | mg/Kg | | 90 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *129* | | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

**Lab Sample ID: LCSD 880-41024/3-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 836.2 | | mg/Kg | | 84 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 886.7 | | mg/Kg | | 89 | 70 - 130 | 1 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-41024/3-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 129 | | 70 - 130 |
| o-Terphenyl | 117 | | 70 - 130 |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-40834/1-A**
**Matrix: Solid**
**Analysis Batch: 40952**

**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 | | | 12/04/22 11:43 | 1 |

**Lab Sample ID: LCS 880-40834/2-A**
**Matrix: Solid**
**Analysis Batch: 40952**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 251.9 | | mg/Kg | | 101 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-40834/3-A**
**Matrix: Solid**
**Analysis Batch: 40952**

**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 | 251.8 | | mg/Kg | | 101 | 90 - 110 | 0 | 20 |

**Lab Sample ID: MB 880-40835/1-A**
**Matrix: Solid**
**Analysis Batch: 40953**

**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 | | | 12/03/22 17:16 | 1 |

**Lab Sample ID: LCS 880-40835/2-A**
**Matrix: Solid**
**Analysis Batch: 40953**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 252.2 | | mg/Kg | | 101 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-40835/3-A**
**Matrix: Solid**
**Analysis Batch: 40953**

**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 | 252.0 | | mg/Kg | | 101 | 90 - 110 | 0 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

**Lab Sample ID: 880-22109-1 MS**
**Matrix: Solid**
**Analysis Batch: 40953**

**Client Sample ID: FS01**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 367 | | 1250 | 1697 | | mg/Kg | | 107 | 90 - 110 |

**Lab Sample ID: 880-22109-1 MSD**
**Matrix: Solid**
**Analysis Batch: 40953**

**Client Sample ID: FS01**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 367 | | 1250 | 1672 | | mg/Kg | | 105 | 90 - 110 | 2 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 40824

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-40824/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 41388

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | 5035 | |
| 880-22109-2 | FS02 | Total/NA | Solid | 5035 | |
| 880-22109-3 | FS03 | Total/NA | Solid | 5035 | |
| 880-22109-4 | FS04 | Total/NA | Solid | 5035 | |
| 880-22109-5 | SW01 | Total/NA | Solid | 5035 | |
| 880-22109-6 | SW02 | Total/NA | Solid | 5035 | |
| MB 880-41388/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-41388/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-41388/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |

### Analysis Batch: 41419

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | 8021B | 41388 |
| 880-22109-2 | FS02 | Total/NA | Solid | 8021B | 41388 |
| 880-22109-3 | FS03 | Total/NA | Solid | 8021B | 41388 |
| 880-22109-4 | FS04 | Total/NA | Solid | 8021B | 41388 |
| 880-22109-5 | SW01 | Total/NA | Solid | 8021B | 41388 |
| 880-22109-6 | SW02 | Total/NA | Solid | 8021B | 41388 |
| MB 880-40824/5-A | Method Blank | Total/NA | Solid | 8021B | 40824 |
| MB 880-41388/5-A | Method Blank | Total/NA | Solid | 8021B | 41388 |
| LCS 880-41388/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 41388 |
| LCSD 880-41388/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 41388 |

### Analysis Batch: 41658

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 880-22109-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 880-22109-3 | FS03 | Total/NA | Solid | Total BTEX | |
| 880-22109-4 | FS04 | Total/NA | Solid | Total BTEX | |
| 880-22109-5 | SW01 | Total/NA | Solid | Total BTEX | |
| 880-22109-6 | SW02 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 41024

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 880-22109-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| 880-22109-3 | FS03 | Total/NA | Solid | 8015NM Prep | |
| 880-22109-4 | FS04 | Total/NA | Solid | 8015NM Prep | |
| 880-22109-5 | SW01 | Total/NA | Solid | 8015NM Prep | |
| 880-22109-6 | SW02 | Total/NA | Solid | 8015NM Prep | |
| MB 880-41024/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-41024/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-41024/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## GC Semi VOA

### Analysis Batch: 41104

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22109-2 | FS02 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22109-3 | FS03 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22109-4 | FS04 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22109-5 | SW01 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22109-6 | SW02 | Total/NA | Solid | 8015B NM | 41024 |
| MB 880-41024/1-A | Method Blank | Total/NA | Solid | 8015B NM | 41024 |
| LCS 880-41024/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 41024 |
| LCSD 880-41024/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 41024 |

