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 | NAPP2303854000 |
| 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 32.26994 Longitude -103.93624
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Remuda 500 | Site Type Tank Battery |
| Date Release Discovered 01/28/2023 | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| O | 25 | 23S | 29E | 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) 9.44 | Volume Recovered (bbls) 0.00 |
| | Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l? | ☒ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release A needle valve broke on the discharge line, releasing fluids to pad surface. No fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2303854000 |
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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)?<br>N/A | |

## Initial Response

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

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

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

NA

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

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

Printed Name: Garrett Green  Title: SSHE Coordinator

Signature:   Date: 02/07/2023

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

**OCD Only**

Received by: Jocelyn Harimon  Date: 02/07/2023

| Location: | Remuda 500 TB | |
|---|---|---|
| Spill Date: | 1/28/2023 | |
| **Area 1** | | |
| Approximate Area = | 21197.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 1.00 | inches |
| | | |
| Average Porosity Factor = | 0.03 | |
| | | |
| VOLUME OF LEAK | | |
| Total Crude Oil = | 0.00 | bbls |
| Total Produced Water = | 9.44 | bbls |
| **TOTAL VOLUME OF LEAK** | | |
| **Total Crude Oil =** | **0.00** | **bbls** |
| **Total Produced Water =** | **9.44** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Crude Oil =** | **0.00** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |

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

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

CONDITIONS

Action 183791

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>183791 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jharimon | None | 2/7/2023 |

| | |
|---|---|
| Incident ID | NAPP2303854000 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2303854000 |
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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: Environmental Coordinator

Signature:  Date: 4/26/2023

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

**OCD Only**

Received by: Jocelyn Harimon Date: 04/26/2023

| | |
|---|---|
| Incident ID | NAPP2303854000 |
| 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: __4/26/2023_____

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

**OCD Only**

Received by: Jocelyn Harimon Date: 04/26/2023

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: 8/28/2023

Printed Name: Jocelyn Harimon Title: Environmental Specialist

ENSOLUM

April 26, 2023

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

**Re: Closure Request**
**Remuda 500 Tank Battery**
**Incident Number NAPP2303854000**
**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 assessment and soil sampling activities at the Remuda 500 Tank Battery (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water at the Site. Based on Site assessment activities and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing remediation activities that have occurred and requesting no further action for Incident Number NAPP2303854000.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.26994°, -103.93624°) and is associated with oil and gas exploration and production operations on state land managed by the New Mexico State Land Office (SLO).

On January 28, 2023, a needle valve broke on a produced water discharge line resulting in the release of approximately 9.44 barrels (bbls) of produced water onto the surface of the well pad. No fluids were recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on February 7, 2023. The release was assigned Incident Number NAPP2303854000.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to determine 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 a soil boring drilled for determination of regional groundwater depth. On January 5, 2021, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE file number C-04494) was completed approximately 0.33 miles northwest of the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring C-04494 was drilled to a depth of 105 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 105 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Log is included in Appendix A.

The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area).

**Watercourse Survey**

The closest potential surface water or significant watercourse to the Site is a seasonal dry wash, located approximately 278 feet south of the Site. Because the watercourse appeared in online databases to flow through a pipeline right-of-way (Figure 2), Ensolum personnel conducted a field investigation to confirm the presence or absence of the significant watercourse. Field verification is sometimes necessary to measure the distance of the feature from the release extent and to confirm the feature complies with the definition of a significant watercourse per Subsection P of 19.15.17.7 NMAC. Specifically, the definition in Subsection P of 19.15.17.7 NMAC requires a defined bed and bank and either named or identified by a dashed blue line on United States Geological Survey (USGS) 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank of such watercourse.

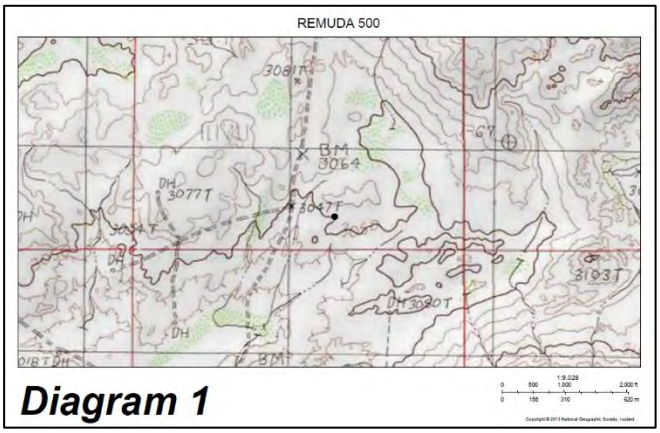

Diagram 1

The feature is not identified by a dashed blue line on the current USGS 7.5-minute quadrangle map. The proposed watercourse is identified as a dashed black line (Diagram 1). Additionally, the surface feature does not appear to reveal visual properties of a next lower tributary that would connect to a significant watercourse, instead, connecting with another feature and apparently ending (Figure 2, Photo 8). No feature with a defined bed or bank was observed within 300 feet of the release during ground truthing, which included a pedestrian survey of the area south of the Site. Only a few faint erosional paths without defined banks aligned with the topographic gradient. Photos from the survey are presented in Figure 2.

Based on the observations presented, there are no significant watercourses located within 300 feet of the Site location per the definition of a significant watercourse in Subsection P of 19.15.17.7 NMAC. Instead, only a few faint erosional channels formed by drainage of water during storm events. The faint conduits are intercepted by a pipeline right-of-way.

Based on the results of the Site Characterization, and the absence of a significant watercourse to the south, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

## SITE ASSESSMENT ACTIVITIES

On March 13, 2023, Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Thirteen delineation soil samples (SS01 through SS13) were collected within and around the release extent at a depth of 0.5 feet bgs. Soil samples SS01 through SS08 were collected within the release extent and soil samples SS09 through SS13 were collected around the release extent in order to confirm the lateral definition of the release. In order to fully define the eastern extent of the release extent, an additional delineation soil sample (SS14) was collected at 0.5 feet bgs on April 7, 2023. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 3. Photo documentation was conducted during the Site visits and a photographic log is included in Appendix B.

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

## DELINEATION AND SURFACE SCRAPING ACTIVITIES

On March 23, 2023, Ensolum personnel returned to the Site to complete additional delineation. Eight potholes (PH01 through PH08) were advanced by use of heavy equipment to assess the vertical extent of the release. Delineation potholes PH01 through PH08 were advanced in the vicinity of SS01 through SS08, respectively. Discrete delineation soil samples were collected in each pothole at the terminal depth of 2 feet bgs. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs and are included in Appendix C. All delineation soil samples were field screened, handled, and analyzed as described above. Following the delineation activities, surface scraping was completed via heavy equipment to address visible staining within the release extent. The soil was transported and properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico. The soil sample locations are depicted on Figure 3.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated COC concentrations for all delineation soil samples were in compliance with the Site Closure Criteria, however, soil sample results from SS11, collected east of the release extent, contained elevated chloride concentrations that exceeded the strictest Table I Closure Criteria. Soil sample results from SS14 indicated COC concentrations were below the strictest Table I Closure Criteria, which fully defines the eastern extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

## CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil from the January 28, 2023 release of produced water. Delineation activities were completed and laboratory analytical results indicated COC concentrations for all delineation soil samples were in compliance with the Closure Criteria. Additionally, the release is fully defined laterally

to the strictest Table I Closure Criteria with soil samples SS09, SS10, and SS12 through SS14. Surface scraping was completed to remove visible staining within the release extent, which includes the areas of where elevated chloride concentrations existed in soil samples SS01 through SS08.

Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. Based on laboratory analytical results compliant with Closure Criteria, no further remediation appears to be required. As such, XTO respectfully requests closure for Incident Number NAPP2303854000.

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

Sincerely,
**Ensolum, LLC**

Benjamin J. Belill
Project Geologist

Ashley L. Ager, M.S., P.G.
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
SLO

Appendices:

