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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

| | |
|---|---|
| Incident ID | NAPP2311754224 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

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

## Location of Release Source

Latitude 32.12912 Longitude -103.92596
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Muy Wayno 18 104H | Site Type Production Well |
| Date Release Discovered 04/20/2023 | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| L | 18 | 25S | 30E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☒ Other (describe) Foamer (FOAM00500A) | Volume/Weight Released (provide units) 9.56 BBLS | Volume/Weight Recovered (provide units) 7.62 BBLS |

Cause of Release: A crew was moving a chemical tank containing Foamer and its containment. During the procedure, a leg on the stand supporting the tank failed, causing the tank to fall and release fluids. No injuries and no chemical exposure were reported. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2311754224 |
| District RP | |
| Facility ID | |
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| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☐ Yes ☒ No | If YES, for what reason(s) does the responsible party consider this a major release?<br>N/A |

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

## Initial Response

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

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

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

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: Garrett Green
Date: 4/27/2023
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

**OCD Only**

Received by: Jocelyn Harimon
Date: 04/28/2023

| Location: | Muy Wayno 18 104H | |
|---|---|---|
| Spill Date: | 4/20/2023 | |

| Area 1 | | |
|---|---|---|
| Approximate Area = | 39.81 | cu.ft. |
| VOLUME OF LEAK | | |
| Total Chemical = | 7.09 | bbls |
| Total Produced Water = | 0.00 | bbls |

| Area 2 | | |
|---|---|---|
| Approximate Area = | 870.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 5.00 | inches |

| | | |
|---|---|---|
| Average Porosity Factor = | 0.03 | |

| VOLUME OF LEAK | | |
|---|---|---|
| Total Chemical = | 2.47 | bbls |
| Total Produced Water = | 0.00 | bbls |

| TOTAL VOLUME OF LEAK | | |
|---|---|---|
| **Total Chemical =** | **9.56** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Chemical =** | **7.62** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |

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

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

CONDITIONS

Action 211432

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>211432 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jharimon | None | 4/28/2023 |

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2311754224 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2311754224 |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: Garrett Green Title: SSHE Coordinator

Signature:  Date: 07/17/2023

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

**OCD Only**

Received by: Shelly Wells Date: 7/20/2023

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2311754224 |
| 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: 07/17/2023

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

**OCD Only**

Received by: Shelly Wells  Date: 7/20/2023

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

July 17, 2023

**New Mexico Oil Conservation Division**
New Mexico Energy, Minerals, and Natural Resources Department
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request**
**Muy Wayno 18 104H**
**Incident Number NAPP2311754224**
**Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment, excavation, and soil sampling activities performed at the Muy Wayno 18 104H (Site). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release from a chemical tank at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2311754224.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit L, Section 18, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.12912°, -103.92596°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management.

On April 20, 2023, while moving a chemical tank, the tank fell and released approximately 9.56 barrels (bbls) of Foamer FOAM00500A (foamer). A vacuum truck was dispatched to the Site and approximately 7.62 bbls of foamer were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a Release Notification Form C-141 (Form C-141) on April 27, 2023. The release was assigned Incident Number NAPP2311754224.

The safety data sheet (SDS) information for the foamer is included as Appendix A. Based on review of the SDS information, Ensolum identified the following applicable analyses for source characterization:

| Product | Type | Ingredients | Proposed Chemical Analysis |
|---|---|---|---|
| FOAM00500A | Foamer | Ethylene Glycol<br>Alkylamine betaine | pH<br>VOCs<br>BTEX |

Notes:
VOCs: volatile organic compounds
BTEX: benzene, toluene, ethylbenzene, and total xylenes

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be 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 New Mexico Office of the State Engineer (NMOSE) permitted soil boring (C-4529), located approximately 0.3 miles northwest of the Site. The soil boring was drilled to a total depth of 101 feet bgs and no groundwater was encountered. Following a 72-hour waiting period to allow for the slow infill of groundwater the soil boring was confirmed to be dry and was backfilled following proper NMOSE procedures. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 4,230 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is not within a 100-year floodplain or overlying a subsurface mine. The Site is lessthan 1,000 feet to a freshwater well or spring. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

## SITE ASSESSMENT, EXCAVATION, AND SOIL SAMPLING ACTIVITIES

On August 26, 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. The visible release extent was mapped utilizing a handheld Global Positioning System (GPS) unit. Excavation activities were performed using track-mounted backhoe and transport vehicles. The excavation was completed to a depth of 0.5 feet bgs. Photographic documentation of the excavation activities is included in Appendix C.

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor 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 at a depth of 0.5 feet bgs. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into the floor samples. The excavation extent and excavation soil sample locations are presented on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): VOCs following United States Environmental Protection Agency (EPA) Method 8260D; BTEX following EPA Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; chloride following EPA Method 300.0; and pH following EPA Method 9045D.

The excavation measured approximately 790 square feet in areal extent. A total of approximately 15 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of by a licensed waste disposal facility.

## ANALYTICAL RESULTS

Laboratory analytical results for excavation floor samples FS01 through FS04 indicated no hydrocarbons were detected. Chloride concentrations were compliant with the Table I Closure Criteria. Analytical results for pH ranged from 8.4 to 8.7, indicating normal to slightly alkaline soil. Laboratory analytical results for BTEX, TPH-GRO/ TPH-DRO, TPH, chloride, and pH are summarized in Table 1. Complete laboratory analytical reports are included as Appendix D.

## CLOSURE REQUEST

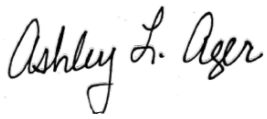
Site assessment and excavation activities were conducted at the Site to address the April 20, 2023, chemical release. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Closure Criteria. Based 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 impacted soil has mitigated impacts at this Site. XTO believes the remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2311754224.

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

Sincerely,
**Ensolum, LLC**

Tacoma Morrissey
Senior Geologist



Ashley Ager, MS, PG
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
BLM

Appendices:

Figure 1 Site Location Map

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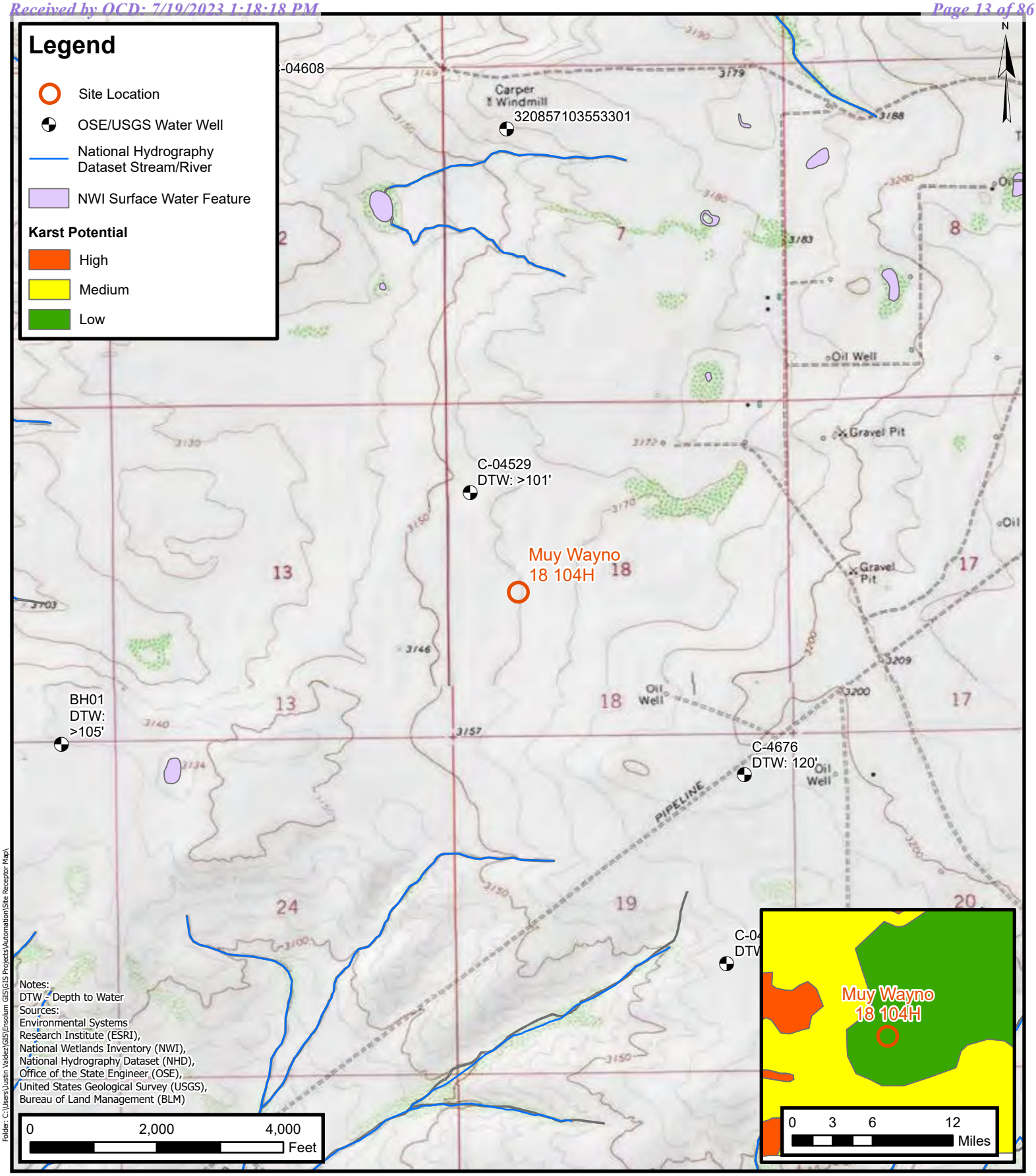
# FIGURES



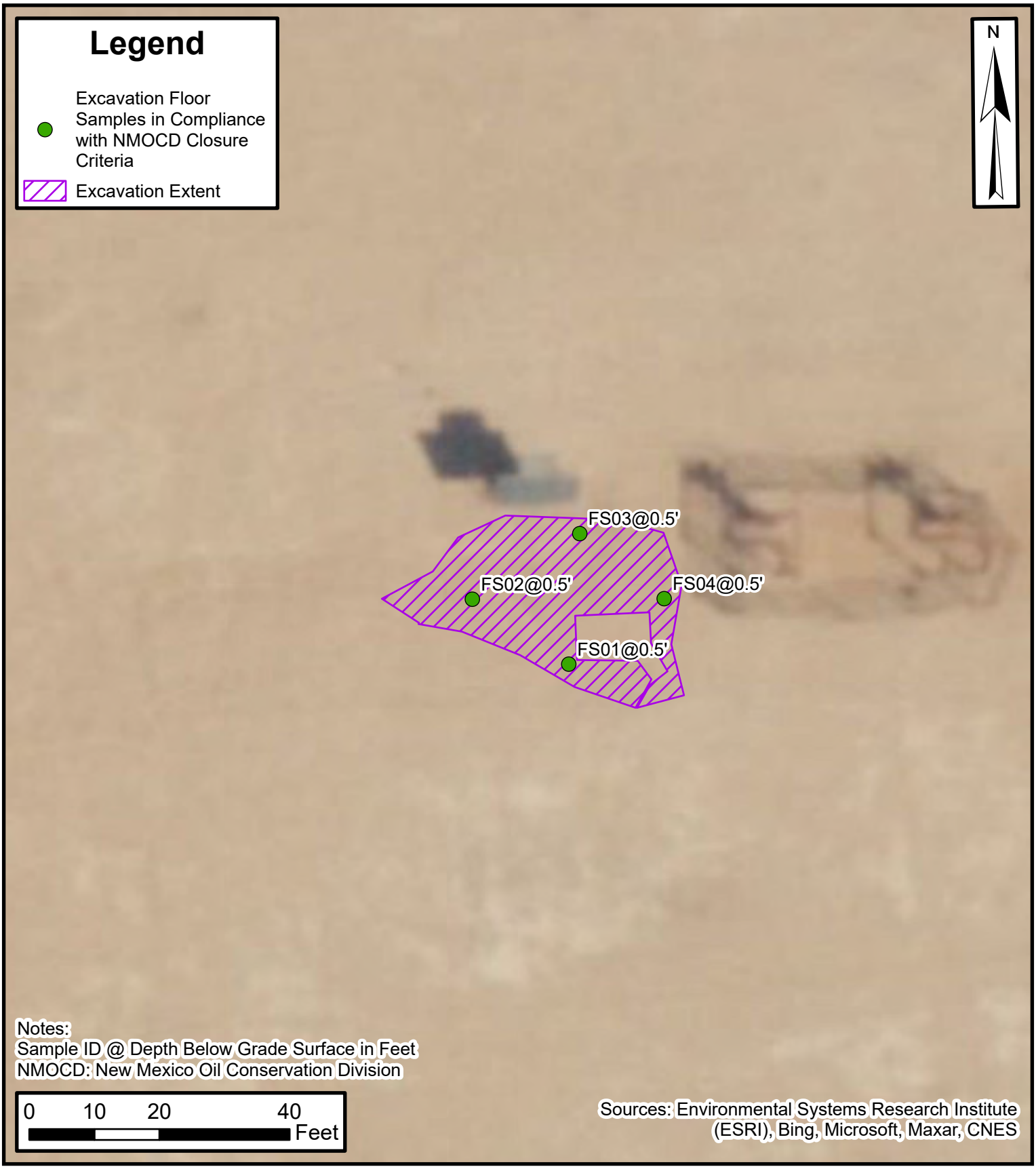

Folder: C:\Users\Justin Valdez\GIS\Ensolum GIS\GIS Projects\Automation\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Site Receptor Map