### Analysis Batch: 41230

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 880-22109-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 880-22109-3 | FS03 | Total/NA | Solid | 8015 NM | |
| 880-22109-4 | FS04 | Total/NA | Solid | 8015 NM | |
| 880-22109-5 | SW01 | Total/NA | Solid | 8015 NM | |
| 880-22109-6 | SW02 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 40834

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-3 | FS03 | Soluble | Solid | DI Leach | |
| MB 880-40834/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-40834/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-40834/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |

### Leach Batch: 40835

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Soluble | Solid | DI Leach | |
| 880-22109-2 | FS02 | Soluble | Solid | DI Leach | |
| 880-22109-4 | FS04 | Soluble | Solid | DI Leach | |
| 880-22109-5 | SW01 | Soluble | Solid | DI Leach | |
| 880-22109-6 | SW02 | Soluble | Solid | DI Leach | |
| MB 880-40835/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-40835/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-40835/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-22109-1 MS | FS01 | Soluble | Solid | DI Leach | |
| 880-22109-1 MSD | FS01 | Soluble | Solid | DI Leach | |

### Analysis Batch: 40952

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-3 | FS03 | Soluble | Solid | 300.0 | 40834 |
| MB 880-40834/1-A | Method Blank | Soluble | Solid | 300.0 | 40834 |
| LCS 880-40834/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 40834 |
| LCSD 880-40834/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 40834 |

### Analysis Batch: 40953

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-1 | FS01 | Soluble | Solid | 300.0 | 40835 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## HPLC/IC (Continued)

### Analysis Batch: 40953 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22109-2 | FS02 | Soluble | Solid | 300.0 | 40835 |
| 880-22109-4 | FS04 | Soluble | Solid | 300.0 | 40835 |
| 880-22109-5 | SW01 | Soluble | Solid | 300.0 | 40835 |
| 880-22109-6 | SW02 | Soluble | Solid | 300.0 | 40835 |
| MB 880-40835/1-A | Method Blank | Soluble | Solid | 300.0 | 40835 |
| LCS 880-40835/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 40835 |
| LCSD 880-40835/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 40835 |
| 880-22109-1 MS | FS01 | Soluble | Solid | 300.0 | 40835 |
| 880-22109-1 MSD | FS01 | Soluble | Solid | 300.0 | 40835 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: FS01
**Date Collected: 11/30/22 08:30**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22109-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 00:54 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 17:01 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 5 | 40953 | CH | EET MID | 12/03/22 17:40 |

## Client Sample ID: FS02
**Date Collected: 11/30/22 11:05**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22109-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 01:15 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 17:23 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 18:05 |

## Client Sample ID: FS03
**Date Collected: 11/29/22 14:25**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22109-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 01:35 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 17:46 |
| Soluble | Leach | DI Leach | | | 40834 | SMC | EET MID | 12/01/22 17:32 |
| Soluble | Analysis | 300.0 | | 1 | 40952 | CH | EET MID | 12/04/22 12:32 |

## Client Sample ID: FS04
**Date Collected: 11/30/22 11:25**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22109-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 01:56 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |

Eurofins Midland

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Client Sample ID: FS04

**Lab Sample ID: 880-22109-4**
**Matrix: Solid**
**Date Collected: 11/30/22 11:25**
**Date Received: 11/30/22 14:12**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 18:08 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 18:13 |

## Client Sample ID: SW01

**Lab Sample ID: 880-22109-5**
**Matrix: Solid**
**Date Collected: 11/30/22 11:30**
**Date Received: 11/30/22 14:12**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 03:19 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 18:29 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 18:21 |