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

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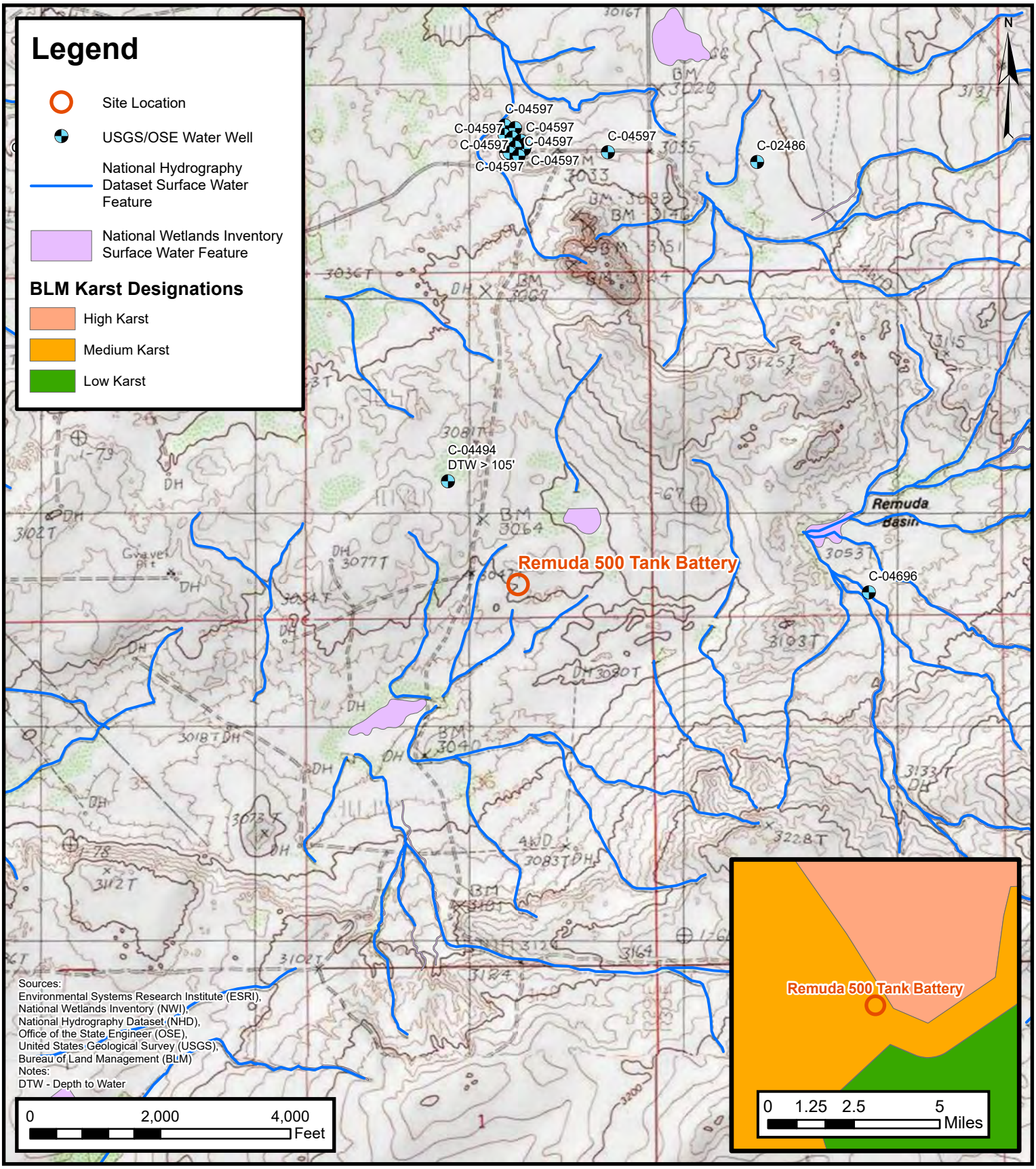
# FIGURES

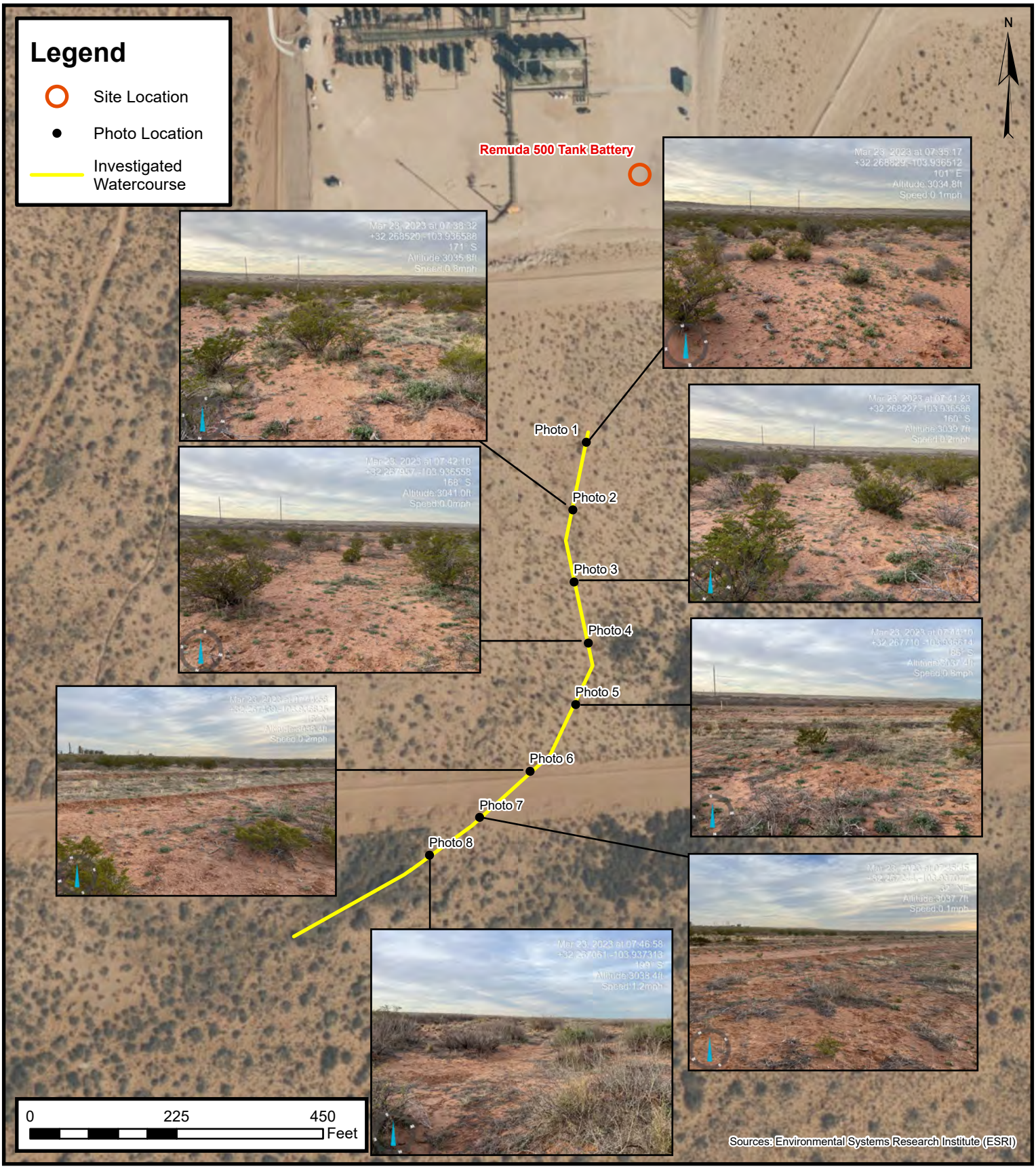



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Site Receptor Map

XTO Energy, Inc
Remuda 500 Tank Battery
Incident Number: NAPP2303854000
Unit O, Sec 25, T23S, R29E
Eddy County, New Mexico

**FIGURE**
**1**

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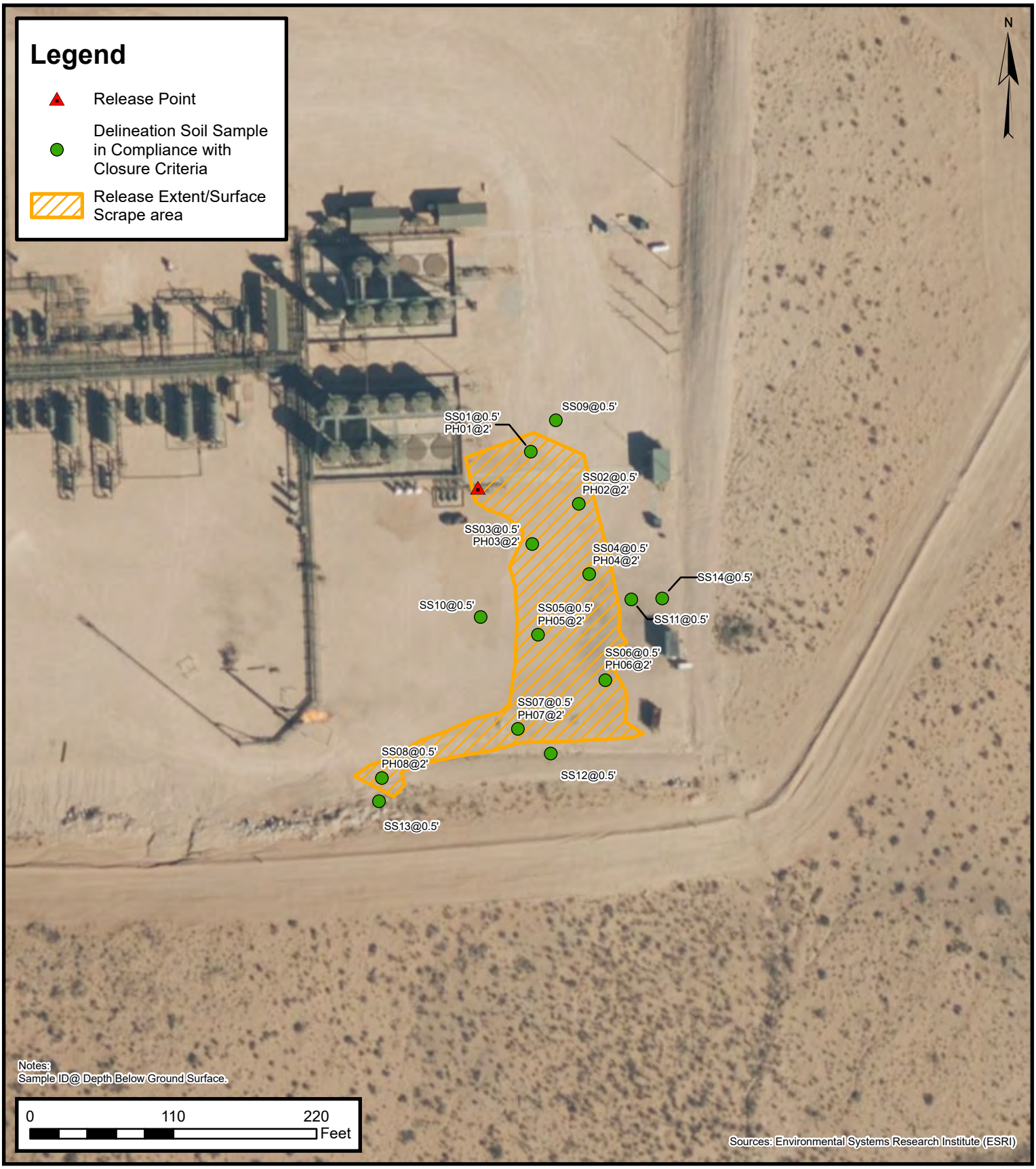
# Significant Watercourse Survey