XTO Energy, Inc.
Muy Wayno 18 104H
Incident Number: NAPP2311754224
Unit L Sec 18 T25S R30E
Eddy County, New Mexico

**FIGURE 1**

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# Excavation Soil Sample Locations

XTO Energy, Inc.
Muy Wayno 18 104H
Incident Number: NAPP2311754224
Unit L Sec 18 T25S R30E
Eddy County, New Mexico

FIGURE
2

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# TABLES

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**TABLE 1**
**SOIL SAMPLE ANALYTICAL RESULTS**
**Muy Wayno 18 104H**
**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) | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NMOCD Table I Closure Criteria (NMAC 19.15.29) | | | 10 | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 | NE |
| Excavation Soil Samples | | | | | | | | | | | |
| FS01 | 04/26/2023 | 0.5 | <0.00100 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 383 | 8.4 |
| FS02 | 04/26/2023 | 0.5 | <0.000996 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 539 | 8.7 |
| FS03 | 04/26/2023 | 0.5 | <0.000996 | <0.00199 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 774 | 8.7 |
| FS04 | 04/26/2023 | 0.5 | <0.000994 | <0.00199 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 370 | 8.7 |

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria 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

ENSOLUM

# APPENDIX A

## Safety Data Sheet for Foamer FOAM005005A

# SAFETY DATA SHEET

## FOAM00500A

## Section: 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | FOAM00500A |
| Other means of identification | : | Not applicable. |
| Recommended use | : | FOAMER |
| Restrictions on use | : | Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits. |
| Company | : | ChampionX LLC<br>11177 S. Stadium Drive<br>Sugar Land, Texas 77478<br>USA<br>TEL: (281) 632-6500 |
| Emergency telephone number | : | (800) 424-9300 (24 Hours) CHEMTREC |
| Issuing date | : | 07/29/2022 |

## Section: 2. HAZARDS IDENTIFICATION

### GHS Classification

| | | |
|---|---|---|
| Acute toxicity (Oral) | : | Category 4 |
| Serious eye damage | : | Category 1 |
| Specific target organ toxicity - repeated exposure | : | Category 2 (Kidney) |

### GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed.
Causes serious eye damage.
May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
Do not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection.
**Response:**
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards** : None known.

## Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

| Chemical Name | CAS-No. | Concentration: (%) |
|---|---|---|
| Ethylene Glycol | 107-21-1 | 30 - 60 |
| Alkylamine betaine | Proprietary | 10 - 30 |

## Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

## Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Carbon oxides nitrogen oxides (NOx)

Special protective equipment for firefighters : Use personal protective equipment.

| | | |
|---|---|---|
| Specific extinguishing methods | : | Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes. |

## Section: 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : | Do not allow contact with soil, surface or ground water. |
| Methods and materials for containment and cleaning up | : | Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water. |

## Section: 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Advice on safe handling | : | Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. |
| Conditions for safe storage | : | Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. |
| Suitable material | : | Keep in properly labelled containers. |
| Unsuitable material | : | not determined |

## Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Form of exposure | Permissible concentration | Basis |
|---|---|---|---|---|
| Ethylene Glycol | 107-21-1 | TWA (Vapour.) | 25 ppm | ACGIH |
| | | STEL (Vapour.) | 50 ppm | ACGIH |
| | | STEL (Inhalable fraction, Aerosol only) | 10 mg/m3 | ACGIH |

| | | |
|---|---|---|
| Engineering measures | : | Good general ventilation should be sufficient to control worker exposure to airborne contaminants. |

**Personal protective equipment**

| | | |
|---|---|---|
| Eye protection | : | Safety goggles<br>Face-shield |

| | | |
|---|---|---|
| Hand protection | : | Wear impervious chemical-resistant gloves when handling this product.<br>The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.<br>Nitrile-rubber, Butyl-Rubber, or Neoprene gloves.<br>Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.<br>Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. |
| Skin protection | : | Wear suitable protective clothing. |
| Respiratory protection | : | Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist.<br>Where concentrations in air may exceed the limits given in this section or when significant vapours are generated, use an approved air purifying respirator fitted with a gas and vapour cartridge.<br>Use a particulate pre-filter where operations generate significant mists or aerosols.<br>Recommended gas and vapour cartridge:<br>Organic vapour type<br>In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA or supplied-air respirator should be used. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard. |

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

## Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Liquid |
| Colour | : | Clear Light yellow |
| Odour | : | Mild, Glycol |
| Flash point | : | > 110 °C |
| pH | : | 10.3, (20 °C) |
| Odour Threshold | : | no data available |
| Melting point/freezing point | : | Pour point: -25 °C |
| Initial boiling point and boiling range | : | 100 °C |
| Evaporation rate | : | no data available |
| Flammability (solid, gas) | : | Not applicable. |
| Upper explosion limit | : | no data available |
| Lower explosion limit | : | no data available |

| | | |
|---|---|---|
| Vapour pressure | : | 42.75 hPa, (37.8 °C), |
| Relative vapour density | : | no data available |
| Relative density | : | 1.082, (15.6 °C), |
| Density | : | no data available |
| Water solubility | : | Dispersible |
| Solubility in other solvents | : | no data available |
| Partition coefficient: n-octanol/water | : | no data available |
| Auto-ignition temperature | : | no data available |
| Thermal decomposition | : | no data available |
| Viscosity, dynamic | : | no data available |
| Viscosity, kinematic | : | 9 mm2/s (40 °C) |
| Molecular weight | : | no data available |
| VOC | : | no data available |

## Section: 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | No dangerous reaction known under conditions of normal use. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | None known. |
| Hazardous decomposition products | : | In case of fire, hazardous decomposition products may be produced such as:<br>Carbon oxides<br>nitrogen oxides (NOx) |

## Section: 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Inhalation, Eye contact, Skin contact |

**Potential Health Effects**

| | | |
|---|---|---|
| Eyes | : | Causes serious eye damage. |
| Skin | : | Health injuries are not known or expected under normal use. |
| Ingestion | : | Harmful if swallowed. |
| Inhalation | : | Health injuries are not known or expected under normal use. |
| Chronic Exposure | : | Health injuries are not known or expected under normal use. |

**Experience with human exposure**

| | | |
|---|---|---|
| Eye contact | : | Redness, Pain, Corrosion |
| Skin contact | : | No symptoms known or expected. |
| Ingestion | : | No information available. |
| Inhalation | : | No symptoms known or expected. |

**Toxicity**

**Product**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 1,330 mg/kg |
| Acute inhalation toxicity | : | no data available |
| Acute dermal toxicity | : | no data available |
| Skin corrosion/irritation | : | no data available |
| Serious eye damage/eye irritation | : | no data available |
| Respiratory or skin sensitization | : | no data available |
| Carcinogenicity | : | no data available |
| Reproductive effects | : | no data available |
| Germ cell mutagenicity | : | no data available |
| Teratogenicity | : | no data available |
| STOT - single exposure | : | no data available |
| STOT - repeated exposure | : | no data available |
| Aspiration toxicity | : | no data available |

**Components**

| | | |
|---|---|---|
| Acute dermal toxicity | : | Ethylene Glycol<br>LD50 rabbit: 10,600 mg/kg |

## Section: 12. ECOLOGICAL INFORMATION

**Toxicity**

| | | |
|---|---|---|
| Environmental Effects | : | Harmful to aquatic life. |

**Components**

| | | |
|---|---|---|
| Toxicity to fish | : | Ethylene Glycol<br>LC50: 72,860 mg/l<br>Exposure time: 96 h |

**Components**

| | | |
|---|---|---|
| Toxicity to daphnia and other | : | Ethylene Glycol |

| | |
|---|---|
| aquatic invertebrates | EC50 : > 100 mg/l<br>Exposure time: 48 h |

**Components**

| | | |
|---|---|---|
| Toxicity to algae | : | Ethylene Glycol<br>EC50 : 6,500 mg/l<br>Exposure time: 96 h<br><br>Alkylamine betaine<br>EC50 Desmodesmus subspicatus (green algae): 1.01 mg/l |

**Components**

| | | |
|---|---|---|
| Toxicity to bacteria | : | Ethylene Glycol<br>> 1,995 mg/l |

**Components**

| | | |
|---|---|---|
| Toxicity to fish (Chronic toxicity) | : | Ethylene Glycol<br>NOEC: 15,380 mg/l<br>Exposure time: 7 d |

**Components**

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | Ethylene Glycol<br>NOEC: 8,590 mg/l<br>Exposure time: 7 d |

**Persistence and degradability**

no data available

**Mobility**

no data available

**Bioaccumulative potential**

no data available

**Other information**

no data available

## Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

| | | |
|---|---|---|
| Disposal methods | : | The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. |

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

## Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

This product is not classified as a DOT hazardous material if the RQ quantity is not met or exceeded in the specific shipping container.

**Land transport (DOT)**

For packages less than or equal to 119 Gallons:

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

***For packages greater than 119 Gallons:***

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s) :
UN/ID No. : UN 3082
Transport hazard class(es) : 9
Packing group : III
Reportable Quantity (per package) : 13,290 lbs
RQ Component : Ethylene Glycol

**Air transport (IATA)**

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

**Sea transport (IMDG/IMO)**

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

## Section: 15. REGULATORY INFORMATION

**TSCA list** : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| Ethylene Glycol | 107-21-1 | 5000 | 13290 |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

**SARA 302** : This material does not contain any components with a section 302 EHS TPQ.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

| Components | CAS-No. | Weight percent |
|---|---|---|
| Ethylene Glycol | 107-21-1 | 30 - 60 % |

**California Prop. 65**

⚠ **WARNING:** Reproductive Harm - www.P65Warnings.ca.gov

| | |
|---|---|
| Ethylene Glycol | 107-21-1 |

**INTERNATIONAL CHEMICAL CONTROL LAWS** :

**United States TSCA Inventory**
On or in compliance with the active portion of the TSCA inventory.

**Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)**
On the inventory, or in compliance with the inventory.

**Japan. ENCS - Existing and New Chemical Substances Inventory**
On the inventory, or in compliance with the inventory.

**Korea. Korean Existing Chemicals Inventory (KECI)**
On the inventory, or in compliance with the inventory.

**Philippines Inventory of Chemicals and Chemical Substances (PICCS)**
On the inventory, or in compliance with the inventory.