## Client Sample ID: SW02

**Lab Sample ID: 880-22109-6**
**Matrix: Solid**
**Date Collected: 11/30/22 11:40**
**Date Received: 11/30/22 14:12**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 41388 | MNR | EET MID | 12/08/22 15:31 |
| Total/NA | Analysis | 8021B | | 1 | 41419 | MNR | EET MID | 12/10/22 03:39 |
| Total/NA | Analysis | Total BTEX | | 1 | 41658 | SM | EET MID | 12/12/22 15:15 |
| Total/NA | Analysis | 8015 NM | | 1 | 41230 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 18:51 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 18:29 |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22109-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 880-22109-1 | FS01 | Solid | 11/30/22 08:30 | 11/30/22 14:12 |
| 880-22109-2 | FS02 | Solid | 11/30/22 11:05 | 11/30/22 14:12 |
| 880-22109-3 | FS03 | Solid | 11/29/22 14:25 | 11/30/22 14:12 |
| 880-22109-4 | FS04 | Solid | 11/30/22 11:25 | 11/30/22 14:12 |
| 880-22109-5 | SW01 | Solid | 11/30/22 11:30 | 11/30/22 14:12 |
| 880-22109-6 | SW02 | Solid | 11/30/22 11:40 | 11/30/22 14:12 |

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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: 22109

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 | JRU D12 CTB | Turn Around | |
| Project Number: | D3E1558140 | ☑ Routine ☐ Rush | |
| Project Location: | 32.36256, 103.83810 | 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 | T-NM-007 | |
| Cooler Custody Seals. | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Temperature Reading | 1.0 | |
| Total Containers | | Corrected Temperature: | | |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | Parameters: Chlorides | BTEX | TPH |
|---|---|---|---|---|---|---|---|---|---|---|
| FS01 | S | 11/30/22 | 0830 | 2' | C | 1 | | X | X | X |
| FS02 | | ↓ | 1105 | 2' | | | | | | |
| FS03 | | 11/29/22 | 1425 | 1' | | | | | | |
| FS04 | | 11/30/22 | 1125 | 2' | | | | | | |
| SW01 | | | 1130 | 0-2' | | | | | | |
| SW02 | ↓ | ↓ | 1140 | 0-2' | ↓ | ↓ | | ↓ | ↓ | ↓ |
| | | | | | | | | | | → NR |

**Preservative Codes**

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

**Sample Comments**

Incident #.
nAPP2227351943

Cost Center:
1082251001

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe P 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 / 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 sta 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 circun 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 en

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by | Date/Time |
|---|---|---|---|---|
| 1 Meredith Roberts | Cameron Jay | 11/30/22 2:12 | 2 | |
| 3 | | | 4 | |
| 5 | | | 6 | |

880-22109 Chain of Custody

Revised Date: 08/25/2020 Rev 2020.2

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12/12/2022

Received by OCD: 12/16/2022 12:37:49 PM

Released to Imaging: 3/29/2023 4:00:01 PM

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-22109-1
SDG Number: 03E1558140

**Login Number: 22109**
**List Number: 1**
**Creator: Kramer, Jessica**

**List Source: Eurofins Midland**

| 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. | 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"). | N/A | |

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 12/13/2022 1:35:41 PM Revision 1

## JOB DESCRIPTION

JRU D12 CTB
SDG NUMBER 03E1558140

## JOB NUMBER

880-22110-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.



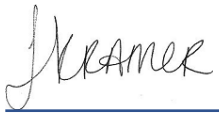
Released to Imaging: 3/29/2023 4:00:01 PM

# Eurofins Midland

## Job Notes

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

## Authorization



Generated
12/13/2022 1:35:41 PM
Revision 1

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

Client: Ensolum
Project/Site: JRU D12 CTB

Laboratory Job ID: 880-22110-1
SDG: 03E1558140

# Table of Contents

# Definitions/Glossary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Qualifiers

### GC VOA

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

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| 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: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Job ID: 880-22110-1

### Laboratory: Eurofins Midland

**Narrative**

**Job Narrative**
**880-22110-1**

**Comments**
No additional comments.

**Revision**
The report being provided is a revision of the original report sent on 12/7/2022. The report (revision 1) is being revised due to: Per client email, requesting chloride re run on PH01 @ 2'. Also client states that PH01 is PH03 and PH03 is a PH01, revision needed to show sample name change.