XTO Energy, Inc
Remuda 500 Tank Battery
Incident Number: NAPP2303854000
Unit O, Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
2

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ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Delineation Soil Sample Locations

XTO Energy, Inc
Remuda 500 Tank Battery
Incident Number: NAPP2303854000
Unit O, Sec 25, T23S, R29E
Eddy County, New Mexico

FIGURE
3

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# TABLES

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**TABLE 1**
**SOIL SAMPLE ANALYTICAL RESULTS**
**Remuda 500 Tank Battery**
**XTO Energy, Inc**
**Eddy County, New Mexico**

| Sample I.D. | Sample Date | Sample Depth (feet bgs) | Benzene (mg/kg) | Total BTEX (mg/kg) | TPH GRO (mg/kg) | TPH DRO (mg/kg) | TPH ORO (mg/kg) | GRO+DRO (mg/kg) | Total TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| NMOCD Table I Closure Criteria (NMAC 19.15.29) | | | 10 | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 |
| Delineation Soil Samples | | | | | | | | | | |
| SS01 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 7,130 |
| PH01 | 03/23/2023 | 2 | <0.00200 | <0.00399 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 1,990 |
| SS02 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 2,350 |
| PH02 | 03/23/2023 | 2 | <0.00200 | <0.00399 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 275 |
| SS03 | 03/13/2023 | 0.5 | <0.00200 | <0.00399 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 3,600 |
| PH03 | 03/23/2023 | 2 | <0.00200 | <0.00401 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 243 |
| SS04 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 3,790 |
| PH04 | 03/23/2023 | 2 | <0.00198 | <0.00396 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 153 |
| SS05 | 03/13/2023 | 0.5 | <0.00200 | <0.00401 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 1,540 |
| PH05 | 03/23/2023 | 2 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 183 |
| SS06 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 1,390 |
| PH06 | 03/23/2023 | 2 | <0.00200 | <0.00399 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 381 |
| SS07 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 4,730 |
| PH07 | 03/23/2023 | 2 | <0.00201 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 371 |
| SS08 | 03/13/2023 | 0.5 | <0.00200 | <0.00401 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 167 |
| PH08 | 03/23/2023 | 2 | <0.00200 | <0.00401 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 1,210 |
| SS09 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | <4.95 |
| SS10 | 03/13/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 63.3 |
| SS11 | 03/13/2023 | 0.5 | <0.00200 | <0.00399 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 1,700 |
| SS12 | 03/13/2023 | 0.5 | <0.00201 | <0.00402 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 124 |
| SS13 | 03/13/2023 | 0.5 | <0.00200 | <0.00401 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 37.4 |
| SS14 | 04/07/2023 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 393 |

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

ENSOLUM

# APPENDIX A

## Referenced Well Records

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: BH01 (C-04494) | Date: 11/18/2020, 12/02/20, 01/05/2021 |
|---|---|---|
| | Site Name: | Remuda North 25 Observation Well |
| | RP or Incident Numbe | |
| | LTE Job Number: | TE012919039 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By BB, LAD, FS | Method: Hollow Stem Auger, sonic |
| Lat/Long: | Field Screening: | Hole Diameter: 6.25", 4.25" / Total Depth: 105' |

Comments:
Lithology remarks only. No field screenings: Dry hole

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 1 | SP-SC | 0-1' : SAND, dry, brown, poorly graded, fine grain, Clay (10% clay), some roots, no stain, no odor |
| | | | | | | 2 | | |
| | | | | | | 3 | | |
| | | | | | | 4 | | 1-4' : SAND, dry, reddish-light brown, poorly graded, very fine - fine grain, some rounded caliche pebbles, no stain, no odor |
| D | | | N | | | 5 | CCHE | |
| | | | | | | 6 | | 4-9' : CALICHE, dry, light brown-tan, poorly consolidated, sub-rounded caliche pebbles and gravel, very silty, gradational |
| | | | | | | 7 | | |
| | | | | | | 8 | | 9-14' : Abundent sub-round caliche gravel |
| | | | | | | 9 | | 14-19' : Some sub-angular caliche gravel and pebbles |
| | | | | | | 10 | | 19-24' : Abundant sub-angular caliche gravel and pebbles, moderately consolidated |
| | | | | | | 11 | | |
| | | | | | | 12 | | |
| | | | | | | 13 | | |
| | | | | | | 14 | | |
| | | | | | | 15 | | |
| | | | | | | 16 | | |
| | | | | | | 17 | | |
| | | | | | | 18 | | |
| | | | | | | 19 | | |
| | | | | | | 20 | | |
| | | | | | | 21 | | |
| | | | | | | 22 | | |
| | | | | | | 23 | | |
| | | | | | | 24 | | |
| D | | | N | | | 25 | CL | |

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: BH01 (C-04494) | Date: 11/18/2020, 12/02/20, 01/05/2021 |
|---|---|---|
| | Site Name: | Remuda North 25 Observation Well |
| | RP or Incident Numbe | |
| | LTE Job Number: | TE012919039 |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By BB, LAD, FS | Method: Hollow Stem Auger, sonic |
| Lat/Long: | Field Screening: | Hole Diameter: 6.25", 4.25" / Total Depth: 105' |

Comments:
Lithology remarks only. No field screenings: Dry hole

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 26 | CL | 24-39' : MUDSTONE, dry, reddish-brown, low plasticity, well consolidated, cohesive, trace caliche sub-angular pebbles, no tain, no odor, sharp transition |
| | | | | | | 27 | | |
| | | | | | | 28 | | |
| | | | | | | 29 | | 34-39' : Sub-angular calcium carbonate gravel with dissolution features (1-3mm), tan-light brown |
| | | | | | | 30 | | At 39' : Begin air rotory (4.25") |
| | | | | | | 31 | | 39-42' : DOLOMETIC LIMESTONE, tan-light brown, dry, well consolidated, with dissolution features (1-3mm), sharp, no stain, no odor, light to moderate reaction with HCl |
| | | | | | | 32 | | |
| | | | | | | 33 | | 42-45' : Some light gray dolomite with trace dissolution features (>1mm) |
| | | | | | | 34 | | At 48' : Stop due to air rotory refusal (11/18/20) |
| | | | | | | 35 | | 48-56' : Advance borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray-black banding, no stain , no odor |
| | | | | | | 36 | | |
| | | | | | | 37 | | |
| | | | | | | 38 | | |
| | | | | | | 39 | | |
| D | | | N | | | 40 | DOL | |
| | | | | | | 41 | | |
| | | | | | | 42 | | |
| | | | | | | 43 | | |
| | | | | | | 44 | | |
| | | | | | | 45 | | |
| | | | | | | 46 | | |
| | | | | | | 47 | | |
| | | | | | | 48 | | Refusal on 11/18/20 |
| | | | | | | 49 | | Restart borehole on 12/02/20 |
| | | | | | | 50 | | |

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

| | |
|---|---|
| BH or PH Name: BH01 (C-04494) | Date: 11/18/2020. 12/02/2020, 1/5/2021 |
| Site Name: Remuda North 25 Observation Well | |
| RP or Incident Number: | |
| LTE Job Number: TE012919039 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By BB, LAD, FS / Method: Hollow Stem Auger, sonic |
| Lat/Long: / Field Screening: | Hole Diameter: 6.25", 4.25" / Total Depth: 105' |