**China Inventory of Existing Chemical Substances**
On the inventory, or in compliance with the inventory.

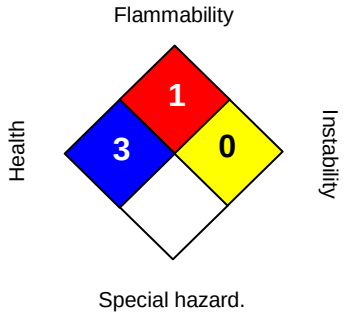
**Taiwan Chemical Substance Inventory**
not determined

## Section: 16. OTHER INFORMATION

## SAFETY DATA SHEET

**FOAM00500A**

**NFPA:**




**HMIS III:**

| | |
|---|---|
| HEALTH | 3* |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

| | | |
|---|---|---|
| Revision Date | : | 07/29/2022 |
| Version Number | : | 1.6 |
| Prepared By | : | Regulatory Affairs |

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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# APPENDIX B

## Referenced Well Records

# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

**1. GENERAL AND WELL LOCATION**

| OSE POD NO. (WELL NO.) | WELL TAG ID NO. | OSE FILE NO(S). |
|---|---|---|
| POD1 (MW-1) | n/a | C-4529 |

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

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

| WELL LOCATION (FROM GPS) | | DEGREES | MINUTES | SECONDS | |
|---|---|---|---|---|---|
| | LATITUDE | 32° | 8' | 2.07" | N |
| | LONGITUDE | 103° | 55' | 42.27" | W |

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

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

NW NW Sec. 18 T25S R30E

**2. DRILLING & CASING INFORMATION**

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

| DRILLING STARTED | DRILLING ENDED | DEPTH OF COMPLETED WELL (FT) | BORE HOLE DEPTH (FT) | DEPTH WATER FIRST ENCOUNTERED (FT) |
|---|---|---|---|---|
| 05/14/2021 | 05/14/2021 | temporary well material | 101 | n/a |

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

| DEPTH (feet bgl) FROM | DEPTH (feet bgl) TO | BORE HOLE DIAM (inches) | CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen) | CASING CONNECTION TYPE (add coupling diameter) | CASING INSIDE DIAM. (inches) | CASING WALL THICKNESS (inches) | SLOT SIZE (inches) |
|---|---|---|---|---|---|---|---|
| 0 | 101 | ±6.5 | Boring- HSA | -- | -- | -- | -- |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**3. ANNULAR MATERIAL**

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

| FILE NO. C-4529 | POD NO. 1 | TRN NO. 692934 | |
|---|---|---|---|
| LOCATION Exp1 25S.30E.18.131 | | WELL TAG ID NO. — | PAGE 1 OF 2 |

OSE DII JUN 10 2021 PM2:45

**4. HYDROGEOLOGIC LOG OF WELL**

| DEPTH (feet bgl) FROM | DEPTH (feet bgl) TO | THICKNESS (feet) | COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units) | WATER BEARING? (YES / NO) | ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm) |
|---|---|---|---|---|---|
| 0 | 4 | 4 | SAND, poorly graded, fine-very grained, caliche gravel, Reddish-brown, dry | Y ✓ N | |
| 4 | 29 | 25 | CALICHE, poorly consolidated, with sand medium grained, tan-off white, dry | Y ✓ N | |
| 29 | 39 | 10 | SAND, poorly graded, fine-very grained, some caliche gravel, Tan-brown, dry | Y ✓ N | |
| 39 | 54 | 15 | SILTY SAND, poorly graded, very- fine grained, Light brown, dry | Y ✓ N | |
| 54 | 59 | 5 | SILTY SAND, poorly graded, very- fine grained, caliche gravel Light brown, dr | Y ✓ N | |
| 59 | 73 | 14 | SANDY CLAY, very-fine grained sand, low plasticity, Brown- Red Brown, moi | Y ✓ N | |
| 73 | 79 | 6 | CLAYEY SAND, low plasticity, very-fine grained sand, Brown/Red Brown, mo | Y ✓ N | |
| 79 | 83 | 4 | SANDY CLAY, very-fine grained sand, low plasticity, Brown- Dark Brown, mo | Y ✓ N | |
| 83 | 94 | 9 | SANDY CLAY, very-fine grained sand, low plasticity, Reddish Brown, moist | Y ✓ N | |
| 94 | 99 | 5 | SANDY CLAY, very-fine grained sand, low plasticity, Brown-Dark Brown, dry | Y ✓ N | |
| 99 | 101 | 2 | SANDY CLAY, very-fine grained sand, low plasticity, Earth Brown, dry | Y ✓ N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |
| | | | | Y N | |

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

**5. TEST; RIG SUPERVISION**

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

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

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

Shane Eldridge, Carmelo Trevino, Cameron Pruitt

**6. SIGNATURE**

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

Jack Atkins — Jackie D. Atkins — 06/09/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

| FILE NO. C-4525 | POD NO. 1 | TRN NO. 692934 |
|---|---|---|
| LOCATION | WELL TAG ID NO. | PAGE 2 OF 2 |

OSE DIT JUN 10 2021 PM 2:45

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

## Search Results -- 1 sites found

**Agency code =** usgs
**site_no list =**
- 320857103553301

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

## USGS 320857103553301 25S.30E.07.112331

Eddy County, New Mexico
Latitude 32°08'57", Longitude 103°55'33" NAD27
Land-surface elevation 3,169 feet above NAVD88
The depth of the well is 385 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats**

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

| Date | Time | ? Water-level date-time accuracy | ? Parameter code | Water level, feet below land surface | Water level, feet above specific vertical datum | Referenced vertical datum | ? Status | ? Method of measurement | ? Measuring agency | ? Source measur |
|---|---|---|---|---|---|---|---|---|---|---|
| 1959-02-05 | | D | 62610 | | 2903.75 | NGVD29 | 1 | Z | | |
| 1959-02-05 | | D | 62611 | | 2905.37 | NAVD88 | 1 | Z | | |
| 1959-02-05 | | D | 72019 | 263.63 | | | 1 | Z | | |
| 1959-03-07 | | D | 62610 | | 2904.08 | NGVD29 | 1 | Z | | |
| 1959-03-07 | | D | 62611 | | 2905.70 | NAVD88 | 1 | Z | | |
| 1959-03-07 | | D | 72019 | 263.30 | | | 1 | Z | | |
| 1987-10-20 | | D | 62610 | | 2903.13 | NGVD29 | 1 | Z | | |
| 1987-10-20 | | D | 62611 | | 2904.75 | NAVD88 | 1 | Z | | |
| 1987-10-20 | | D | 72019 | 264.25 | | | 1 | Z | | |
| 1992-11-06 | | D | 62610 | | 2904.38 | NGVD29 | 1 | S | | |
| 1992-11-06 | | D | 62611 | | 2906.00 | NAVD88 | 1 | S | | |
| 1992-11-06 | | D | 72019 | 263.00 | | | 1 | S | | |
| 1998-01-28 | | D | 62610 | | 2903.26 | NGVD29 | 1 | V | | |
| 1998-01-28 | | D | 62611 | | 2904.88 | NAVD88 | 1 | V | | |
| 1998-01-28 | | D | 72019 | 264.12 | | | 1 | V | | |

**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 | S | Steel-tape measurement. |
| Method of measurement | V | Calibrated electric-tape measurement. |
| Method of measurement | Z | Other. |
| Measuring agency | | Not determined |
| Source of measurement | | Not determined |
| 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: 2023-04-25 20:07:45 EDT
0.29 0.26 nadww02

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# APPENDIX C

## Photographic Log

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**Photographic Log**
XTO Energy, Inc.
Muy Wayno 18 104H
Incident Number NAPP2311754224


Photograph: 1 Date: 4/21/2023
Description: Soil staining in release footprint
View: South


Photograph: 2 Date: 4/21/2023
Description: Soil staining in release footprint
View: Northeast


Photograph: 3 Date: 4/26/2023
Description: Final excavation extent
View: East


Photograph: 4 Date: 4/26/2023
Description: Final excavation extent
View: Southeast

ENSOLUM

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 5/2/2023 4:48:03 PM

## JOB DESCRIPTION

Muy Wayno 104H
SDG NUMBER 03C1558212

## JOB NUMBER

890-4583-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

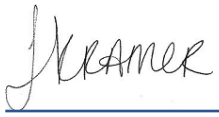
# Eurofins Carlsbad

## Job Notes

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

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

## Authorization



Generated
5/2/2023 4:48:03 PM

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

Client: Ensolum
Project/Site: Muy Wayno 104H

Laboratory Job ID: 890-4583-1
SDG: 03C1558212

# Table of Contents

# Definitions/Glossary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| *+ | LCS and/or LCSD is outside acceptance limits, high biased. |
| F1 | MS and/or MSD recovery exceeds control limits. |
| U | Indicates the analyte was analyzed for but not detected. |

### General Chemistry

| Qualifier | Qualifier Description |
|---|---|
| HF | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. |

## 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: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Job ID: 890-4583-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-4583-1**

**Receipt**
The samples were received on 4/26/2023 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

**GC/MS VOA**
Method 8260C: Sample received in a bulk jar.FS01 (890-4583-1), FS02 (890-4583-2), FS03 (890-4583-3), FS04 (890-4583-4) and (880-27647-B-1-A)

Method 8260C: The continuing calibration verification (CCV) associated with batch 860-101268 recovered above the upper control limit for 1,2,3-Trichlorobenzene and Naphthalene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 860-101268/6).

Method 8260C: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 860-101268 recovered outside control limits for the following analytes: 1,2,3-Trichlorobenzene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260C: The matrix spike (MS) recoveries for preparation batch 860-101265 and analytical batch 860-101268 were outside control limits. Sample matrix interference is suspected.

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

**General Chemistry**
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: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

**Client Sample ID: FS01**
**Date Collected: 04/26/23 14:10**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4583-1**
**Matrix: Solid**

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | U | 0.00100 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Bromobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Bromochloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Bromodichloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Bromoform | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Bromomethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 2-Butanone | <0.0500 | U | 0.0500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Carbon tetrachloride | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Chlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Chloroethane | <0.0100 | U | 0.0100 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Chloroform | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Chloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 4-Chlorotoluene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| cis-1,2-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| cis-1,3-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Dibromochloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2-Dibromoethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,3-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,4-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Dichlorodifluoromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1-Dichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2-Dichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,3-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 2,2-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Ethylbenzene | <0.00100 | U | 0.00100 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Hexachlorobutadiene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Isopropylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Methylene Chloride | <0.0200 | U | 0.0200 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| m,p-Xylenes | <0.00200 | U | 0.00200 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| MTBE | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Naphthalene | <0.0100 | U | 0.0100 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| n-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| N-Propylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| o-Xylene | <0.00100 | U | 0.00100 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| p-Cymene (p-Isopropyltoluene) | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| sec-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Styrene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| tert-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1,1,2-Tetrachloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Tetrachloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Toluene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| trans-1,2-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Client Sample ID: FS01

**Lab Sample ID: 890-4583-1**
**Matrix: Solid**
**Date Collected: 04/26/23 14:10**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2,3-Trichlorobenzene | <0.00500 | U *+ | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2,4-Trichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1,1-Trichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,1,2-Trichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Trichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Trichlorofluoromethane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2,3-Trichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,2,4-Trimethylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| 1,3,5-Trimethylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Vinyl chloride | <0.00500 | U | 0.00500 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |
| Xylenes, Total | <0.00200 | U | 0.00200 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *85* | | *56 - 150* | *05/01/23 15:53* | *05/02/23 07:18* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *68 - 152* | *05/01/23 15:53* | *05/02/23 07:18* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *53 - 142* | *05/01/23 15:53* | *05/02/23 07:18* | *1* |
| *Toluene-d8 (Surr)* | *95* | | *70 - 130* | *05/01/23 15:53* | *05/02/23 07:18* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00200 | U | 0.00200 | | mg/Kg | | | 05/02/23 14:57 | 1 |

### General Chemistry - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **pH (SW846 9045D)** | **8.4** | **HF** | | | SU | | | 05/02/23 16:33 | 1 |
| **Temperature (SW846 9045D)** | **20.1** | **HF** | | | Deg. C | | | 05/02/23 16:33 | 1 |

## Client Sample ID: FS02

**Lab Sample ID: 890-4583-2**
**Matrix: Solid**
**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Bromobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Bromochloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Bromodichloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Bromoform | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Bromomethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 2-Butanone | <0.0498 | U | 0.0498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Carbon tetrachloride | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Chlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Chloroethane | <0.00996 | U | 0.00996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Chloroform | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Chloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 4-Chlorotoluene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| cis-1,2-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| cis-1,3-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