**Receipt**
The samples were received on 11/30/2022 2:12 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0º C.

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40771 and analytical batch 880-40980 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-40980 recovered above the upper control limit for Toluene and Ethylbenzene. The samples associated with this CCV were non-detects for the affected analytes samples were ran within 12 hours of passing CCV; therefore, the data have been reported.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40811 and analytical batch 880-40980 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH02 (880-22110-2), PH04 (880-22110-4), (LCSD 880-40811/2-A) and (MB 880-40771/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-40980/2). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCSD 880-40771/2-A) and (MB 880-40811/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH04 (880-22110-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Instrument misinjection for the LCSD. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

(LCSD 880-40811/2-A)

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

**GC Semi VOA**
Method 8015B NM: Surrogate recovery for the following samples were outside control limits: PH03 (880-22110-1) and (880-22110-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: PH02 (880-22110-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

# Case Narrative

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Job ID: 880-22110-1 (Continued)

### Laboratory: Eurofins Midland (Continued)

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

**General Chemistry**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Client Sample ID: PH03

**Date Collected: 11/28/22 12:10**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

**Lab Sample ID: 880-22110-1**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *72* | | *70 - 130* | *12/01/22 11:05* | *12/04/22 22:29* | *1* |
| *1,4-Difluorobenzene (Surr)* | *110* | | *70 - 130* | *12/01/22 11:05* | *12/04/22 22:29* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00402 | U | 0.00402 | | mg/Kg | | | 12/05/22 14:46 | 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 | | | 12/07/22 09:45 | 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 | | 12/05/22 11:32 | 12/06/22 11:29 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 11:29 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 11:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *140* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 11:29* | *1* |
| *o-Terphenyl* | *135* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 11:29* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **767** | | 4.95 | | mg/Kg | | | 12/08/22 12:59 | 1 |

## Client Sample ID: PH02

**Date Collected: 11/28/22 12:50**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

**Lab Sample ID: 880-22110-2**
**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 | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 22:55 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *67* | *S1-* | *70 - 130* | *12/01/22 11:05* | *12/04/22 22:55* | *1* |

Eurofins Midland

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Client Sample ID: PH02
**Date Collected: 11/28/22 12:50**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

## Lab Sample ID: 880-22110-2
**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* | *12/01/22 11:05* | *12/04/22 22:55* | *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 | | | 12/05/22 14:46 | 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 | | | 12/07/22 09:45 | 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 | <49.9 | U | 49.9 | mg/Kg | | 12/05/22 11:32 | 12/06/22 12:35 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 12/05/22 11:32 | 12/06/22 12:35 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 12/05/22 11:32 | 12/06/22 12:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *145* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 12:35* | *1* |
| *o-Terphenyl* | *138* | *S1+* | *70 - 130* | *12/05/22 11:32* | *12/06/22 12:35* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **79.6** | | 5.03 | mg/Kg | | | 12/03/22 19:02 | 1 |

## Client Sample ID: PH01
**Date Collected: 11/28/22 13:20**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

## Lab Sample ID: 880-22110-3
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | mg/Kg | | 12/01/22 11:05 | 12/05/22 00:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *71* | | *70 - 130* | *12/01/22 11:05* | *12/05/22 00:19* | *1* |
| *1,4-Difluorobenzene (Surr)* | *100* | | *70 - 130* | *12/01/22 11:05* | *12/05/22 00:19* | *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 | | | 12/05/22 14:46 | 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 | | | 12/07/22 09:45 | 1 |

Eurofins Midland

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Client Sample ID: PH01
**Date Collected: 11/28/22 13:20**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

## Lab Sample ID: 880-22110-3
**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 | | 12/05/22 11:32 | 12/06/22 12:57 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 12:57 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 12:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *122* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 12:57* | *1* |
| *o-Terphenyl* | *118* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 12:57* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **225** | | 5.01 | | mg/Kg | | | 12/03/22 19:10 | 1 |

## Client Sample ID: PH04
**Date Collected: 11/28/22 13:30**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

## Lab Sample ID: 880-22110-4
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U *- *1 | 0.00199 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |
| Ethylbenzene | <0.00199 | U *- *1 | 0.00199 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U *- *1 | 0.00398 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |
| o-Xylene | <0.00199 | U *- *1 | 0.00199 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |
| Xylenes, Total | <0.00398 | U *- *1 | 0.00398 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 12:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *60* | *S1-* | *70 - 130* | *12/01/22 14:14* | *12/05/22 12:38* | *1* |
| *1,4-Difluorobenzene (Surr)* | *106* | | *70 - 130* | *12/01/22 14:14* | *12/05/22 12:38* | *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 | | | 12/05/22 14:46 | 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 | | | 12/07/22 09:45 | 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 | | 12/05/22 11:32 | 12/06/22 13:19 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 13:19 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 13:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *117* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 13:19* | *1* |
| *o-Terphenyl* | *117* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 13:19* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