Comments:
Lithologic log only, no field screenings

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 51 | DOL | 48-56' : Advanced borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray- banding, no stain no odor |
| | | | | | | 52 | | |
| | | | | | | 53 | | |
| | | | | | | 54 | | |
| | | | | | | 55 | | |
| | | | | | | 56 | | At 56' : Restarted borehole on 1/5/2021 with sonic rig |
| | | | | | | 57 | | 56-65' : DOLOMITE, dry, light gray-gray, well consolidated, some calcium crystalline veins (<1mm), some dissolution features (2mm) with fine calcite crystalline, trace orange oxidation staining within dissolution features, no stain, no odor |
| | | | | | | 58 | | |
| | | | | | | 59 | | 62' : Brown-pale yellow coarse crystalline dolomitic limestone stringer (2cm) |
| | | | | | | 60 | | 63-65' : Abundant calcite crystalline veins (<1mm), pale green-gray, poorly consolidated |
| | | | | | | 61 | | |
| | | | | | | 62 | | 65-69' : MUDSTONE, moist, reddish brown, poorly consolidated, high plasticity, cohesive, abundant coarse crystalline gypsum, few pale green-gray mottling, no stain, no odor |
| | | | | | | 63 | | |
| | | | | | | 64 | | 69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, finr crystalline, 20% anhydrite, no stain, no odor |
| D | | | N | | | 65 | CH-S | |
| | | | | | | 66 | | |
| | | | | | | 67 | | |
| | | | | | | 68 | | |
| | | | | | | 69 | GYP | |
| D | | | N | | | 70 | | |
| | | | | | | 71 | | |
| | | | | | | 72 | | |
| | | | | | | 73 | | |
| | | | | | | 74 | | |
| | | | | | | 75 | | |

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: BH01 (C-04494) | Date: 11/18/2020. 12/02/2020, 1/5/2021 |
|---|---|---|
| | Site Name: Remuda North 25 Observation Well | |
| | RP or Incident Number: | |
| | LTE Job Number: TE012919039 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By BB, LAD, FS | Method: Hollow Stem Auger, sonic |
| Lat/Long: | Field Screening: | Hole Diameter: 6.25", 4.25" / Total Depth: 105' |

Comments:
Lithologic log only, no field screenings

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 76 | GYP | 69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, finr crystalline, 20% anhydrite, no stain, no odor |
| | | | | | | 77 | | |
| | | | | | | 78 | | 81-98' : MUDSTONE, moist, dark reddish brown, moderately consolidated, high plasticity, cohesive, trace coarse crystalline gypsum inclusions, no stain, no odor |
| | | | | | | 79 | | |
| | | | | | | 80 | | 85-86.5' : greenish-gray well consolidated coarse crystalline gypsum/anhydrite stringer |
| | | | | | | 81 | | |
| D | | | N | | | 82 | CH-S | 90-98' : Some fine grain brown sand |
| | | | | | | 83 | | At 97' : dark gray-gray gyspum stringer (4cm) |
| | | | | | | 84 | | 98-99.5' : GYPSUM, dark gray-gray, some brown, dry, well consolidated, fine-coarse crystalline, no stain, no odor |
| | | | | | | 85 | | 99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor |
| | | | | | | 86 | | |
| | | | | | | 87 | | |
| | | | | | | 88 | | |
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| | | | | | | 90 | | |
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| | | | | | | 95 | | |
| | | | | | | 96 | | |
| | | | | | | 97 | | |
| | | | | | | 98 | | |
| D | | | N | | | 99 | GYP | |
| D | | | N | | | 100 | ML-S | |

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: BH01 (C-04494) | Date: 11/18/2020. 12/02/2020, 1/5/2021 |
|---|---|---|
| | Site Name: Remuda North 25 Observation Well | |
| | RP or Incident Number: | |
| | LTE Job Number: TE012919039 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By BB, LAD, FS | Method: Hollow Stem Auger, sonic |
| Lat/Long: | Field Screening: | Hole Diameter: 6.25", 4.25" / Total Depth: 105' |

Comments:
Lithologic log only, no field screenings

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 101<br>102<br>103<br>104<br>105<br>106<br>107<br>108<br>109<br>110<br>111<br>112<br>113<br>114<br>115<br>116<br>117<br>118<br>119<br>120<br>121<br>122<br>123<br>124<br>125 | ML-S | 99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor<br><br>At 102' : Thin (<1mm) laminated black/gray well consolidated shale stringer (4cm thick)<br><br>TD @ 105' bgs (1/5/2021) |

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# APPENDIX B

## Photographic Log

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**Photographic Log**
XTO Energy, Inc
Remuda 500 Tank Battery
Incident Number NAPP2303854000


Photograph 1 Date: 3/13/2023
Description: Site assessment, release extent area
View: North


Photograph 2 Date: 3/13/2023
Description: Site assessment, release extent area
View: South


Photograph 3 Date: 3/23/2023
Description: Delineation activities, area of PH07
View: West


Photograph 4 Date: 3/23/2023
Description: Surface scraping activities
View: North

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# APPENDIX C

## Lithologic Soil Sampling Logs

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH01 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.270355, -103.936334 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 8,164 | 0.2 | N | SS01 | 0.5 | | | |
| D | 1,993 | 0.6 | N | | | 1 | | 0.5-2' CALICHE, red-brown with trace dark red siltstone pieces, poorly sorted, no stain, no odor, dry. |
| D | 1,310 | 0.8 | N | PH01 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH02 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.270243, -103.936216 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 3,421 | 0.2 | N | SS02 | 0.5 | | | |
| D | 207 | 1.3 | N | | | 1 | | 0.5-2' CALICHE, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | 207 | 1.1 | N | PH02 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH03 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.270160, -103.936332 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 5,964 | 0.2 | N | SS03 | 0.5 | | | |
| D | 207 | 0.7 | N | | | 1 | | 0.5-2' CALICHE, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | 207 | 0.5 | N | PH03 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH04 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.270095, -103.936192 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 4,267 | 0.3 | N | SS04 | 0.5 | | | |
| D | <173.6 | 0.8 | N | | | 1 | | 0.5-2' CALICHE, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | <173.6 | 0.7 | N | PH04 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH05 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.269968, -103.936320 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 1,181 | 0.0 | N | SS05 | 0.5 | | | |
| D | 246.4 | 0.7 | N | | | 1 | | 0.5-2' CALICHE, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | <173.6 | 0.6 | N | PH05 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH06 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.269874, -103.936153 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 1,831 | 0.0 | N | SS06 | 0.5 | | | |
| D | 532 | 1.3 | N | | | 1 | | 0.5-2' CALICHE with trace fine silt, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | 285.6 | 0.8 | N | PH06 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: PH07 | Date: 3/23/2023 |
| | Site Name: Remuda 500 | |
| | Incident Number: NAPP2303854000 | |
| | Job Number: 03C1558187 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.269769, -103.936373 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 5,964 | 0.0 | N | SS07 | 0.5 | | | |
| D | 3,197.1 | 0.5 | N | | | 1 | | 0.5-2' CALICHE with trace fine silt, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | 795.2 | 0.3 | N | PH07 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

| | | |
|---|---|---|
| Sample Name: PH08 | Date: 3/23/2023 | |
| Site Name: Remuda 500 | | |
| Incident Number: NAPP2303854000 | | |
| Job Number: 03C1558187 | | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: MR | Method: Backhoe |
| Coordinates: 32.269669, -103.936712 | Hole Diameter: NA | Total Depth: 2' |

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

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | 0-0.5' CALICHE, medium brown, poorly sorted, sub-rounded grains, stained, no odor, moist. |
| M | 14,067 | 0.0 | N | SS08 | 0.5 | | | |
| D | 2,783 | 0.9 | N | | | 1 | | 0.5-2' CALICHE with trace fine sand/silt mix, medium brown, sub-rounded grains, poorly sorted, no stain, no odor, dry. |
| D | 795.2 | 0.5 | N | PH08 | 2 | 2 | | |
| | | | | | | TD | | Total Depth @ 2 ft bgs. |

ENSOLUM

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

Remuda 500
SDG NUMBER 03C1558187

## JOB NUMBER

890-4300-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





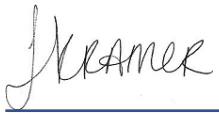
my EOL

# Eurofins Carlsbad

## Job Notes

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



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Revision 1

Authorized for release by
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Client: Ensolum
Project/Site: Remuda 500

Laboratory Job ID: 890-4300-1
SDG: 03C1558187

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# Definitions/Glossary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Qualifiers

### GC VOA

| Qualifier | Qualifier Description |
|---|---|
| F1 | MS and/or MSD recovery exceeds control limits. |
| F2 | MS/MSD RPD exceeds control limits |
| S1- | Surrogate recovery exceeds control limits, low biased. |
| S1+ | Surrogate recovery exceeds control limits, high biased. |
| U | Indicates the analyte was analyzed for but not detected. |

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| *1 | LCS/LCSD RPD exceeds control limits. |
| S1+ | Surrogate recovery exceeds control limits, high biased. |
| U | Indicates the analyte was analyzed for but not detected. |

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Job ID: 890-4300-1

### Laboratory: Eurofins Carlsbad

**Narrative**

**Job Narrative**
**890-4300-1**

REVISION

The report being provided is a revision of the original report sent on 3/27/2023. The report (revision 1) is being revised due to Per client email, requesting chloride re run on SS11.

Report revision history

**Receipt**
The samples were received on 3/14/2023 8:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4300-1), SS02 (890-4300-2), SS03 (890-4300-3), SS04 (890-4300-4), SS05 (890-4300-5), SS06 (890-4300-6), SS07 (890-4300-7), SS08 (890-4300-8), SS09 (890-4300-9), SS10 (890-4300-10), SS11 (890-4300-11), SS12 (890-4300-12) and SS13 (890-4300-13).