**Client Sample ID: FS02**
**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4583-2**
**Matrix: Solid**

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dibromochloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2-Dibromoethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,3-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,4-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Dichlorodifluoromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1-Dichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2-Dichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,3-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 2,2-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Ethylbenzene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Hexachlorobutadiene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Isopropylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Methylene Chloride | <0.0199 | U | 0.0199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| m,p-Xylenes | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| MTBE | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Naphthalene | <0.00996 | U | 0.00996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| n-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| N-Propylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| o-Xylene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| p-Cymene (p-Isopropyltoluene) | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| sec-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Styrene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| tert-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1,1,2-Tetrachloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Tetrachloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Toluene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| trans-1,2-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| trans-1,3-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2,3-Trichlorobenzene | <0.00498 | U *+ | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2,4-Trichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1,1-Trichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,1,2-Trichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Trichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Trichlorofluoromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2,3-Trichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,2,4-Trimethylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| 1,3,5-Trimethylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Vinyl chloride | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |
| Xylenes, Total | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *75* | | *56 - 150* | *05/01/23 15:53* | *05/02/23 07:38* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *68 - 152* | *05/01/23 15:53* | *05/02/23 07:38* | *1* |

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# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Client Sample ID: FS02

**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4583-2**
**Matrix: Solid**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Dibromofluoromethane (Surr)* | *92* | | *53 - 142* | *05/01/23 15:53* | *05/02/23 07:38* | *1* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | *05/01/23 15:53* | *05/02/23 07:38* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00199 | U | 0.00199 | | mg/Kg | | | 05/02/23 14:57 | 1 |

### General Chemistry - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **pH (SW846 9045D)** | **8.7** | **HF** | | | SU | | | 05/02/23 16:33 | 1 |
| **Temperature (SW846 9045D)** | **20.1** | **HF** | | | Deg. C | | | 05/02/23 16:33 | 1 |

## Client Sample ID: FS03

**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4583-3**
**Matrix: Solid**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Bromobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Bromochloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Bromodichloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Bromoform | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Bromomethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 2-Butanone | <0.0498 | U | 0.0498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Carbon tetrachloride | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Chlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Chloroethane | <0.00996 | U | 0.00996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Chloroform | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Chloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 4-Chlorotoluene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| cis-1,2-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| cis-1,3-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Dibromochloromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2-Dibromoethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,3-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,4-Dichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Dichlorodifluoromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1-Dichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2-Dichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,3-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 2,2-Dichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Ethylbenzene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Client Sample ID: FS03

**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4583-3

**Matrix: Solid**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Isopropylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Methylene Chloride | <0.0199 | U | 0.0199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| m,p-Xylenes | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| MTBE | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Naphthalene | <0.00996 | U | 0.00996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| n-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| N-Propylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| o-Xylene | <0.000996 | U | 0.000996 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| p-Cymene (p-Isopropyltoluene) | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| sec-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Styrene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| tert-Butylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1,1,2-Tetrachloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Tetrachloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Toluene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| trans-1,2-Dichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| trans-1,3-Dichloropropene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2,3-Trichlorobenzene | <0.00498 | U *+ | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2,4-Trichlorobenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1,1-Trichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,1,2-Trichloroethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Trichloroethene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Trichlorofluoromethane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2,3-Trichloropropane | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,2,4-Trimethylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| 1,3,5-Trimethylbenzene | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Vinyl chloride | <0.00498 | U | 0.00498 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |
| Xylenes, Total | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 07:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *87* | | *56 - 150* | *05/01/23 15:53* | *05/02/23 07:59* | *1* |
| *4-Bromofluorobenzene (Surr)* | *89* | | *68 - 152* | *05/01/23 15:53* | *05/02/23 07:59* | *1* |
| *Dibromofluoromethane (Surr)* | *95* | | *53 - 142* | *05/01/23 15:53* | *05/02/23 07:59* | *1* |
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | *05/01/23 15:53* | *05/02/23 07:59* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00199 | U | 0.00199 | | mg/Kg | | | 05/02/23 14:57 | 1 |

### General Chemistry - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **pH (SW846 9045D)** | **8.7** | **HF** | | | SU | | | 05/02/23 16:33 | 1 |
| **Temperature (SW846 9045D)** | **20.1** | **HF** | | | Deg. C | | | 05/02/23 16:33 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

**Client Sample ID: FS04**
**Date Collected: 04/26/23 14:55**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4583-4**
**Matrix: Solid**

## Method: SW846 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000994 | U | 0.000994 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Bromobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Bromochloromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Bromodichloromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Bromoform | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Bromomethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 2-Butanone | <0.0497 | U | 0.0497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Carbon tetrachloride | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Chlorobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Chloroethane | <0.00994 | U | 0.00994 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Chloroform | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Chloromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 4-Chlorotoluene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| cis-1,2-Dichloroethene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| cis-1,3-Dichloropropene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Dibromochloromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2-Dibromoethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2-Dichlorobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,3-Dichlorobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,4-Dichlorobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Dichlorodifluoromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1-Dichloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2-Dichloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1-Dichloroethene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2-Dichloropropane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,3-Dichloropropane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 2,2-Dichloropropane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1-Dichloropropene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Ethylbenzene | <0.000994 | U | 0.000994 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Hexachlorobutadiene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Isopropylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Methylene Chloride | <0.0199 | U | 0.0199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| m,p-Xylenes | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| MTBE | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Naphthalene | <0.00994 | U | 0.00994 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| n-Butylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| N-Propylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| o-Xylene | <0.000994 | U | 0.000994 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| p-Cymene (p-Isopropyltoluene) | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| sec-Butylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Styrene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| tert-Butylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1,1,2-Tetrachloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Tetrachloroethene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Toluene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| trans-1,2-Dichloroethene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Client Sample ID: FS04

**Date Collected: 04/26/23 14:55**
**Date Received: 04/26/23 16:25**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4583-4

**Matrix: Solid**

### Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2,3-Trichlorobenzene | <0.00497 | U *+ | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2,4-Trichlorobenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1,1-Trichloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,1,2-Trichloroethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Trichloroethene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Trichlorofluoromethane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2,3-Trichloropropane | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,2,4-Trimethylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| 1,3,5-Trimethylbenzene | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Vinyl chloride | <0.00497 | U | 0.00497 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |
| Xylenes, Total | <0.00199 | U | 0.00199 | | mg/Kg | | 05/01/23 15:53 | 05/02/23 08:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *77* | | *56 - 150* | *05/01/23 15:53* | *05/02/23 08:19* | *1* |
| *4-Bromofluorobenzene (Surr)* | *88* | | *68 - 152* | *05/01/23 15:53* | *05/02/23 08:19* | *1* |
| *Dibromofluoromethane (Surr)* | *100* | | *53 - 142* | *05/01/23 15:53* | *05/02/23 08:19* | *1* |
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | *05/01/23 15:53* | *05/02/23 08:19* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00199 | U | 0.00199 | | mg/Kg | | | 05/02/23 14:57 | 1 |

### General Chemistry - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **pH (SW846 9045D)** | **8.7** | **HF** | | | SU | | | 05/02/23 16:33 | 1 |
| **Temperature (SW846 9045D)** | **20.1** | **HF** | | | Deg. C | | | 05/02/23 16:33 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | BFB | DBFM | TOL |
| Lab Sample ID | Client Sample ID | (56-150) | (68-152) | (53-142) | (70-130) |
| 880-27647-B-1-A MS | Matrix Spike | 94 | 97 | 101 | 99 |
| 890-4583-1 | FS01 | 85 | 95 | 101 | 95 |
| 890-4583-2 | FS02 | 75 | 89 | 92 | 99 |
| 890-4583-3 | FS03 | 87 | 89 | 95 | 100 |
| 890-4583-4 | FS04 | 77 | 88 | 100 | 100 |
| LCS 860-101268/12 | Lab Control Sample | 95 | 93 | 103 | 98 |
| LCSD 860-101268/13 | Lab Control Sample Dup | 97 | 95 | 98 | 99 |
| MB 860-101268/18 | Method Blank | 86 | 98 | 101 | 99 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: 880-27647-B-1-A MS**
**Matrix: Solid**
**Analysis Batch: 101268**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 101265**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.000990 | U | 0.0495 | 0.04107 | | mg/Kg | | 83 | 71 - 119 |
| Bromobenzene | <0.00495 | U F1 | 0.0495 | 0.03869 | F1 | mg/Kg | | 78 | 84 - 123 |
| Bromochloromethane | <0.00495 | U | 0.0495 | 0.04461 | | mg/Kg | | 90 | 71 - 120 |
| Bromodichloromethane | <0.00495 | U | 0.0495 | 0.04354 | | mg/Kg | | 88 | 78 - 126 |
| Bromoform | <0.00495 | U | 0.0495 | 0.04587 | | mg/Kg | | 93 | 63 - 136 |
| Bromomethane | <0.00495 | U | 0.0495 | 0.04987 | | mg/Kg | | 101 | 73 - 126 |
| 2-Butanone | <0.0495 | U | 0.248 | 0.2125 | | mg/Kg | | 86 | 75 - 125 |
| Carbon tetrachloride | <0.00495 | U | 0.0495 | 0.04924 | | mg/Kg | | 99 | 63 - 135 |
| Chlorobenzene | <0.00495 | U | 0.0495 | 0.04413 | | mg/Kg | | 89 | 83 - 121 |
| Chloroethane | <0.00990 | U | 0.0495 | 0.03717 | | mg/Kg | | 75 | 57 - 122 |
| Chloroform | <0.00495 | U | 0.0495 | 0.04548 | | mg/Kg | | 92 | 74 - 118 |
| Chloromethane | <0.00495 | U | 0.0495 | 0.04302 | | mg/Kg | | 87 | 58 - 110 |
| 4-Chlorotoluene | <0.00495 | U | 0.0495 | 0.04154 | | mg/Kg | | 84 | 83 - 125 |
| cis-1,2-Dichloroethene | <0.00495 | U | 0.0495 | 0.04125 | | mg/Kg | | 83 | 72 - 131 |
| cis-1,3-Dichloropropene | <0.00495 | U | 0.0495 | 0.04094 | | mg/Kg | | 83 | 74 - 135 |
| Dibromochloromethane | <0.00495 | U | 0.0495 | 0.04398 | | mg/Kg | | 89 | 77 - 130 |
| 1,2-Dibromo-3-Chloropropane | <0.00495 | U | 0.0495 | 0.04508 | | mg/Kg | | 91 | 58 - 133 |
| 1,2-Dibromoethane | <0.00495 | U | 0.0495 | 0.04625 | | mg/Kg | | 93 | 73 - 125 |
| 1,2-Dichlorobenzene | <0.00495 | U F1 | 0.0495 | 0.04020 | F1 | mg/Kg | | 81 | 84 - 121 |
| 1,3-Dichlorobenzene | <0.00495 | U F1 | 0.0495 | 0.03939 | F1 | mg/Kg | | 80 | 84 - 124 |
| 1,4-Dichlorobenzene | <0.00495 | U | 0.0495 | 0.04091 | | mg/Kg | | 83 | 82 - 120 |
| Dichlorodifluoromethane | <0.00495 | U | 0.0495 | 0.04298 | | mg/Kg | | 87 | 54 - 122 |
| 1,1-Dichloroethane | <0.00495 | U | 0.0495 | 0.04458 | | mg/Kg | | 90 | 73 - 124 |
| 1,2-Dichloroethane | <0.00495 | U | 0.0495 | 0.03490 | | mg/Kg | | 71 | 70 - 123 |
| 1,1-Dichloroethene | <0.00495 | U | 0.0495 | 0.04913 | | mg/Kg | | 99 | 68 - 119 |
| 1,2-Dichloropropane | <0.00495 | U | 0.0495 | 0.04186 | | mg/Kg | | 85 | 75 - 122 |
| 1,3-Dichloropropane | <0.00495 | U | 0.0495 | 0.04257 | | mg/Kg | | 86 | 82 - 131 |
| 2,2-Dichloropropane | <0.00495 | U | 0.0495 | 0.04379 | | mg/Kg | | 88 | 67 - 137 |
| 1,1-Dichloropropene | <0.00495 | U | 0.0495 | 0.04341 | | mg/Kg | | 88 | 72 - 118 |
| Ethylbenzene | <0.000990 | U | 0.0495 | 0.04521 | | mg/Kg | | 91 | 80 - 123 |
| Hexachlorobutadiene | <0.00495 | U F1 | 0.0495 | 0.03689 | F1 | mg/Kg | | 75 | 77 - 130 |
| Isopropylbenzene | <0.00495 | U | 0.0495 | 0.04784 | | mg/Kg | | 97 | 55 - 155 |
| Methylene Chloride | <0.0198 | U | 0.0495 | 0.04946 | | mg/Kg | | 100 | 57 - 134 |
| m,p-Xylenes | <0.00198 | U | 0.0495 | 0.04312 | | mg/Kg | | 87 | 78 - 127 |
| MTBE | <0.00495 | U | 0.0495 | 0.04558 | | mg/Kg | | 92 | 64 - 148 |
| Naphthalene | <0.00990 | U | 0.0495 | 0.05450 | | mg/Kg | | 110 | 53 - 162 |
| n-Butylbenzene | <0.00495 | U | 0.0495 | 0.04219 | | mg/Kg | | 85 | 82 - 127 |
| N-Propylbenzene | <0.00495 | U | 0.0495 | 0.04398 | | mg/Kg | | 89 | 84 - 131 |
| o-Xylene | <0.000990 | U | 0.0495 | 0.04293 | | mg/Kg | | 87 | 79 - 125 |
| p-Cymene (p-Isopropyltoluene) | <0.00495 | U | 0.0495 | 0.04460 | | mg/Kg | | 90 | 84 - 130 |
| sec-Butylbenzene | <0.00495 | U | 0.0495 | 0.04603 | | mg/Kg | | 93 | 84 - 131 |
| Styrene | <0.00495 | U | 0.0495 | 0.04261 | | mg/Kg | | 86 | 80 - 126 |
| tert-Butylbenzene | <0.00495 | U | 0.0495 | 0.04331 | | mg/Kg | | 87 | 83 - 132 |
| 1,1,1,2-Tetrachloroethane | <0.00495 | U | 0.0495 | 0.04350 | | mg/Kg | | 88 | 81 - 127 |
| 1,1,2,2-Tetrachloroethane | <0.00495 | U | 0.0495 | 0.04049 | | mg/Kg | | 82 | 75 - 133 |
| Tetrachloroethene | <0.00495 | U | 0.0495 | 0.04538 | | mg/Kg | | 92 | 79 - 124 |
| Toluene | <0.00495 | U | 0.0495 | 0.04422 | | mg/Kg | | 89 | 74 - 122 |
| trans-1,2-Dichloroethene | <0.00495 | U | 0.0495 | 0.04630 | | mg/Kg | | 94 | 63 - 110 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 880-27647-B-1-A MS**
**Matrix: Solid**
**Analysis Batch: 101268**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 101265**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | <0.00495 | U | 0.0495 | 0.04114 | | mg/Kg | | 83 | 73 - 125 |
| 1,2,3-Trichlorobenzene | <0.00495 | U *+ | 0.0495 | 0.05325 | | mg/Kg | | 108 | 75 - 131 |
| 1,2,4-Trichlorobenzene | <0.00495 | U F1 | 0.0495 | 0.03795 | F1 | mg/Kg | | 77 | 79 - 128 |
| 1,1,1-Trichloroethane | <0.00495 | U | 0.0495 | 0.04598 | | mg/Kg | | 93 | 71 - 124 |
| 1,1,2-Trichloroethane | <0.00495 | U | 0.0495 | 0.04271 | | mg/Kg | | 86 | 75 - 131 |
| Trichloroethene | <0.00495 | U | 0.0495 | 0.04722 | | mg/Kg | | 95 | 78 - 119 |
| Trichlorofluoromethane | <0.00495 | U | 0.0495 | 0.05123 | | mg/Kg | | 103 | 71 - 148 |
| 1,2,3-Trichloropropane | <0.00495 | U | 0.0495 | 0.03782 | | mg/Kg | | 76 | 75 - 131 |
| 1,2,4-Trimethylbenzene | <0.00495 | U | 0.0495 | 0.04237 | | mg/Kg | | 86 | 60 - 159 |
| 1,3,5-Trimethylbenzene | <0.00495 | U | 0.0495 | 0.04357 | | mg/Kg | | 88 | 61 - 160 |
| Vinyl chloride | <0.00495 | U | 0.0495 | 0.04973 | | mg/Kg | | 100 | 60 - 123 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *56 - 150* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *68 - 152* |
| *Dibromofluoromethane (Surr)* | *101* | | *53 - 142* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |

**Lab Sample ID: MB 860-101268/18**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00100 | U | 0.00100 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Bromobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Bromochloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Bromodichloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Bromoform | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Bromomethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 2-Butanone | <0.0500 | U | 0.0500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Carbon tetrachloride | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Chlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Chloroethane | <0.0100 | U | 0.0100 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Chloroform | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Chloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 4-Chlorotoluene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| cis-1,2-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| cis-1,3-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Dibromochloromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2-Dibromo-3-Chloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2-Dibromoethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,3-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,4-Dichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Dichlorodifluoromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1-Dichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2-Dichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 860-101268/18**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,3-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 2,2-Dichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Ethylbenzene | <0.00100 | U | 0.00100 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Hexachlorobutadiene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Isopropylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Methylene Chloride | <0.0200 | U | 0.0200 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| m,p-Xylenes | <0.00200 | U | 0.00200 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| MTBE | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Naphthalene | <0.0100 | U | 0.0100 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| n-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| N-Propylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| o-Xylene | <0.00100 | U | 0.00100 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| p-Cymene (p-Isopropyltoluene) | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| sec-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Styrene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| tert-Butylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1,1,2-Tetrachloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1,2,2-Tetrachloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Tetrachloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Toluene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| trans-1,2-Dichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| trans-1,3-Dichloropropene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2,3-Trichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2,4-Trichlorobenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1,1-Trichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,1,2-Trichloroethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Trichloroethene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Trichlorofluoromethane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2,3-Trichloropropane | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,2,4-Trimethylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| 1,3,5-Trimethylbenzene | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Vinyl chloride | <0.00500 | U | 0.00500 | | mg/Kg | | | 05/02/23 03:32 | 1 |
| Xylenes, Total | <0.00200 | U | 0.00200 | | mg/Kg | | | 05/02/23 03:32 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *86* | | *56 - 150* | | *05/02/23 03:32* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *68 - 152* | | *05/02/23 03:32* | *1* |
| *Dibromofluoromethane (Surr)* | *101* | | *53 - 142* | | *05/02/23 03:32* | *1* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* | | *05/02/23 03:32* | *1* |