**Client Sample ID: PH04**
**Date Collected: 11/28/22 13:30**
**Date Received: 11/30/22 14:12**
**Sample Depth: 2'**

**Lab Sample ID: 880-22110-4**
**Matrix: Solid**

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 345 | | 5.00 | | mg/Kg | | | 12/03/22 19:18 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | BFB1 | DFBZ1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-22110-1 | PH03 | 72 | 110 |
| 880-22110-2 | PH02 | 67 S1- | 107 |
| 880-22110-3 | PH01 | 71 | 100 |
| 880-22110-4 | PH04 | 60 S1- | 106 |
| LCS 880-40771/1-A | Lab Control Sample | 75 | 99 |
| LCS 880-40811/1-A | Lab Control Sample | 85 | 108 |
| LCSD 880-40771/2-A | Lab Control Sample Dup | 68 S1- | 97 |
| LCSD 880-40811/2-A | Lab Control Sample Dup | 208 S1+ | 120 |
| MB 880-40771/5-A | Method Blank | 66 S1- | 108 |
| MB 880-40811/5-A | Method Blank | 67 S1- | 102 |

**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) |
| 880-22110-1 | PH03 | 140 S1+ | 135 S1+ |
| 880-22110-1 MS | PH03 | 142 S1+ | 112 |
| 880-22110-1 MSD | PH03 | 120 | 99 |
| 880-22110-2 | PH02 | 145 S1+ | 138 S1+ |
| 880-22110-3 | PH01 | 122 | 118 |
| 880-22110-4 | PH04 | 117 | 117 |
| LCS 880-41024/2-A | Lab Control Sample | 129 | 120 |
| LCSD 880-41024/3-A | Lab Control Sample Dup | 129 | 117 |
| MB 880-41024/1-A | Method Blank | 130 | 127 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-40771/5-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40771**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 11:05 | 12/04/22 18:55 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *66* | *S1-* | *70 - 130* | *12/01/22 11:05* | *12/04/22 18:55* | *1* |
| *1,4-Difluorobenzene (Surr)* | *108* | | *70 - 130* | *12/01/22 11:05* | *12/04/22 18:55* | *1* |

**Lab Sample ID: LCS 880-40771/1-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40771**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09203 | | mg/Kg | | 92 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1093 | | mg/Kg | | 109 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1033 | | mg/Kg | | 103 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1809 | | mg/Kg | | 90 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.08685 | | mg/Kg | | 87 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *75* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *99* | | *70 - 130* |

**Lab Sample ID: LCSD 880-40771/2-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40771**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08920 | | mg/Kg | | 89 | 70 - 130 | 3 | 35 |
| Toluene | | | 0.100 | 0.1090 | | mg/Kg | | 109 | 70 - 130 | 0 | 35 |
| Ethylbenzene | | | 0.100 | 0.1045 | | mg/Kg | | 105 | 70 - 130 | 1 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1820 | | mg/Kg | | 91 | 70 - 130 | 1 | 35 |
| o-Xylene | | | 0.100 | 0.08648 | | mg/Kg | | 86 | 70 - 130 | 0 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *68* | *S1-* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: MB 880-40811/5-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40811**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-40811/5-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 40811**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/01/22 14:14 | 12/05/22 06:31 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *67* | *S1-* | *70 - 130* | *12/01/22 14:14* | *12/05/22 06:31* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *12/01/22 14:14* | *12/05/22 06:31* | *1* |

**Lab Sample ID: LCS 880-40811/1-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 40811**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.08833 | | mg/Kg | | 88 | 70 - 130 |
| Toluene | 0.100 | 0.1000 | | mg/Kg | | 100 | 70 - 130 |
| Ethylbenzene | 0.100 | 0.09631 | | mg/Kg | | 96 | 70 - 130 |
| m-Xylene & p-Xylene | 0.200 | 0.1709 | | mg/Kg | | 85 | 70 - 130 |
| o-Xylene | 0.100 | 0.08525 | | mg/Kg | | 85 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *85* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *108* | | *70 - 130* |