**GC VOA**
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS01 (890-4300-1), SS02 (890-4300-2), SS03 (890-4300-3), SS04 (890-4300-4), SS05 (890-4300-5), SS06 (890-4300-6), SS07 (890-4300-7), SS08 (890-4300-8), SS09 (890-4300-9), SS10 (890-4300-10), SS11 (890-4300-11), SS12 (890-4300-12), SS13 (890-4300-13), (LCS 880-49336/1-A), (LCSD 880-49336/2-A), (880-25896-A-28-F), (880-25896-A-28-D MS) and (880-25896-A-28-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

**GC Semi VOA**
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-48781 and analytical batch 880-48812 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-4300-1), SS02 (890-4300-2), SS07 (890-4300-7), (LCS 880-48781/2-A) and (MB 880-48781/1-A). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**
Method 300_ORGFM_28D: Job 890-4351-1 is on HOLD.(890-4351-A-1-F MS) and (890-4351-A-1-G MSD)

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-49736 and 880-49736 and analytical batch 880-49848 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.SS11 (890-4300-11), (880-26435-A-11-A), (880-26435-A-11-B MS) and (880-26435-A-11-C MSD)

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

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS01

**Date Collected: 03/13/23 10:25**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-1

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *171* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 19:22* | *1* |
| *1,4-Difluorobenzene (Surr)* | *63* | *S1-* | *70 - 130* | *03/23/23 14:56* | *03/25/23 19:22* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:19 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:19 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *114* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 13:19* | *1* |
| *o-Terphenyl* | *132* | *S1+* | *70 - 130* | *03/16/23 15:06* | *03/17/23 13:19* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **7130** | | 49.9 | | mg/Kg | | | 03/22/23 00:04 | 10 |

## Client Sample ID: SS02

**Date Collected: 03/13/23 10:30**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-2

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 19:49 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *183* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 19:49* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS02

**Date Collected: 03/13/23 10:30**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-2**
**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 19:49* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 03/21/23 09:53 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *1 | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:41 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:41 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 13:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *111* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 13:41* | *1* |
| *o-Terphenyl* | *132* | *S1+* | *70 - 130* | *03/16/23 15:06* | *03/17/23 13:41* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **2350** | | 25.3 | mg/Kg | | | 03/22/23 00:08 | 5 |

## Client Sample ID: SS03

**Date Collected: 03/13/23 10:35**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-3**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:16 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *209* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 20:16* | *1* |
| *1,4-Difluorobenzene (Surr)* | *76* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 20:16* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 03/21/23 09:53 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS03
**Date Collected: 03/13/23 10:35**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-3
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *1 | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:03 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:03 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:03* | *1* |
| *o-Terphenyl* | *113* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:03* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **3600** | | 24.9 | | mg/Kg | | | 03/22/23 00:13 | 5 |

## Client Sample ID: SS04
**Date Collected: 03/13/23 10:40**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-4
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 20:43 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *207* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 20:43* | *1* |
| *1,4-Difluorobenzene (Surr)* | *79* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 20:43* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:24 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:24 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:24* | *1* |
| *o-Terphenyl* | *117* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:24* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS04
**Date Collected: 03/13/23 10:40**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-4
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3790 | | 24.8 | | mg/Kg | | | 03/22/23 00:18 | 5 |

## Client Sample ID: SS05
**Date Collected: 03/13/23 11:00**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-5
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:09 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *187* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 21:09* | *1* |
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 21:09* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:47 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:47 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 14:47 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *98* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:47* | *1* |
| *o-Terphenyl* | *117* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 14:47* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1540 | | 25.3 | | mg/Kg | | | 03/22/23 00:23 | 5 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS06

**Date Collected: 03/13/23 11:05**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-6**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 21:36 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *204* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 21:36* | *1* |
| *1,4-Difluorobenzene (Surr)* | *70* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 21:36* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:09 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:09 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:09 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *111* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 15:09* | *1* |
| *o-Terphenyl* | *129* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 15:09* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1390** | | 25.0 | | mg/Kg | | | 03/22/23 00:28 | 5 |

## Client Sample ID: SS07

**Date Collected: 03/13/23 11:10**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-7**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *183* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 23:24* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS07

**Date Collected: 03/13/23 11:10**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-7**
**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *79* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 23:24* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:53 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:53 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 03/16/23 15:06 | 03/17/23 15:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *116* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 15:53* | *1* |
| *o-Terphenyl* | *134* | *S1+* | *70 - 130* | *03/16/23 15:06* | *03/17/23 15:53* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **4730** | | 49.6 | mg/Kg | | | 03/22/23 00:33 | 10 |

## Client Sample ID: SS08

**Date Collected: 03/13/23 11:15**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-8**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | mg/Kg | | 03/23/23 14:56 | 03/25/23 23:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *202* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/25/23 23:51* | *1* |
| *1,4-Difluorobenzene (Surr)* | *74* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 23:51* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 03/21/23 09:53 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS08

**Lab Sample ID: 890-4300-8**
**Matrix: Solid**
**Date Collected: 03/13/23 11:15**
**Date Received: 03/14/23 08:17**
**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 | <50.0 | U *1 | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:15 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:15 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *96* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 16:15* | *1* |
| *o-Terphenyl* | *112* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 16:15* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **167** | | 99.6 | | mg/Kg | | | 03/23/23 01:17 | 20 |

## Client Sample ID: SS09

**Lab Sample ID: 890-4300-9**
**Matrix: Solid**
**Date Collected: 03/13/23 11:50**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *145* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/26/23 00:18* | *1* |
| *1,4-Difluorobenzene (Surr)* | *71* | | *70 - 130* | *03/23/23 14:56* | *03/26/23 00:18* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 03/21/23 09:53 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *1 | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:38 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:38 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 16:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *83* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 16:38* | *1* |
| *o-Terphenyl* | *94* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 16:38* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS09
**Date Collected: 03/13/23 11:50**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-9
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <4.95 | U | 4.95 | | mg/Kg | | | 03/23/23 01:22 | 1 |

## Client Sample ID: SS10
**Date Collected: 03/13/23 12:05**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-10
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 00:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *214* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/26/23 00:44* | *1* |
| *1,4-Difluorobenzene (Surr)* | *75* | | *70 - 130* | *03/23/23 14:56* | *03/26/23 00:44* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:00 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:00 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:00 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:00* | *1* |
| *o-Terphenyl* | *117* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:00* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **63.3** | | 4.97 | | mg/Kg | | | 03/23/23 01:36 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS11

**Date Collected: 03/13/23 12:10**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-11**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *216* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/26/23 01:10* | *1* |
| *1,4-Difluorobenzene (Surr)* | *87* | | *70 - 130* | *03/23/23 14:56* | *03/26/23 01:10* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/21/23 09:53 | 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 *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:22 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:22 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *88* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:22* | *1* |
| *o-Terphenyl* | *103* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:22* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **661** | | 5.03 | | mg/Kg | | | 03/29/23 06:57 | 1 |

## Client Sample ID: SS12

**Date Collected: 03/13/23 12:20**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4300-12**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.00201 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 03/23/23 14:56 | 03/26/23 01:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *216* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/26/23 01:37* | *1* |

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# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS12
**Date Collected: 03/13/23 12:20**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-12
**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* | *03/23/23 14:56* | *03/26/23 01:37* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00402 | U | 0.00402 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 03/21/23 09:53 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *1 | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:44 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:44 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/16/23 15:06 | 03/17/23 17:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:44* | *1* |
| *o-Terphenyl* | *100* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 17:44* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **124** | | 5.00 | mg/Kg | | | 03/23/23 02:05 | 1 |

## Client Sample ID: SS13
**Date Collected: 03/13/23 12:25**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-13
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | mg/Kg | | 03/23/23 14:56 | 03/26/23 02:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *202* | *S1+* | *70 - 130* | *03/23/23 14:56* | *03/26/23 02:04* | *1* |
| *1,4-Difluorobenzene (Surr)* | *78* | | *70 - 130* | *03/23/23 14:56* | *03/26/23 02:04* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | mg/Kg | | | 03/27/23 10:35 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 03/21/23 09:53 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS13

**Date Collected: 03/13/23 12:25**
**Date Received: 03/14/23 08:17**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4300-13