**Lab Sample ID: LCS 860-101268/12**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.0500 | 0.04746 | | mg/Kg | | 95 | 66 - 142 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 860-101268/12**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Bromobenzene | 0.0500 | 0.04563 | | mg/Kg | | 91 | 75 - 130 |
| Bromochloromethane | 0.0500 | 0.04957 | | mg/Kg | | 99 | 71 - 130 |
| Bromodichloromethane | 0.0500 | 0.05158 | | mg/Kg | | 103 | 78 - 130 |
| Bromoform | 0.0500 | 0.05194 | | mg/Kg | | 104 | 63 - 136 |
| Bromomethane | 0.0500 | 0.05946 | | mg/Kg | | 119 | 60 - 140 |
| 2-Butanone | 0.250 | 0.2047 | | mg/Kg | | 82 | 75 - 130 |
| Carbon tetrachloride | 0.0500 | 0.04887 | | mg/Kg | | 98 | 63 - 135 |
| Chlorobenzene | 0.0500 | 0.05163 | | mg/Kg | | 103 | 83 - 130 |
| Chloroethane | 0.0500 | 0.04042 | | mg/Kg | | 81 | 57 - 130 |
| Chloroform | 0.0500 | 0.05106 | | mg/Kg | | 102 | 74 - 130 |
| Chloromethane | 0.0500 | 0.04647 | | mg/Kg | | 93 | 58 - 130 |
| 4-Chlorotoluene | 0.0500 | 0.05017 | | mg/Kg | | 100 | 83 - 130 |
| cis-1,2-Dichloroethene | 0.0500 | 0.04372 | | mg/Kg | | 87 | 72 - 131 |
| cis-1,3-Dichloropropene | 0.0500 | 0.04980 | | mg/Kg | | 100 | 74 - 135 |
| Dibromochloromethane | 0.0500 | 0.05250 | | mg/Kg | | 105 | 77 - 130 |
| 1,2-Dibromo-3-Chloropropane | 0.0500 | 0.05057 | | mg/Kg | | 101 | 58 - 133 |
| 1,2-Dibromoethane | 0.0500 | 0.05884 | | mg/Kg | | 118 | 73 - 130 |
| 1,2-Dichlorobenzene | 0.0500 | 0.05067 | | mg/Kg | | 101 | 84 - 130 |
| 1,3-Dichlorobenzene | 0.0500 | 0.04739 | | mg/Kg | | 95 | 84 - 130 |
| 1,4-Dichlorobenzene | 0.0500 | 0.04966 | | mg/Kg | | 99 | 82 - 130 |
| Dichlorodifluoromethane | 0.0500 | 0.04091 | | mg/Kg | | 82 | 54 - 130 |
| 1,1-Dichloroethane | 0.0500 | 0.04637 | | mg/Kg | | 93 | 73 - 130 |
| 1,2-Dichloroethane | 0.0500 | 0.04146 | | mg/Kg | | 83 | 70 - 130 |
| 1,1-Dichloroethene | 0.0500 | 0.05125 | | mg/Kg | | 102 | 68 - 130 |
| 1,2-Dichloropropane | 0.0500 | 0.04903 | | mg/Kg | | 98 | 75 - 130 |
| 1,3-Dichloropropane | 0.0500 | 0.04804 | | mg/Kg | | 96 | 82 - 131 |
| 2,2-Dichloropropane | 0.0500 | 0.04543 | | mg/Kg | | 91 | 67 - 137 |
| 1,1-Dichloropropene | 0.0500 | 0.04695 | | mg/Kg | | 94 | 72 - 130 |
| Ethylbenzene | 0.0500 | 0.05140 | | mg/Kg | | 103 | 80 - 130 |
| Hexachlorobutadiene | 0.0500 | 0.04935 | | mg/Kg | | 99 | 77 - 130 |
| Isopropylbenzene | 0.0500 | 0.05494 | | mg/Kg | | 110 | 55 - 155 |
| Methylene Chloride | 0.0500 | 0.05269 | | mg/Kg | | 105 | 57 - 134 |
| m,p-Xylenes | 0.0500 | 0.05150 | | mg/Kg | | 103 | 78 - 130 |
| MTBE | 0.0500 | 0.04893 | | mg/Kg | | 98 | 64 - 148 |
| Naphthalene | 0.0500 | 0.06730 | | mg/Kg | | 135 | 53 - 150 |
| n-Butylbenzene | 0.0500 | 0.05232 | | mg/Kg | | 105 | 82 - 130 |
| N-Propylbenzene | 0.0500 | 0.05082 | | mg/Kg | | 102 | 84 - 131 |
| o-Xylene | 0.0500 | 0.05097 | | mg/Kg | | 102 | 79 - 130 |
| p-Cymene (p-Isopropyltoluene) | 0.0500 | 0.05296 | | mg/Kg | | 106 | 84 - 130 |
| sec-Butylbenzene | 0.0500 | 0.05261 | | mg/Kg | | 105 | 84 - 131 |
| Styrene | 0.0500 | 0.05175 | | mg/Kg | | 103 | 80 - 130 |
| tert-Butylbenzene | 0.0500 | 0.04997 | | mg/Kg | | 100 | 83 - 132 |
| 1,1,1,2-Tetrachloroethane | 0.0500 | 0.05226 | | mg/Kg | | 105 | 81 - 130 |
| 1,1,2,2-Tetrachloroethane | 0.0500 | 0.04860 | | mg/Kg | | 97 | 75 - 133 |
| Tetrachloroethene | 0.0500 | 0.04850 | | mg/Kg | | 97 | 79 - 130 |
| Toluene | 0.0500 | 0.05215 | | mg/Kg | | 104 | 74 - 130 |
| trans-1,2-Dichloroethene | 0.0500 | 0.05100 | | mg/Kg | | 102 | 63 - 130 |
| trans-1,3-Dichloropropene | 0.0500 | 0.04759 | | mg/Kg | | 95 | 73 - 130 |
| 1,2,3-Trichlorobenzene | 0.0500 | 0.06972 | *+ | mg/Kg | | 139 | 75 - 131 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 860-101268/12**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.0500 | 0.05512 | | mg/Kg | | 110 | 79 - 130 |
| 1,1,1-Trichloroethane | 0.0500 | 0.04775 | | mg/Kg | | 95 | 71 - 130 |
| 1,1,2-Trichloroethane | 0.0500 | 0.05088 | | mg/Kg | | 102 | 75 - 131 |
| Trichloroethene | 0.0500 | 0.05102 | | mg/Kg | | 102 | 78 - 130 |
| Trichlorofluoromethane | 0.0500 | 0.04977 | | mg/Kg | | 100 | 71 - 148 |
| 1,2,3-Trichloropropane | 0.0500 | 0.04632 | | mg/Kg | | 93 | 75 - 131 |
| 1,2,4-Trimethylbenzene | 0.0500 | 0.04974 | | mg/Kg | | 99 | 60 - 159 |
| 1,3,5-Trimethylbenzene | 0.0500 | 0.04972 | | mg/Kg | | 99 | 61 - 160 |
| Vinyl chloride | 0.0500 | 0.04958 | | mg/Kg | | 99 | 60 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *56 - 150* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *68 - 152* |
| *Dibromofluoromethane (Surr)* | *103* | | *53 - 142* |
| *Toluene-d8 (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: LCSD 860-101268/13**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.04749 | | mg/Kg | | 95 | 66 - 142 | 0 | 25 |
| Bromobenzene | 0.0500 | 0.04588 | | mg/Kg | | 92 | 75 - 130 | 1 | 25 |
| Bromochloromethane | 0.0500 | 0.05396 | | mg/Kg | | 108 | 71 - 130 | 8 | 25 |
| Bromodichloromethane | 0.0500 | 0.05080 | | mg/Kg | | 102 | 78 - 130 | 2 | 25 |
| Bromoform | 0.0500 | 0.05057 | | mg/Kg | | 101 | 63 - 136 | 3 | 25 |
| Bromomethane | 0.0500 | 0.06028 | | mg/Kg | | 121 | 60 - 140 | 1 | 25 |
| 2-Butanone | 0.250 | 0.2462 | | mg/Kg | | 98 | 75 - 130 | 18 | 25 |
| Carbon tetrachloride | 0.0500 | 0.05371 | | mg/Kg | | 107 | 63 - 135 | 9 | 25 |
| Chlorobenzene | 0.0500 | 0.05013 | | mg/Kg | | 100 | 83 - 130 | 3 | 25 |
| Chloroethane | 0.0500 | 0.04222 | | mg/Kg | | 84 | 57 - 130 | 4 | 25 |
| Chloroform | 0.0500 | 0.05486 | | mg/Kg | | 110 | 74 - 130 | 7 | 25 |
| Chloromethane | 0.0500 | 0.05574 | | mg/Kg | | 111 | 58 - 130 | 18 | 25 |
| 4-Chlorotoluene | 0.0500 | 0.04925 | | mg/Kg | | 99 | 83 - 130 | 2 | 25 |
| cis-1,2-Dichloroethene | 0.0500 | 0.04525 | | mg/Kg | | 91 | 72 - 131 | 3 | 25 |
| cis-1,3-Dichloropropene | 0.0500 | 0.05122 | | mg/Kg | | 102 | 74 - 135 | 3 | 25 |
| Dibromochloromethane | 0.0500 | 0.05289 | | mg/Kg | | 106 | 77 - 130 | 1 | 25 |
| 1,2-Dibromo-3-Chloropropane | 0.0500 | 0.04904 | | mg/Kg | | 98 | 58 - 133 | 3 | 25 |
| 1,2-Dibromoethane | 0.0500 | 0.05579 | | mg/Kg | | 112 | 73 - 130 | 5 | 25 |
| 1,2-Dichlorobenzene | 0.0500 | 0.04990 | | mg/Kg | | 100 | 84 - 130 | 2 | 25 |
| 1,3-Dichlorobenzene | 0.0500 | 0.04472 | | mg/Kg | | 89 | 84 - 130 | 6 | 25 |
| 1,4-Dichlorobenzene | 0.0500 | 0.04828 | | mg/Kg | | 97 | 82 - 130 | 3 | 25 |
| Dichlorodifluoromethane | 0.0500 | 0.03720 | | mg/Kg | | 74 | 54 - 130 | 10 | 25 |
| 1,1-Dichloroethane | 0.0500 | 0.05024 | | mg/Kg | | 100 | 73 - 130 | 8 | 25 |
| 1,2-Dichloroethane | 0.0500 | 0.04302 | | mg/Kg | | 86 | 70 - 130 | 4 | 25 |
| 1,1-Dichloroethene | 0.0500 | 0.05512 | | mg/Kg | | 110 | 68 - 130 | 7 | 25 |
| 1,2-Dichloropropane | 0.0500 | 0.05003 | | mg/Kg | | 100 | 75 - 130 | 2 | 25 |
| 1,3-Dichloropropane | 0.0500 | 0.05023 | | mg/Kg | | 100 | 82 - 131 | 4 | 25 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 860-101268/13**
**Matrix: Solid**
**Analysis Batch: 101268**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | | | 0.0500 | 0.05005 | | mg/Kg | | 100 | 67 - 137 | 10 | 25 |
| 1,1-Dichloropropene | | | 0.0500 | 0.04712 | | mg/Kg | | 94 | 72 - 130 | 0 | 25 |
| Ethylbenzene | | | 0.0500 | 0.05093 | | mg/Kg | | 102 | 80 - 130 | 1 | 25 |
| Hexachlorobutadiene | | | 0.0500 | 0.04961 | | mg/Kg | | 99 | 77 - 130 | 1 | 25 |
| Isopropylbenzene | | | 0.0500 | 0.05165 | | mg/Kg | | 103 | 55 - 155 | 6 | 25 |
| Methylene Chloride | | | 0.0500 | 0.05413 | | mg/Kg | | 108 | 57 - 134 | 3 | 25 |
| m,p-Xylenes | | | 0.0500 | 0.04839 | | mg/Kg | | 97 | 78 - 130 | 6 | 25 |
| MTBE | | | 0.0500 | 0.05174 | | mg/Kg | | 103 | 64 - 148 | 6 | 25 |
| Naphthalene | | | 0.0500 | 0.06800 | | mg/Kg | | 136 | 53 - 150 | 1 | 25 |
| n-Butylbenzene | | | 0.0500 | 0.05105 | | mg/Kg | | 102 | 82 - 130 | 2 | 25 |
| N-Propylbenzene | | | 0.0500 | 0.04947 | | mg/Kg | | 99 | 84 - 131 | 3 | 25 |
| o-Xylene | | | 0.0500 | 0.05042 | | mg/Kg | | 101 | 79 - 130 | 1 | 25 |
| p-Cymene (p-Isopropyltoluene) | | | 0.0500 | 0.05065 | | mg/Kg | | 101 | 84 - 130 | 4 | 25 |
| sec-Butylbenzene | | | 0.0500 | 0.05209 | | mg/Kg | | 104 | 84 - 131 | 1 | 25 |
| Styrene | | | 0.0500 | 0.05197 | | mg/Kg | | 104 | 80 - 130 | 0 | 25 |
| tert-Butylbenzene | | | 0.0500 | 0.04848 | | mg/Kg | | 97 | 83 - 132 | 3 | 25 |
| 1,1,1,2-Tetrachloroethane | | | 0.0500 | 0.05236 | | mg/Kg | | 105 | 81 - 130 | 0 | 25 |
| 1,1,2,2-Tetrachloroethane | | | 0.0500 | 0.05100 | | mg/Kg | | 102 | 75 - 133 | 5 | 25 |
| Tetrachloroethene | | | 0.0500 | 0.04780 | | mg/Kg | | 96 | 79 - 130 | 1 | 25 |
| Toluene | | | 0.0500 | 0.04940 | | mg/Kg | | 99 | 74 - 130 | 5 | 25 |
| trans-1,2-Dichloroethene | | | 0.0500 | 0.05248 | | mg/Kg | | 105 | 63 - 130 | 3 | 25 |
| trans-1,3-Dichloropropene | | | 0.0500 | 0.04703 | | mg/Kg | | 94 | 73 - 130 | 1 | 25 |
| 1,2,3-Trichlorobenzene | | | 0.0500 | 0.06880 | *+ | mg/Kg | | 138 | 75 - 131 | 1 | 25 |
| 1,2,4-Trichlorobenzene | | | 0.0500 | 0.05338 | | mg/Kg | | 107 | 79 - 130 | 3 | 25 |
| 1,1,1-Trichloroethane | | | 0.0500 | 0.05006 | | mg/Kg | | 100 | 71 - 130 | 5 | 25 |
| 1,1,2-Trichloroethane | | | 0.0500 | 0.05157 | | mg/Kg | | 103 | 75 - 131 | 1 | 25 |
| Trichloroethene | | | 0.0500 | 0.05026 | | mg/Kg | | 101 | 78 - 130 | 2 | 25 |
| Trichlorofluoromethane | | | 0.0500 | 0.04811 | | mg/Kg | | 96 | 71 - 148 | 3 | 25 |
| 1,2,3-Trichloropropane | | | 0.0500 | 0.04545 | | mg/Kg | | 91 | 75 - 131 | 2 | 25 |
| 1,2,4-Trimethylbenzene | | | 0.0500 | 0.04814 | | mg/Kg | | 96 | 60 - 159 | 3 | 25 |
| 1,3,5-Trimethylbenzene | | | 0.0500 | 0.04912 | | mg/Kg | | 98 | 61 - 160 | 1 | 25 |
| Vinyl chloride | | | 0.0500 | 0.05116 | | mg/Kg | | 102 | 60 - 130 | 3 | 25 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *56 - 150* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *68 - 152* |
| *Dibromofluoromethane (Surr)* | *98* | | *53 - 142* |
| *Toluene-d8 (Surr)* | *99* | | *70 - 130* |

## Method: 9045D - pH

**Lab Sample ID: 890-4583-1 DU**
**Matrix: Solid**
**Analysis Batch: 101463**

**Client Sample ID: FS01**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | 8.4 | HF | | 8.4 | | SU | | | | 0.2 | 20 |
| Temperature | 20.1 | HF | | 20.1 | | Deg. C | | | | 0 | 25 |

Eurofins Carlsbad

# QC Association Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## GC/MS VOA

### Prep Batch: 101265

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Total/NA | Solid | 5035 | |
| 890-4583-2 | FS02 | Total/NA | Solid | 5035 | |
| 890-4583-3 | FS03 | Total/NA | Solid | 5035 | |
| 890-4583-4 | FS04 | Total/NA | Solid | 5035 | |
| 880-27647-B-1-A MS | Matrix Spike | Total/NA | Solid | 5035 | |

### Analysis Batch: 101268

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Total/NA | Solid | 8260C | 101265 |
| 890-4583-2 | FS02 | Total/NA | Solid | 8260C | 101265 |
| 890-4583-3 | FS03 | Total/NA | Solid | 8260C | 101265 |
| 890-4583-4 | FS04 | Total/NA | Solid | 8260C | 101265 |
| MB 860-101268/18 | Method Blank | Total/NA | Solid | 8260C | |
| LCS 860-101268/12 | Lab Control Sample | Total/NA | Solid | 8260C | |
| LCSD 860-101268/13 | Lab Control Sample Dup | Total/NA | Solid | 8260C | |
| 880-27647-B-1-A MS | Matrix Spike | Total/NA | Solid | 8260C | 101265 |

### Analysis Batch: 101433

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 890-4583-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 890-4583-3 | FS03 | Total/NA | Solid | Total BTEX | |
| 890-4583-4 | FS04 | Total/NA | Solid | Total BTEX | |