**Lab Sample ID: LCSD 880-40811/2-A**
**Matrix: Solid**
**Analysis Batch: 40980**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 40811**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.03146 | *- *1 | mg/Kg | | 31 | 70 - 130 | 95 | 35 |
| Toluene | 0.100 | 0.08959 | | mg/Kg | | 90 | 70 - 130 | 11 | 35 |
| Ethylbenzene | 0.100 | 0.01188 | *- *1 | mg/Kg | | 12 | 70 - 130 | 156 | 35 |
| m-Xylene & p-Xylene | 0.200 | 0.04413 | *- *1 | mg/Kg | | 22 | 70 - 130 | 118 | 35 |
| o-Xylene | 0.100 | 0.04894 | *- *1 | mg/Kg | | 49 | 70 - 130 | 54 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *208* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *120* | | *70 - 130* |

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

**Lab Sample ID: MB 880-41024/1-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| 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 | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Lab Sample ID: MB 880-41024/1-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| 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 | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/05/22 11:32 | 12/06/22 08:55 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *130* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 08:55* | *1* |
| *o-Terphenyl* | *127* | | *70 - 130* | *12/05/22 11:32* | *12/06/22 08:55* | *1* |

**Lab Sample ID: LCS 880-41024/2-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 840.2 | | mg/Kg | | 84 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 897.2 | | mg/Kg | | 90 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *129* | | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

**Lab Sample ID: LCSD 880-41024/3-A**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 836.2 | | mg/Kg | | 84 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 886.7 | | mg/Kg | | 89 | 70 - 130 | 1 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *129* | | *70 - 130* |
| *o-Terphenyl* | *117* | | *70 - 130* |

**Lab Sample ID: 880-22110-1 MS**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: PH03**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 999 | 1052 | | mg/Kg | | 103 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 999 | 1095 | | mg/Kg | | 108 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *142* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *112* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Lab Sample ID: 880-22110-1 MSD**
**Matrix: Solid**
**Analysis Batch: 41104**

**Client Sample ID: PH03**
**Prep Type: Total/NA**
**Prep Batch: 41024**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 997 | 924.9 | | mg/Kg | | 90 | 70 - 130 | 13 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 997 | 961.7 | | mg/Kg | | 95 | 70 - 130 | 13 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *120* | | *70 - 130* |
| *o-Terphenyl* | *99* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-40835/1-A**
**Matrix: Solid**
**Analysis Batch: 40953**

**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 | | | 12/03/22 17:16 | 1 |

**Lab Sample ID: LCS 880-40835/2-A**
**Matrix: Solid**
**Analysis Batch: 40953**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 252.2 | | mg/Kg | | 101 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-40835/3-A**
**Matrix: Solid**
**Analysis Batch: 40953**

**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 | 252.0 | | mg/Kg | | 101 | 90 - 110 | 0 | 20 |

**Lab Sample ID: MB 880-41240/1-A**
**Matrix: Solid**
**Analysis Batch: 41303**

**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 | | | 12/08/22 09:59 | 1 |

**Lab Sample ID: LCS 880-41240/2-A**
**Matrix: Solid**
**Analysis Batch: 41303**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 264.7 | | mg/Kg | | 106 | 90 - 110 | | |

# QC Sample Results

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Lab Sample ID: LCSD 880-41240/3-A**
**Matrix: Solid**
**Analysis Batch: 41303**

**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 | 265.3 | | mg/Kg | | 106 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## GC VOA

### Prep Batch: 40771

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | 5035 | |
| 880-22110-2 | PH02 | Total/NA | Solid | 5035 | |
| 880-22110-3 | PH01 | Total/NA | Solid | 5035 | |
| MB 880-40771/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-40771/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-40771/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |

### Prep Batch: 40811

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-4 | PH04 | Total/NA | Solid | 5035 | |
| MB 880-40811/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-40811/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-40811/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |

### Analysis Batch: 40980

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | 8021B | 40771 |
| 880-22110-2 | PH02 | Total/NA | Solid | 8021B | 40771 |
| 880-22110-3 | PH01 | Total/NA | Solid | 8021B | 40771 |
| 880-22110-4 | PH04 | Total/NA | Solid | 8021B | 40811 |
| MB 880-40771/5-A | Method Blank | Total/NA | Solid | 8021B | 40771 |
| MB 880-40811/5-A | Method Blank | Total/NA | Solid | 8021B | 40811 |
| LCS 880-40771/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 40771 |
| LCS 880-40811/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 40811 |
| LCSD 880-40771/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 40771 |
| LCSD 880-40811/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 40811 |