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U *1 | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 18:06 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 18:06 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 18:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 18:06* | *1* |
| *o-Terphenyl* | *118* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 18:06* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **37.4** | | 4.98 | | mg/Kg | | | 03/23/23 01:46 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
| 880-25896-A-28-D MS | Matrix Spike | 180 S1+ | 73 |
| 880-25896-A-28-E MSD | Matrix Spike Duplicate | 182 S1+ | 92 |
| 890-4300-1 | SS01 | 171 S1+ | 63 S1- |
| 890-4300-2 | SS02 | 183 S1+ | 73 |
| 890-4300-3 | SS03 | 209 S1+ | 76 |
| 890-4300-4 | SS04 | 207 S1+ | 79 |
| 890-4300-5 | SS05 | 187 S1+ | 73 |
| 890-4300-6 | SS06 | 204 S1+ | 70 |
| 890-4300-7 | SS07 | 183 S1+ | 79 |
| 890-4300-8 | SS08 | 202 S1+ | 74 |
| 890-4300-9 | SS09 | 145 S1+ | 71 |
| 890-4300-10 | SS10 | 214 S1+ | 75 |
| 890-4300-11 | SS11 | 216 S1+ | 87 |
| 890-4300-12 | SS12 | 216 S1+ | 73 |
| 890-4300-13 | SS13 | 202 S1+ | 78 |
| LCS 880-49336/1-A | Lab Control Sample | 147 S1+ | 71 |
| LCSD 880-49336/2-A | Lab Control Sample Dup | 170 S1+ | 84 |
| MB 880-49330/5-A | Method Blank | 115 | 72 |
| MB 880-49336/5-A | Method Blank | 124 | 72 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | 1CO1 (70-130) | OTPH1 (70-130) |
| 890-4297-A-3-B MS | Matrix Spike | 96 | 101 |
| 890-4297-A-3-C MSD | Matrix Spike Duplicate | 112 | 114 |
| 890-4300-1 | SS01 | 114 | 132 S1+ |
| 890-4300-2 | SS02 | 111 | 132 S1+ |
| 890-4300-3 | SS03 | 96 | 113 |
| 890-4300-4 | SS04 | 99 | 117 |
| 890-4300-5 | SS05 | 98 | 117 |
| 890-4300-6 | SS06 | 111 | 129 |
| 890-4300-7 | SS07 | 116 | 134 S1+ |
| 890-4300-8 | SS08 | 96 | 112 |
| 890-4300-9 | SS09 | 83 | 94 |
| 890-4300-10 | SS10 | 103 | 117 |
| 890-4300-11 | SS11 | 88 | 103 |
| 890-4300-12 | SS12 | 87 | 100 |
| 890-4300-13 | SS13 | 102 | 118 |
| LCS 880-48781/2-A | Lab Control Sample | 121 | 136 S1+ |
| LCSD 880-48781/3-A | Lab Control Sample Dup | 104 | 120 |
| MB 880-48781/1-A | Method Blank | 108 | 133 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane

# Surrogate Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

**Lab Sample ID: MB 880-49330/5-A**
**Matrix: Solid**
**Analysis Batch: 49363**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 49330**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 03/23/23 13:22 | 03/25/23 02:44 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *115* | | *70 - 130* | *03/23/23 13:22* | *03/25/23 02:44* | *1* |
| *1,4-Difluorobenzene (Surr)* | *72* | | *70 - 130* | *03/23/23 13:22* | *03/25/23 02:44* | *1* |

**Lab Sample ID: MB 880-49336/5-A**
**Matrix: Solid**
**Analysis Batch: 49363**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 49336**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 03/23/23 14:56 | 03/25/23 17:08 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *124* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 17:08* | *1* |
| *1,4-Difluorobenzene (Surr)* | *72* | | *70 - 130* | *03/23/23 14:56* | *03/25/23 17:08* | *1* |

**Lab Sample ID: LCS 880-49336/1-A**
**Matrix: Solid**
**Analysis Batch: 49363**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 49336**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1152 | | mg/Kg | | 115 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09755 | | mg/Kg | | 98 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1038 | | mg/Kg | | 104 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2151 | | mg/Kg | | 108 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1060 | | mg/Kg | | 106 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *147* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *71* | | *70 - 130* |

**Lab Sample ID: LCSD 880-49336/2-A**
**Matrix: Solid**
**Analysis Batch: 49363**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 49336**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1270 | | mg/Kg | | 127 | 70 - 130 | 10 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

**Lab Sample ID: LCSD 880-49336/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 49363** — **Prep Batch: 49336**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1074 | | mg/Kg | | 107 | 70 - 130 | 10 | 35 |
| Ethylbenzene | | | 0.100 | 0.1113 | | mg/Kg | | 111 | 70 - 130 | 7 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2279 | | mg/Kg | | 114 | 70 - 130 | 6 | 35 |
| o-Xylene | | | 0.100 | 0.1134 | | mg/Kg | | 113 | 70 - 130 | 7 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *170* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *84* | | *70 - 130* |

**Lab Sample ID: 880-25896-A-28-D MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 49363** — **Prep Batch: 49336**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U F2 F1 | 0.100 | 0.03604 | F1 | mg/Kg | | 36 | 70 - 130 |
| Toluene | <0.00202 | U F2 F1 | 0.100 | 0.03618 | F1 | mg/Kg | | 36 | 70 - 130 |
| Ethylbenzene | <0.00202 | U F2 F1 | 0.100 | 0.04126 | F1 | mg/Kg | | 41 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00403 | U F2 F1 | 0.201 | 0.08715 | F1 | mg/Kg | | 43 | 70 - 130 |
| o-Xylene | <0.00202 | U F2 F1 | 0.100 | 0.04721 | F1 | mg/Kg | | 47 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *180* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *73* | | *70 - 130* |

**Lab Sample ID: 880-25896-A-28-E MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 49363** — **Prep Batch: 49336**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U F2 F1 | 0.0996 | 0.07584 | F2 | mg/Kg | | 76 | 70 - 130 | 71 | 35 |
| Toluene | <0.00202 | U F2 F1 | 0.0996 | 0.06818 | F2 F1 | mg/Kg | | 68 | 70 - 130 | 61 | 35 |
| Ethylbenzene | <0.00202 | U F2 F1 | 0.0996 | 0.07427 | F2 | mg/Kg | | 75 | 70 - 130 | 57 | 35 |
| m-Xylene & p-Xylene | <0.00403 | U F2 F1 | 0.199 | 0.1550 | F2 | mg/Kg | | 78 | 70 - 130 | 56 | 35 |
| o-Xylene | <0.00202 | U F2 F1 | 0.0996 | 0.07922 | F2 | mg/Kg | | 80 | 70 - 130 | 51 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *182* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* |

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

**Lab Sample ID: MB 880-48781/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 48812** — **Prep Batch: 48781**

| 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 | | 03/16/23 15:06 | 03/17/23 08:28 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

### Lab Sample ID: MB 880-48781/1-A
**Matrix: Solid**
**Analysis Batch: 48812**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 48781**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 08:28 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/16/23 15:06 | 03/17/23 08:28 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *108* | | *70 - 130* | *03/16/23 15:06* | *03/17/23 08:28* | *1* |
| *o-Terphenyl* | *133* | *S1+* | *70 - 130* | *03/16/23 15:06* | *03/17/23 08:28* | *1* |

### Lab Sample ID: LCS 880-48781/2-A
**Matrix: Solid**
**Analysis Batch: 48812**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 48781**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1075 | | mg/Kg | | 107 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 1006 | | mg/Kg | | 101 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *121* | | *70 - 130* |
| *o-Terphenyl* | *136* | *S1+* | *70 - 130* |

### Lab Sample ID: LCSD 880-48781/3-A
**Matrix: Solid**
**Analysis Batch: 48812**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 48781**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 859.6 | *1 | mg/Kg | | 86 | 70 - 130 | 22 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 881.0 | | mg/Kg | | 88 | 70 - 130 | 13 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *104* | | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

### Lab Sample ID: 890-4297-A-3-B MS
**Matrix: Solid**
**Analysis Batch: 48812**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 48781**

| 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 *1 | 998 | 898.9 | | mg/Kg | | 85 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | 133 | | 998 | 1034 | | mg/Kg | | 90 | 70 - 130 | | |

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

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

**Lab Sample ID: 890-4297-A-3-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 48812** — **Prep Batch: 48781**

| 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 *1 | 999 | 1011 | | mg/Kg | | 96 | 70 - 130 | 12 | 20 |
| Diesel Range Organics (Over C10-C28) | 133 | | 999 | 1176 | | mg/Kg | | 104 | 70 - 130 | 13 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *112* | | *70 - 130* |
| *o-Terphenyl* | *114* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-49104/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 49191**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 03/21/23 22:08 | 1 |

**Lab Sample ID: LCS 880-49104/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 49191**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 248.5 | | mg/Kg | | 99 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-49104/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 49191**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 248.6 | | mg/Kg | | 99 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 880-26187-A-6-B MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 49191**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 65.7 | | 251 | 323.1 | | mg/Kg | | 103 | 90 - 110 | | |

**Lab Sample ID: 880-26187-A-6-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 49191**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 65.7 | | 251 | 323.9 | | mg/Kg | | 103 | 90 - 110 | 0 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

**Lab Sample ID: 890-4351-A-1-F MS**
**Matrix: Solid**
**Analysis Batch: 49191**

**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 | 1010 | | 1260 | 2398 | | mg/Kg | | 110 | 90 - 110 |

**Lab Sample ID: 890-4351-A-1-G MSD**
**Matrix: Solid**
**Analysis Batch: 49191**

**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 | 1010 | | 1260 | 2397 | | mg/Kg | | 110 | 90 - 110 | 0 | 20 |

**Lab Sample ID: MB 880-48966/1-A**
**Matrix: Solid**
**Analysis Batch: 49317**

**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 | | | 03/22/23 23:40 | 1 |

**Lab Sample ID: LCS 880-48966/2-A**
**Matrix: Solid**
**Analysis Batch: 49317**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 250 | 257.1 | | mg/Kg | | 103 | 90 - 110 |

**Lab Sample ID: LCSD 880-48966/3-A**
**Matrix: Solid**
**Analysis Batch: 49317**

**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 | 258.8 | | mg/Kg | | 104 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 880-25948-A-11-C MS**
**Matrix: Solid**
**Analysis Batch: 49317**