## General Chemistry

### Leach Batch: 101455

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-4583-2 | FS02 | Soluble | Solid | DI Leach | |
| 890-4583-3 | FS03 | Soluble | Solid | DI Leach | |
| 890-4583-4 | FS04 | Soluble | Solid | DI Leach | |
| 890-4583-1 DU | FS01 | Soluble | Solid | DI Leach | |

### Analysis Batch: 101463

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Soluble | Solid | 9045D | 101455 |
| 890-4583-2 | FS02 | Soluble | Solid | 9045D | 101455 |
| 890-4583-3 | FS03 | Soluble | Solid | 9045D | 101455 |
| 890-4583-4 | FS04 | Soluble | Solid | 9045D | 101455 |
| 890-4583-1 DU | FS01 | Soluble | Solid | 9045D | 101455 |

# Lab Chronicle

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Client Sample ID: FS01
**Date Collected: 04/26/23 14:10**
**Date Received: 04/26/23 16:25**

## Lab Sample ID: 890-4583-1
**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 | | | 5.00 g | 5 mL | 101265 | 05/01/23 15:53 | MTMG | EET HOU |
| Total/NA | Analysis | 8260C | | 1 | 5 mL | 5 mL | 101268 | 05/02/23 07:18 | MTMG | EET HOU |
| Total/NA | Analysis | Total BTEX | | 1 | | | 101433 | 05/02/23 14:57 | KLV | EET HOU |
| Soluble | Leach | DI Leach | | | 20.05 g | 20 mL | 101455 | 05/02/23 16:09 | TL | EET HOU |
| Soluble | Analysis | 9045D | | 1 | 20.05 g | 20 mL | 101463 | 05/02/23 16:33 | TL | EET HOU |

## Client Sample ID: FS02
**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:25**

## Lab Sample ID: 890-4583-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 101265 | 05/01/23 15:53 | MTMG | EET HOU |
| Total/NA | Analysis | 8260C | | 1 | 5 mL | 5 mL | 101268 | 05/02/23 07:38 | MTMG | EET HOU |
| Total/NA | Analysis | Total BTEX | | 1 | | | 101433 | 05/02/23 14:57 | KLV | EET HOU |
| Soluble | Leach | DI Leach | | | 20.02 g | 20 mL | 101455 | 05/02/23 16:09 | TL | EET HOU |
| Soluble | Analysis | 9045D | | 1 | 20.02 g | 20 mL | 101463 | 05/02/23 16:33 | TL | EET HOU |

## Client Sample ID: FS03
**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:25**

## Lab Sample ID: 890-4583-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 101265 | 05/01/23 15:53 | MTMG | EET HOU |
| Total/NA | Analysis | 8260C | | 1 | 5 mL | 5 mL | 101268 | 05/02/23 07:59 | MTMG | EET HOU |
| Total/NA | Analysis | Total BTEX | | 1 | | | 101433 | 05/02/23 14:57 | KLV | EET HOU |
| Soluble | Leach | DI Leach | | | 20.05 g | 20 mL | 101455 | 05/02/23 16:09 | TL | EET HOU |
| Soluble | Analysis | 9045D | | 1 | 20.05 g | 20 mL | 101463 | 05/02/23 16:33 | TL | EET HOU |

## Client Sample ID: FS04
**Date Collected: 04/26/23 14:55**
**Date Received: 04/26/23 16:25**

## Lab Sample ID: 890-4583-4
**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 | | | 5.03 g | 5 mL | 101265 | 05/01/23 15:53 | MTMG | EET HOU |
| Total/NA | Analysis | 8260C | | 1 | 5 mL | 5 mL | 101268 | 05/02/23 08:19 | MTMG | EET HOU |
| Total/NA | Analysis | Total BTEX | | 1 | | | 101433 | 05/02/23 14:57 | KLV | EET HOU |
| Soluble | Leach | DI Leach | | | 20.04 g | 20 mL | 101455 | 05/02/23 16:09 | TL | EET HOU |
| Soluble | Analysis | 9045D | | 1 | 20.04 g | 20 mL | 101463 | 05/02/23 16:33 | TL | EET HOU |

**Laboratory References:**

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

## Laboratory: Eurofins Houston

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704215-23-50 | 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 |
|---|---|---|---|
| 9045D | | Solid | Temperature |
| Total BTEX | | Solid | Total BTEX |

# Method Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | EET HOU |
| Total BTEX | Total BTEX Calculation | TAL SOP | EET HOU |
| 9045D | pH | SW846 | EET HOU |
| 5035 | Closed System Purge and Trap | SW846 | EET HOU |
| DI Leach | Deionized Water Leaching Procedure | ASTM | EET HOU |

**Protocol References:**

ASTM = ASTM International

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 HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

# Sample Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4583-1
SDG: 03C1558212

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4583-1 | FS01 | Solid | 04/26/23 14:10 | 04/26/23 16:25 | 0.5 |
| 890-4583-2 | FS02 | Solid | 04/26/23 14:50 | 04/26/23 16:25 | 0.5 |
| 890-4583-3 | FS03 | Solid | 04/26/23 14:15 | 04/26/23 16:25 | 0.5 |
| 890-4583-4 | FS04 | Solid | 04/26/23 14:55 | 04/26/23 16:25 | 0.5 |

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# Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Tacoma Morrissey | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy, Inc |
| 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: | 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: | Muy Wayno 104H | Turn Around | Pres. Code |
| Project Number: | 03C1558212 | ☑ Routine ☐ Rush | |
| Project Location: | 32.1283, -103.926817 | 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: | TUM007 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 2.6 |
| Total Containers: | | Corrected Temperature: | 2.4 |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Volatiles (full List – 8260) | pH (9045) | BTEX (8021) |
|---|---|---|---|---|---|---|---|---|---|
| FS01 | S | 4/26/23 | 1410 | 0.5' | C | 1 | X | X | X |
| FS02 | | | 1450 | | | | | | |
| FS03 | | | 1415 | | | | | | |
| FS04 | | | 1455 | | | | | | |

NR

890-4583 Chain of Custody

**Preservative Codes**

None: NO DI Water: $H_2O$
Cool: Cool MeOH: Me
HCL: HC $HNO_3$: HN
$H_2SO_4$: $H_2$ NaOH: Na
$H_3PO_4$: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

**Sample Comments**

Spill Date: 4/20/23

Cost Center: 1653211001

mroberts@ensolum.com

Labeled w/ "Jar 2/2"

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



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4-26-23 1623 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

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

# Chain of Custody Record

eurofins | Environment Testing

| Client Information (Sub Contract Lab) | Sampler: | Lab PM: Kramer Jessica | Carrier Tracking No(s): | COC No: 890-1256.1 |
|---|---|---|---|---|
| Client Contact: Shipping/Receiving | Phone: | E-Mail: Jessica.Kramer@et.eurofinsus.com | State of Origin: New Mexico | Page: Page 1 of 1 |
| Company: Eurofins Environment Testing South Centr | | Accreditations Required (See note): NELAP Texas | | Job #: 890-4583-1 |
| Address: 4145 Greenbriar Dr | Due Date Requested: 5/2/2023 | | | |
| City: Stafford | TAT Requested (days): | | | |
| State, Zip: TX, 77477 | | | | |
| Phone: 281-240-4200(Tel) | PO #: | | | |
| Email: | WO #: | | | |
| Project Name: Muy Wayno 104H | Project #: 89000093 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

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

| Sample Identification Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 8260C/5035FP_Calc Full List VOCs | 9045D/DI_LEACH_NP pH | Total_BTEX | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | | | | | |
| FS01 (890-4583-1) | 4/26/23 | 14.10 Mountain | | Solid | | | X | X | X | 1 | |
| FS02 (890-4583-2) | 4/26/23 | 14:50 Mountain | | Solid | | | X | X | X | 1 | |
| FS03 (890-4583-3) | 4/26/23 | 14.15 Mountain | | Solid | | | X | X | X | 1 | |
| FS04 (890-4583-4) | 4/26/23 | 14.55 Mountain | | Solid | | | X | X | X | 1 | |

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

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

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

| Relinquished by: | Date/Time: | Company | Received by: FedEX | Date/Time: | Company |
|---|---|---|---|---|---|
| Relinquished by: FedEX | Date/Time: | Company | Received by: | Date/Time: 4/28/2023 9:02 | Company EX |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Temp: IR ID:HOU-344 C/F.-0.2 1.1 Corrected Temp 0.9

6/08/2021

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4583-1
SDG Number: 03C1558212

**Login Number: 4583**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4583-1
SDG Number: 03C1558212

**Login Number: 4583**
**List Number: 2**
**Creator: Canadilla, Surelis**

**List Source: Eurofins Houston**
**List Creation: 04/28/23 01:06 PM**

| 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? | N/A | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 5/2/2023 2:24:21 PM

## JOB DESCRIPTION

Muy Wayno 104H
SDG NUMBER 03C1558212

## JOB NUMBER

890-4584-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

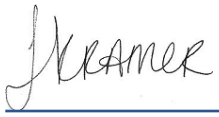
# Eurofins Carlsbad

## Job Notes

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

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

## Authorization



Generated
5/2/2023 2:24:21 PM

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

Client: Ensolum
Project/Site: Muy Wayno 104H

Laboratory Job ID: 890-4584-1
SDG: 03C1558212

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-4584-1
Project/Site: Muy Wayno 104H SDG: 03C1558212

## Qualifiers

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## Job ID: 890-4584-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-4584-1**

**Receipt**
The samples were received on 4/26/2023 4:23 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4584-1), FS02 (890-4584-2), FS03 (890-4584-3) and FS04 (890-4584-4).

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

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS03 (890-4584-3), (890-4584-A-3-C MS) and (890-4584-A-3-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-52286 and analytical batch 880-52249 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (880-27756-A-4-C). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

**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: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## Client Sample ID: FS01

**Lab Sample ID: 890-4584-1**
**Matrix: Solid**
**Date Collected: 04/26/23 14:10**
**Date Received: 04/26/23 16:23**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 05/02/23 10:40 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:00 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:00 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:00 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* | *05/01/23 10:35* | *05/01/23 14:00* | *1* |
| *o-Terphenyl* | *108* | | *70 - 130* | *05/01/23 10:35* | *05/01/23 14:00* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **383** | | 5.03 | | mg/Kg | | | 05/02/23 00:54 | 1 |

## Client Sample ID: FS02

**Lab Sample ID: 890-4584-2**
**Matrix: Solid**
**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:23**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 05/02/23 10:40 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:21 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:21 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 05/01/23 10:35 | 05/01/23 14:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *106* | | *70 - 130* | *05/01/23 10:35* | *05/01/23 14:21* | *1* |
| *o-Terphenyl* | *115* | | *70 - 130* | *05/01/23 10:35* | *05/01/23 14:21* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **539** | | 5.02 | | mg/Kg | | | 05/02/23 00:59 | 1 |

## Client Sample ID: FS03

**Lab Sample ID: 890-4584-3**
**Matrix: Solid**
**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:23**
**Sample Depth: 0.5**

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

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

# Client Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## Client Sample ID: FS03

**Lab Sample ID: 890-4584-3**
**Matrix: Solid**
**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:23**
**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 | | 04/28/23 09:16 | 05/01/23 11:49 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U F1 | 49.9 | | mg/Kg | | 04/28/23 09:16 | 05/01/23 11:49 | 1 |
| Oll Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 04/28/23 09:16 | 05/01/23 11:49 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *88* | | *70 - 130* | *04/28/23 09:16* | *05/01/23 11:49* | *1* |
| *o-Terphenyl* | *67* | *S1-* | *70 - 130* | *04/28/23 09:16* | *05/01/23 11:49* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **774** | | 4.98 | | mg/Kg | | | 05/02/23 01:04 | 1 |

## Client Sample ID: FS04

**Lab Sample ID: 890-4584-4**
**Matrix: Solid**
**Date Collected: 04/26/23 14:55**
**Date Received: 04/26/23 16:23**
**Sample Depth: 0.5**