### Analysis Batch: 41072

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | Total BTEX | |
| 880-22110-2 | PH02 | Total/NA | Solid | Total BTEX | |
| 880-22110-3 | PH01 | Total/NA | Solid | Total BTEX | |
| 880-22110-4 | PH04 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 41024

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | 8015NM Prep | |
| 880-22110-2 | PH02 | Total/NA | Solid | 8015NM Prep | |
| 880-22110-3 | PH01 | Total/NA | Solid | 8015NM Prep | |
| 880-22110-4 | PH04 | Total/NA | Solid | 8015NM Prep | |
| MB 880-41024/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-41024/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-41024/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-22110-1 MS | PH03 | Total/NA | Solid | 8015NM Prep | |
| 880-22110-1 MSD | PH03 | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 41104

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | 8015B NM | 41024 |

# QC Association Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## GC Semi VOA (Continued)

### Analysis Batch: 41104 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-2 | PH02 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22110-3 | PH01 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22110-4 | PH04 | Total/NA | Solid | 8015B NM | 41024 |
| MB 880-41024/1-A | Method Blank | Total/NA | Solid | 8015B NM | 41024 |
| LCS 880-41024/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 41024 |
| LCSD 880-41024/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 41024 |
| 880-22110-1 MS | PH03 | Total/NA | Solid | 8015B NM | 41024 |
| 880-22110-1 MSD | PH03 | Total/NA | Solid | 8015B NM | 41024 |

### Analysis Batch: 41227

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Total/NA | Solid | 8015 NM | |
| 880-22110-2 | PH02 | Total/NA | Solid | 8015 NM | |
| 880-22110-3 | PH01 | Total/NA | Solid | 8015 NM | |
| 880-22110-4 | PH04 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 40835

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-2 | PH02 | Soluble | Solid | DI Leach | |
| 880-22110-3 | PH01 | Soluble | Solid | DI Leach | |
| 880-22110-4 | PH04 | Soluble | Solid | DI Leach | |
| MB 880-40835/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-40835/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-40835/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |

### Analysis Batch: 40953

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-2 | PH02 | Soluble | Solid | 300.0 | 40835 |
| 880-22110-3 | PH01 | Soluble | Solid | 300.0 | 40835 |
| 880-22110-4 | PH04 | Soluble | Solid | 300.0 | 40835 |
| MB 880-40835/1-A | Method Blank | Soluble | Solid | 300.0 | 40835 |
| LCS 880-40835/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 40835 |
| LCSD 880-40835/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 40835 |

### Leach Batch: 41240

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Soluble | Solid | DI Leach | |
| MB 880-41240/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-41240/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-41240/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |

### Analysis Batch: 41303

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Soluble | Solid | 300.0 | 41240 |
| MB 880-41240/1-A | Method Blank | Soluble | Solid | 300.0 | 41240 |
| LCS 880-41240/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 41240 |
| LCSD 880-41240/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 41240 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Client Sample ID: PH03
**Date Collected: 11/28/22 12:10**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22110-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 40771 | MNR | EET MID | 12/01/22 11:05 |
| Total/NA | Analysis | 8021B | | 1 | 40980 | MNR | EET MID | 12/04/22 22:29 |
| Total/NA | Analysis | Total BTEX | | 1 | 41072 | SM | EET MID | 12/05/22 14:46 |
| Total/NA | Analysis | 8015 NM | | 1 | 41227 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 11:29 |
| Soluble | Leach | DI Leach | | | 41240 | KS | EET MID | 12/07/22 10:00 |
| Soluble | Analysis | 300.0 | | 1 | 41303 | CH | EET MID | 12/08/22 12:59 |

## Client Sample ID: PH02
**Date Collected: 11/28/22 12:50**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22110-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 40771 | MNR | EET MID | 12/01/22 11:05 |
| Total/NA | Analysis | 8021B | | 1 | 40980 | MNR | EET MID | 12/04/22 22:55 |
| Total/NA | Analysis | Total BTEX | | 1 | 41072 | SM | EET MID | 12/05/22 14:46 |
| Total/NA | Analysis | 8015 NM | | 1 | 41227 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 12:35 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 19:02 |

## Client Sample ID: PH01
**Date Collected: 11/28/22 13:20**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22110-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 40771 | MNR | EET MID | 12/01/22 11:05 |
| Total/NA | Analysis | 8021B | | 1 | 40980 | MNR | EET MID | 12/05/22 00:19 |
| Total/NA | Analysis | Total BTEX | | 1 | 41072 | SM | EET MID | 12/05/22 14:46 |
| Total/NA | Analysis | 8015 NM | | 1 | 41227 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 12:57 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 19:10 |