**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 | 42.7 | | 248 | 272.8 | | mg/Kg | | 93 | 90 - 110 |

**Lab Sample ID: 880-25948-A-11-D MSD**
**Matrix: Solid**
**Analysis Batch: 49317**

**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 | 42.7 | | 248 | 273.2 | | mg/Kg | | 93 | 90 - 110 | 0 | 20 |

**Lab Sample ID: MB 880-49736/1-A**
**Matrix: Solid**
**Analysis Batch: 49848**

**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 | | | 03/29/23 04:51 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: LCS 880-49736/2-A**
**Matrix: Solid**
**Analysis Batch: 49848**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 269.1 | | mg/Kg | | 108 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-49736/3-A**
**Matrix: Solid**
**Analysis Batch: 49848**

**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 | 269.1 | | mg/Kg | | 108 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 880-26435-A-11-B MS**
**Matrix: Solid**
**Analysis Batch: 49848**

**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 | 45.8 | F1 | 250 | 323.4 | F1 | mg/Kg | | 111 | 90 - 110 | | |

**Lab Sample ID: 880-26435-A-11-C MSD**
**Matrix: Solid**
**Analysis Batch: 49848**

**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 | 45.8 | F1 | 250 | 322.5 | F1 | mg/Kg | | 111 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## GC VOA

### Prep Batch: 49330

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-49330/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 49336

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-4300-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-4300-3 | SS03 | Total/NA | Solid | 5035 | |
| 890-4300-4 | SS04 | Total/NA | Solid | 5035 | |
| 890-4300-5 | SS05 | Total/NA | Solid | 5035 | |
| 890-4300-6 | SS06 | Total/NA | Solid | 5035 | |
| 890-4300-7 | SS07 | Total/NA | Solid | 5035 | |
| 890-4300-8 | SS08 | Total/NA | Solid | 5035 | |
| 890-4300-9 | SS09 | Total/NA | Solid | 5035 | |
| 890-4300-10 | SS10 | Total/NA | Solid | 5035 | |
| 890-4300-11 | SS11 | Total/NA | Solid | 5035 | |
| 890-4300-12 | SS12 | Total/NA | Solid | 5035 | |
| 890-4300-13 | SS13 | Total/NA | Solid | 5035 | |
| MB 880-49336/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-49336/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-49336/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-25896-A-28-D MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-25896-A-28-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 49363

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-2 | SS02 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-3 | SS03 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-4 | SS04 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-5 | SS05 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-6 | SS06 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-7 | SS07 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-8 | SS08 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-9 | SS09 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-10 | SS10 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-11 | SS11 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-12 | SS12 | Total/NA | Solid | 8021B | 49336 |
| 890-4300-13 | SS13 | Total/NA | Solid | 8021B | 49336 |
| MB 880-49330/5-A | Method Blank | Total/NA | Solid | 8021B | 49330 |
| MB 880-49336/5-A | Method Blank | Total/NA | Solid | 8021B | 49336 |
| LCS 880-49336/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 49336 |
| LCSD 880-49336/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 49336 |
| 880-25896-A-28-D MS | Matrix Spike | Total/NA | Solid | 8021B | 49336 |
| 880-25896-A-28-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 49336 |

### Analysis Batch: 49605

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-4300-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-4300-3 | SS03 | Total/NA | Solid | Total BTEX | |
| 890-4300-4 | SS04 | Total/NA | Solid | Total BTEX | |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## GC VOA (Continued)

### Analysis Batch: 49605 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-5 | SS05 | Total/NA | Solid | Total BTEX | |
| 890-4300-6 | SS06 | Total/NA | Solid | Total BTEX | |
| 890-4300-7 | SS07 | Total/NA | Solid | Total BTEX | |
| 890-4300-8 | SS08 | Total/NA | Solid | Total BTEX | |
| 890-4300-9 | SS09 | Total/NA | Solid | Total BTEX | |
| 890-4300-10 | SS10 | Total/NA | Solid | Total BTEX | |
| 890-4300-11 | SS11 | Total/NA | Solid | Total BTEX | |
| 890-4300-12 | SS12 | Total/NA | Solid | Total BTEX | |
| 890-4300-13 | SS13 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 48781

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-3 | SS03 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-4 | SS04 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-5 | SS05 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-6 | SS06 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-7 | SS07 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-8 | SS08 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-9 | SS09 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-10 | SS10 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-11 | SS11 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-12 | SS12 | Total/NA | Solid | 8015NM Prep | |
| 890-4300-13 | SS13 | Total/NA | Solid | 8015NM Prep | |
| MB 880-48781/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-48781/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-48781/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-4297-A-3-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-4297-A-3-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 48812

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-2 | SS02 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-3 | SS03 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-4 | SS04 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-5 | SS05 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-6 | SS06 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-7 | SS07 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-8 | SS08 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-9 | SS09 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-10 | SS10 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-11 | SS11 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-12 | SS12 | Total/NA | Solid | 8015B NM | 48781 |
| 890-4300-13 | SS13 | Total/NA | Solid | 8015B NM | 48781 |
| MB 880-48781/1-A | Method Blank | Total/NA | Solid | 8015B NM | 48781 |
| LCS 880-48781/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 48781 |
| LCSD 880-48781/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 48781 |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## GC Semi VOA (Continued)

### Analysis Batch: 48812 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4297-A-3-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 48781 |
| 890-4297-A-3-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 48781 |

### Analysis Batch: 49094

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-4300-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-4300-3 | SS03 | Total/NA | Solid | 8015 NM | |
| 890-4300-4 | SS04 | Total/NA | Solid | 8015 NM | |
| 890-4300-5 | SS05 | Total/NA | Solid | 8015 NM | |
| 890-4300-6 | SS06 | Total/NA | Solid | 8015 NM | |
| 890-4300-7 | SS07 | Total/NA | Solid | 8015 NM | |
| 890-4300-8 | SS08 | Total/NA | Solid | 8015 NM | |
| 890-4300-9 | SS09 | Total/NA | Solid | 8015 NM | |
| 890-4300-10 | SS10 | Total/NA | Solid | 8015 NM | |
| 890-4300-11 | SS11 | Total/NA | Solid | 8015 NM | |
| 890-4300-12 | SS12 | Total/NA | Solid | 8015 NM | |
| 890-4300-13 | SS13 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 48966

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-8 | SS08 | Soluble | Solid | DI Leach | |
| 890-4300-9 | SS09 | Soluble | Solid | DI Leach | |
| 890-4300-10 | SS10 | Soluble | Solid | DI Leach | |
| 890-4300-12 | SS12 | Soluble | Solid | DI Leach | |
| 890-4300-13 | SS13 | Soluble | Solid | DI Leach | |
| MB 880-48966/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-48966/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-48966/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-25948-A-11-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-25948-A-11-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Leach Batch: 49104

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-4300-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-4300-3 | SS03 | Soluble | Solid | DI Leach | |
| 890-4300-4 | SS04 | Soluble | Solid | DI Leach | |
| 890-4300-5 | SS05 | Soluble | Solid | DI Leach | |
| 890-4300-6 | SS06 | Soluble | Solid | DI Leach | |
| 890-4300-7 | SS07 | Soluble | Solid | DI Leach | |
| MB 880-49104/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-49104/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-49104/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-26187-A-6-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-26187-A-6-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |
| 890-4351-A-1-F MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-4351-A-1-G MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## HPLC/IC

### Analysis Batch: 49191

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-2 | SS02 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-3 | SS03 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-4 | SS04 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-5 | SS05 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-6 | SS06 | Soluble | Solid | 300.0 | 49104 |
| 890-4300-7 | SS07 | Soluble | Solid | 300.0 | 49104 |
| MB 880-49104/1-A | Method Blank | Soluble | Solid | 300.0 | 49104 |
| LCS 880-49104/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 49104 |
| LCSD 880-49104/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 49104 |
| 880-26187-A-6-B MS | Matrix Spike | Soluble | Solid | 300.0 | 49104 |
| 880-26187-A-6-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 49104 |
| 890-4351-A-1-F MS | Matrix Spike | Soluble | Solid | 300.0 | 49104 |
| 890-4351-A-1-G MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 49104 |

### Analysis Batch: 49317

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-8 | SS08 | Soluble | Solid | 300.0 | 48966 |
| 890-4300-9 | SS09 | Soluble | Solid | 300.0 | 48966 |
| 890-4300-10 | SS10 | Soluble | Solid | 300.0 | 48966 |
| 890-4300-12 | SS12 | Soluble | Solid | 300.0 | 48966 |
| 890-4300-13 | SS13 | Soluble | Solid | 300.0 | 48966 |
| MB 880-48966/1-A | Method Blank | Soluble | Solid | 300.0 | 48966 |
| LCS 880-48966/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 48966 |
| LCSD 880-48966/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 48966 |
| 880-25948-A-11-C MS | Matrix Spike | Soluble | Solid | 300.0 | 48966 |
| 880-25948-A-11-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 48966 |

### Leach Batch: 49736

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-11 | SS11 | Soluble | Solid | DI Leach | |
| MB 880-49736/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-49736/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-49736/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-26435-A-11-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-26435-A-11-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 49848