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

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

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.8 | U | 49.8 | | mg/Kg | | 04/28/23 09:16 | 05/01/23 12:54 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U | 49.8 | | mg/Kg | | 04/28/23 09:16 | 05/01/23 12:54 | 1 |
| Oll Range Organics (Over C28-C36) | <49.8 | U | 49.8 | | mg/Kg | | 04/28/23 09:16 | 05/01/23 12:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* | *04/28/23 09:16* | *05/01/23 12:54* | *1* |
| *o-Terphenyl* | *74* | | *70 - 130* | *04/28/23 09:16* | *05/01/23 12:54* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **370** | | 5.00 | | mg/Kg | | | 05/02/23 01:09 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## 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) | | | | | | | | | | |
| 880-27756-A-4-D MS | Matrix Spike | 83 | 81 | | | | | | | | | | |
| 880-27756-A-4-E MSD | Matrix Spike Duplicate | 84 | 84 | | | | | | | | | | |
| 890-4584-1 | FS01 | 102 | 108 | | | | | | | | | | |
| 890-4584-2 | FS02 | 106 | 115 | | | | | | | | | | |
| 890-4584-3 | FS03 | 88 | 67 S1- | | | | | | | | | | |
| 890-4584-3 MS | FS03 | 84 | 61 S1- | | | | | | | | | | |
| 890-4584-3 MSD | FS03 | 88 | 63 S1- | | | | | | | | | | |
| 890-4584-4 | FS04 | 96 | 74 | | | | | | | | | | |
| LCS 880-52174/2-A | Lab Control Sample | 82 | 61 S1- | | | | | | | | | | |
| LCS 880-52286/2-A | Lab Control Sample | 98 | 104 | | | | | | | | | | |
| LCSD 880-52174/3-A | Lab Control Sample Dup | 84 | 62 S1- | | | | | | | | | | |
| LCSD 880-52286/3-A | Lab Control Sample Dup | 114 | 120 | | | | | | | | | | |
| MB 880-52174/1-A | Method Blank | 100 | 83 | | | | | | | | | | |
| MB 880-52286/1-A | Method Blank | 113 | 134 S1+ | | | | | | | | | | |

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Client Sample ID: FS03**
**Prep Type: Total/NA**
**Prep Batch: 52174**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 997 | 719.5 | | mg/Kg | | 70 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <49.9 | U F1 | 997 | 594.8 | F1 | mg/Kg | | 58 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

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

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

**Client Sample ID: FS03**
**Prep Type: Total/NA**
**Prep Batch: 52174**

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

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

**Client Sample ID: FS03**
**Prep Type: Total/NA**
**Prep Batch: 52174**

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

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

**Lab Sample ID: MB 880-52286/1-A**
**Matrix: Solid**
**Analysis Batch: 52249**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 52286**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 05/01/23 08:35 | 05/01/23 10:23 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 05/01/23 08:35 | 05/01/23 10:23 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 05/01/23 08:35 | 05/01/23 10:23 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 113 | | 70 - 130 | 05/01/23 08:35 | 05/01/23 10:23 | 1 |
| o-Terphenyl | 134 | S1+ | 70 - 130 | 05/01/23 08:35 | 05/01/23 10:23 | 1 |

**Lab Sample ID: LCS 880-52286/2-A**
**Matrix: Solid**
**Analysis Batch: 52249**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 52286**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 829.8 | | mg/Kg | | 83 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 764.3 | | mg/Kg | | 76 | 70 - 130 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 98 | | 70 - 130 |
| o-Terphenyl | 104 | | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

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

**Lab Sample ID: LCSD 880-52286/3-A**
**Matrix: Solid**
**Analysis Batch: 52249**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 52286**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 902.4 | | mg/Kg | | 90 | 70 - 130 | 8 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 899.4 | | mg/Kg | | 90 | 70 - 130 | 16 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *114* | | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

**Lab Sample ID: 880-27756-A-4-D MS**
**Matrix: Solid**
**Analysis Batch: 52249**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 52286**

| 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 | 1054 | | mg/Kg | | 106 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 998 | 773.6 | | mg/Kg | | 76 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *83* | | *70 - 130* |
| *o-Terphenyl* | *81* | | *70 - 130* |

**Lab Sample ID: 880-27756-A-4-E MSD**
**Matrix: Solid**
**Analysis Batch: 52249**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 52286**

| 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 | 1184 | | mg/Kg | | 119 | 70 - 130 | 12 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 997 | 800.7 | | mg/Kg | | 79 | 70 - 130 | 3 | 20 |

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

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-52098/1-A**
**Matrix: Solid**
**Analysis Batch: 52352**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 05/01/23 22:44 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

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

**Lab Sample ID: LCS 880-52098/2-A**
**Matrix: Solid**
**Analysis Batch: 52352**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 258.0 | | mg/Kg | | 103 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-52098/3-A**
**Matrix: Solid**
**Analysis Batch: 52352**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 248.5 | | mg/Kg | | 99 | 90 - 110 | 4 | 20 |

**Lab Sample ID: 890-4570-A-31-B MS**
**Matrix: Solid**
**Analysis Batch: 52352**

**Client Sample ID: Matrix Spike**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 78.3 | | 249 | 312.2 | | mg/Kg | | 94 | 90 - 110 | | |

**Lab Sample ID: 890-4570-A-31-C MSD**
**Matrix: Solid**
**Analysis Batch: 52352**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 78.3 | | 249 | 305.4 | | mg/Kg | | 91 | 90 - 110 | 2 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## GC Semi VOA

### Prep Batch: 52174

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-3 | FS03 | Total/NA | Solid | 8015NM Prep | |
| 890-4584-4 | FS04 | Total/NA | Solid | 8015NM Prep | |
| MB 880-52174/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-52174/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-52174/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-4584-3 MS | FS03 | Total/NA | Solid | 8015NM Prep | |
| 890-4584-3 MSD | FS03 | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 52247

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-3 | FS03 | Total/NA | Solid | 8015B NM | 52174 |
| 890-4584-4 | FS04 | Total/NA | Solid | 8015B NM | 52174 |
| MB 880-52174/1-A | Method Blank | Total/NA | Solid | 8015B NM | 52174 |
| LCS 880-52174/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 52174 |
| LCSD 880-52174/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 52174 |
| 890-4584-3 MS | FS03 | Total/NA | Solid | 8015B NM | 52174 |
| 890-4584-3 MSD | FS03 | Total/NA | Solid | 8015B NM | 52174 |

### Analysis Batch: 52249

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Total/NA | Solid | 8015B NM | 52286 |
| 890-4584-2 | FS02 | Total/NA | Solid | 8015B NM | 52286 |
| MB 880-52286/1-A | Method Blank | Total/NA | Solid | 8015B NM | 52286 |
| LCS 880-52286/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 52286 |
| LCSD 880-52286/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 52286 |
| 880-27756-A-4-D MS | Matrix Spike | Total/NA | Solid | 8015B NM | 52286 |
| 880-27756-A-4-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 52286 |

### Prep Batch: 52286

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4584-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| MB 880-52286/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-52286/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-52286/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-27756-A-4-D MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-27756-A-4-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 52372

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 890-4584-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 890-4584-3 | FS03 | Total/NA | Solid | 8015 NM | |
| 890-4584-4 | FS04 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 52098

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-4584-2 | FS02 | Soluble | Solid | DI Leach | |

# QC Association Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## HPLC/IC (Continued)

### Leach Batch: 52098 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-3 | FS03 | Soluble | Solid | DI Leach | |
| 890-4584-4 | FS04 | Soluble | Solid | DI Leach | |
| MB 880-52098/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-52098/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-52098/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4570-A-31-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-4570-A-31-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 52352

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Soluble | Solid | 300.0 | 52098 |
| 890-4584-2 | FS02 | Soluble | Solid | 300.0 | 52098 |
| 890-4584-3 | FS03 | Soluble | Solid | 300.0 | 52098 |
| 890-4584-4 | FS04 | Soluble | Solid | 300.0 | 52098 |
| MB 880-52098/1-A | Method Blank | Soluble | Solid | 300.0 | 52098 |
| LCS 880-52098/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 52098 |
| LCSD 880-52098/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 52098 |
| 890-4570-A-31-B MS | Matrix Spike | Soluble | Solid | 300.0 | 52098 |
| 890-4570-A-31-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 52098 |

# Lab Chronicle

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## Client Sample ID: FS01
**Date Collected: 04/26/23 14:10**
**Date Received: 04/26/23 16:23**

## Lab Sample ID: 890-4584-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | | | 52372 | 05/02/23 10:40 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 52286 | 05/01/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 52249 | 05/01/23 14:00 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 52098 | 04/27/23 10:18 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 52352 | 05/02/23 00:54 | SMC | EET MID |

## Client Sample ID: FS02
**Date Collected: 04/26/23 14:50**
**Date Received: 04/26/23 16:23**

## Lab Sample ID: 890-4584-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | | | 52372 | 05/02/23 10:40 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 52286 | 05/01/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 52249 | 05/01/23 14:21 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 52098 | 04/27/23 10:18 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 52352 | 05/02/23 00:59 | SMC | EET MID |

## Client Sample ID: FS03
**Date Collected: 04/26/23 14:15**
**Date Received: 04/26/23 16:23**

## Lab Sample ID: 890-4584-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | | | 52372 | 05/02/23 09:55 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 52174 | 04/28/23 09:16 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 52247 | 05/01/23 11:49 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 52098 | 04/27/23 10:18 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 52352 | 05/02/23 01:04 | SMC | EET MID |

## Client Sample ID: FS04
**Date Collected: 04/26/23 14:55**
**Date Received: 04/26/23 16:23**

## Lab Sample ID: 890-4584-4
**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 | | | 52372 | 05/02/23 09:55 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.04 g | 10 mL | 52174 | 04/28/23 09:16 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 52247 | 05/01/23 12:54 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 52098 | 04/27/23 10:18 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 52352 | 05/02/23 01:09 | SMC | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8015 NM | Diesel Range Organics (DRO) (GC) | SW846 | EET MID |
| 8015B NM | Diesel Range Organics (DRO) (GC) | SW846 | EET MID |
| 300.0 | Anions, Ion Chromatography | EPA | EET MID |
| 8015NM Prep | Microextraction | SW846 | EET MID |
| DI Leach | Deionized Water Leaching Procedure | ASTM | EET MID |

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: Muy Wayno 104H

Job ID: 890-4584-1
SDG: 03C1558212

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4584-1 | FS01 | Solid | 04/26/23 14:10 | 04/26/23 16:23 | 0.5 |
| 890-4584-2 | FS02 | Solid | 04/26/23 14:50 | 04/26/23 16:23 | 0.5 |
| 890-4584-3 | FS03 | Solid | 04/26/23 14:15 | 04/26/23 16:23 | 0.5 |
| 890-4584-4 | FS04 | Solid | 04/26/23 14:55 | 04/26/23 16:23 | 0.5 |

eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

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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: | Muy Wayno 104H | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03C1558212 | Due Date: | |
| Project Location: | 32.1283, -103.926817 | TAT starts the day received by the lab, if received by 4:30pm | |
| Sampler's Name: | Meredith Roberts | | |
| PO #: | | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Samples Received Intact: | (Yes) No | Thermometer ID: | TWN007 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 2.6 |
| Total Containers: | | Corrected Temperature: | 2.4 |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | Parameters: BTEX (8021) | Chlorides (300) | TPH (8015) | MR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FS01 | S | 4/26/23 | 1410 | 0.5' | C | 1 | | X | X | X | |
| FS02 | | | 1450 | | | | | | | | |
| FS03 | | | 1415 | | | | | | | | |
| FS04 | | | 1455 | | | | | | | | |

ANALYSIS REQUEST

890-4584 Chain of Custody

**Preservative Codes**

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

**Sample Comments**

Spill Date: 4/20/23

Cost Center: 1653211001

mroberts@ensolum.com
Labeled w/ "Jar 1/2"

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



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 4.26.23 1623 | 4 | | |
| 3 | | | 6 | | |
| 5 | | | | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4584-1
SDG Number: 03C1558212

**Login Number: 4584**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4584-1
SDG Number: 03C1558212

**Login Number: 4584**
**List Number: 2**
**Creator: Rodriguez, Leticia**

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

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

**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 242158

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>242158 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rhamlet | We have received your Remediation Closure Report for Incident #NAPP2311754224 MUY WAYNO 18 104H, thank you. This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation including pictures of the contoured backfilled excavation surface and a thorough discussion on reseeding mixture, vegetation ratio, timelines, etc.., will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete". | 1/4/2024 |