## Client Sample ID: PH04
**Date Collected: 11/28/22 13:30**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22110-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 40811 | MNR | EET MID | 12/01/22 14:14 |
| Total/NA | Analysis | 8021B | | 1 | 40980 | MNR | EET MID | 12/05/22 12:38 |
| Total/NA | Analysis | Total BTEX | | 1 | 41072 | SM | EET MID | 12/05/22 14:46 |

# Lab Chronicle

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Client Sample ID: PH04
**Date Collected: 11/28/22 13:30**
**Date Received: 11/30/22 14:12**

## Lab Sample ID: 880-22110-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | 41227 | SM | EET MID | 12/07/22 09:45 |
| Total/NA | Prep | 8015NM Prep | | | 41024 | DM | EET MID | 12/05/22 11:32 |
| Total/NA | Analysis | 8015B NM | | 1 | 41104 | SM | EET MID | 12/06/22 13:19 |
| Soluble | Leach | DI Leach | | | 40835 | SMC | EET MID | 12/01/22 17:36 |
| Soluble | Analysis | 300.0 | | 1 | 40953 | CH | EET MID | 12/03/22 19:18 |

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-22-24 | 06-30-23 |

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

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

# Method Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

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

**Protocol References:**

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: JRU D12 CTB

Job ID: 880-22110-1
SDG: 03E1558140

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 880-22110-1 | PH03 | Solid | 11/28/22 12:10 | 11/30/22 14:12 | 2' |
| 880-22110-2 | PH02 | Solid | 11/28/22 12:50 | 11/30/22 14:12 | 2' |
| 880-22110-3 | PH01 | Solid | 11/28/22 13:20 | 11/30/22 14:12 | 2' |
| 880-22110-4 | PH04 | Solid | 11/28/22 13:30 | 11/30/22 14:12 | 2' |

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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: 22110

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 |

| | | | |
|---|---|---|---|
| Project Name | JRU D12 CTB | Turn Around | |
| Project Number: | 03E1558140 | ☑ Routine ☐ Rush | |
| Project Location | 32.3625, 103.83810 | 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: | T-NM.007 | |
| Cooler Custody Seals | Yes No N/A | Correction Factor: | | |
| Sample Custody Seals: | Yes No N/A | Temperature Reading | 1.0 | |
| Total Containers. | | Corrected Temperature: | | |

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:

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | BTEX | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|
| PH01 | S | 11/28/22 | 1210 | 2' | G | 1 | X | X | X |
| PH02 | ↓ | ↓ | 1250 | 2' | ↓ | ↓ | ↓ | ↓ | ↓ |
| PH03 | | | 1320 | 2' | | | | | |
| PH04 | | | 1330 | 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 Comments

Incident #
nAPP2227351943

Cost Center:
1082251001

880-22110 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb
Tl Sn U V Zn
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 as... 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 | | 11/30/22 2:12 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev 2020.2

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12/13/2022 (Rev. 1)

Received by OCD: 12/16/2022 12:37:49 PM

Released to Imaging: 3/29/2023 4:00:01 PM

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-22110-1
SDG Number: 03E1558140

**Login Number: 22110**
**List Number: 1**
**Creator: Kramer, Jessica**

**List Source: Eurofins Midland**

| 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. | 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"). | N/A | |

ENSOLUM

# APPENDIX E

## NMOCD Notifications

**From:** Green, Garrett J
**To:** ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
**Cc:** DelawareSpills /SM; Tacoma Morrissey
**Subject:** XTO - Sampling Notification (Week of 11/28/22 - 12/2/22)
**Date:** Wednesday, November 23, 2022 3:15:42 PM

[ **EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Nov 28, 2022.

- JRU DI2 CTB/ nAPP2227351943
- Row 4 Muy Wayno Line/ nAPP2209039217
- PLU 428 CTB / nAPP2230831509

Thank you,

**Garrett Green**
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

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

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

CONDITIONS

Action 167845

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>167845 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rhamlet | We have received your closure report and final C-141 for Incident #NAPP2227351943 JRU DI 2 CTB, thank you. This closure is approved. | 3/29/2023 |