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4300-11 | SS11 | Soluble | Solid | 300.0 | 49736 |
| MB 880-49736/1-A | Method Blank | Soluble | Solid | 300.0 | 49736 |
| LCS 880-49736/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 49736 |
| LCSD 880-49736/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 49736 |
| 880-26435-A-11-B MS | Matrix Spike | Soluble | Solid | 300.0 | 49736 |
| 880-26435-A-11-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 49736 |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS01
**Date Collected: 03/13/23 10:25**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 19:22 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 13:19 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 10 | 50 mL | 50 mL | 49191 | 03/22/23 00:04 | SMC | EET MID |

## Client Sample ID: SS02
**Date Collected: 03/13/23 10:30**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-2**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 19:49 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 13:41 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 4.95 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 49191 | 03/22/23 00:08 | SMC | EET MID |

## Client Sample ID: SS03
**Date Collected: 03/13/23 10:35**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-3**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 20:16 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 14:03 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 49191 | 03/22/23 00:13 | SMC | EET MID |

## Client Sample ID: SS04
**Date Collected: 03/13/23 10:40**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-4**
**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 | | | 5.02 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 20:43 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS04
**Date Collected: 03/13/23 10:40**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-4**
**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 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 14:24 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 49191 | 03/22/23 00:18 | SMC | EET MID |

## Client Sample ID: SS05
**Date Collected: 03/13/23 11:00**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-5**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 21:09 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 14:47 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 4.95 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 49191 | 03/22/23 00:23 | SMC | EET MID |

## Client Sample ID: SS06
**Date Collected: 03/13/23 11:05**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-6**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 21:36 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 15:09 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 49191 | 03/22/23 00:28 | SMC | EET MID |

## Client Sample ID: SS07
**Date Collected: 03/13/23 11:10**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-7**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 23:24 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 15:53 | AJ | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS07
**Date Collected: 03/13/23 11:10**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-7**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 49104 | 03/21/23 16:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 10 | 50 mL | 50 mL | 49191 | 03/22/23 00:33 | SMC | EET MID |

## Client Sample ID: SS08
**Date Collected: 03/13/23 11:15**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-8**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/25/23 23:51 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 16:15 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 48966 | 03/20/23 10:54 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 20 | 50 mL | 50 mL | 49317 | 03/23/23 01:17 | SMC | EET MID |

## Client Sample ID: SS09
**Date Collected: 03/13/23 11:50**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-9**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/26/23 00:18 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 16:38 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 48966 | 03/20/23 10:54 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 49317 | 03/23/23 01:22 | SMC | EET MID |

## Client Sample ID: SS10
**Date Collected: 03/13/23 12:05**
**Date Received: 03/14/23 08:17**

**Lab Sample ID: 890-4300-10**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/26/23 00:44 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 17:00 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 48966 | 03/20/23 10:54 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 49317 | 03/23/23 01:36 | SMC | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Client Sample ID: SS11
**Date Collected: 03/13/23 12:10**
**Date Received: 03/14/23 08:17**

## Lab Sample ID: 890-4300-11
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/26/23 01:10 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 17:22 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 49736 | 03/28/23 11:52 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 49848 | 03/29/23 06:57 | SMC | EET MID |

## Client Sample ID: SS12
**Date Collected: 03/13/23 12:20**
**Date Received: 03/14/23 08:17**

## Lab Sample ID: 890-4300-12
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.97 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/26/23 01:37 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 17:44 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 48966 | 03/20/23 10:54 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 49317 | 03/23/23 02:05 | SMC | EET MID |

## Client Sample ID: SS13
**Date Collected: 03/13/23 12:25**
**Date Received: 03/14/23 08:17**

## Lab Sample ID: 890-4300-13
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 49336 | 03/23/23 14:56 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49363 | 03/26/23 02:04 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49605 | 03/27/23 10:35 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49094 | 03/21/23 09:53 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48781 | 03/16/23 15:06 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48812 | 03/17/23 18:06 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 48966 | 03/20/23 10:54 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 49317 | 03/23/23 01:46 | 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: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

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

**Protocol References:**

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

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4300-1
SDG: 03C1558187

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4300-1 | SS01 | Solid | 03/13/23 10:25 | 03/14/23 08:17 | 0.5 |
| 890-4300-2 | SS02 | Solid | 03/13/23 10:30 | 03/14/23 08:17 | 0.5 |
| 890-4300-3 | SS03 | Solid | 03/13/23 10:35 | 03/14/23 08:17 | 0.5 |
| 890-4300-4 | SS04 | Solid | 03/13/23 10:40 | 03/14/23 08:17 | 0.5 |
| 890-4300-5 | SS05 | Solid | 03/13/23 11:00 | 03/14/23 08:17 | 0.5 |
| 890-4300-6 | SS06 | Solid | 03/13/23 11:05 | 03/14/23 08:17 | 0.5 |
| 890-4300-7 | SS07 | Solid | 03/13/23 11:10 | 03/14/23 08:17 | 0.5 |
| 890-4300-8 | SS08 | Solid | 03/13/23 11:15 | 03/14/23 08:17 | 0.5 |
| 890-4300-9 | SS09 | Solid | 03/13/23 11:50 | 03/14/23 08:17 | 0.5 |
| 890-4300-10 | SS10 | Solid | 03/13/23 12:05 | 03/14/23 08:17 | 0.5 |
| 890-4300-11 | SS11 | Solid | 03/13/23 12:10 | 03/14/23 08:17 | 0.5 |
| 890-4300-12 | SS12 | Solid | 03/13/23 12:20 | 03/14/23 08:17 | 0.5 |
| 890-4300-13 | SS13 | Solid | 03/13/23 12:25 | 03/14/23 08:17 | 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 2

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | Remuda 500 | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03C1558187 | Due Date: | |
| Project Location: | | TAT starts the day received by the lab, if received by 4:30pm | |
| Sampler's Name: | Connor Whitman | | |
| PO #: | | | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Samples Received Intact: | (Yes) No | Thermometer ID: | TM007 | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 1.0 | |
| Total Containers: | | Corrected Temperature: | 0.8 | |

890-4300 Chain of Custody

**Preservative Codes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | CHLORIDES (EPA: 300.0) | TPH (8015) | BTEX (8021) |
|---|---|---|---|---|---|---|---|---|---|---|
| SS01 | S | 3/13/2023 | 10:25 | .5' | Grab/ | 1 | | x | x | x |
| SS02 | S | 3/13/2023 | 10:30 | .5' | Grab/ | 1 | | x | x | x |
| SS03 | S | 3/13/2023 | 10:35 | .5' | Grab/ | 1 | | x | x | x |
| SS04 | S | 3/13/2023 | 10:40 | .5' | Grab/ | 1 | | x | x | x |
| SS05 | S | 3/13/2023 | 11:00 | .5' | Grab/ | 1 | | x | x | x |
| SS06 | S | 3/13/2023 | 11:05 | .5' | Grab/ | 1 | | x | x | x |
| SS07 | S | 3/13/2023 | 11:10 | .5' | Grab/ | 1 | | x | x | x |
| ~~SS08~~ | ~~S~~ | ~~3/13/2023~~ | ~~11:15~~ | ~~.5'~~ | ~~Grab/~~ | ~~1~~ | | ~~x~~ | ~~x~~ | ~~x~~ |
| SS09 | S | 3/13/2023 | 11:50 | .5' | Grab/ | 1 | | x | x | x |
| SS10 | S | 3/13/2023 | 12:05 | .5' | Grab/ | 1 | | x | x | x |

**Sample Comments**

Incident ID:
nAPP2303854000
Cost Center:
1067601001
AFE:

**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag $SiO_2$ Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 3.14.23817 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

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# Chain of Custody

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

**Work Order No:** _____

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | Remuda 500 | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03C1558187 | Due Date: | |
| Project Location: | | TAT starts the day received by the lab, if received by 4:30pm | |
| Sampler's Name: | Connor Whitman | | |
| PO #: | | | |

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

**Preservative Codes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | Parameters: CHLORIDES (EPA: 300.0) | TPH (8015) | BTEX (8021) |
|---|---|---|---|---|---|---|---|---|---|---|
| SS11 | S | 3/13/2023 | 12:10 | .5' | Grab/ | 1 | | x | x | x |
| SS12 | S | 3/13/2023 | 12:20 | .5' | Grab/ | 1 | | x | x | x |
| SS13 | S | 3/13/2023 | 12:25 | .5' | Grab/ | 1 | | x | x | x |

**Sample Comments**

Incident ID:
nAPP2303854000
Cost Center:
1067601001
AFE:

**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag $SiO_2$ Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471



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

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4300-1
SDG Number: 03C1558187

**Login Number: 4300**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question | Answer | Comment |
|---|---|---|
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | CHECK NCM |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| TCEQ Mtd 1005 soil sample was frozen/delivered for prep within 48H of sampling. | N/A | |

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4300-1
SDG Number: 03C1558187

**Login Number: 4300**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 03/15/23 11:19 AM**

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

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 4/5/2023 9:08:01 PM

## JOB DESCRIPTION

Remuda 500
SDG NUMBER 03C1558187

## JOB NUMBER

890-4396-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

# Eurofins Carlsbad

## Job Notes

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

## Authorization

Generated
4/5/2023 9:08:01 PM

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

Client: Ensolum
Project/Site: Remuda 500

Laboratory Job ID: 890-4396-1
SDG: 03C1558187

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# Definitions/Glossary

Client: Ensolum Job ID: 890-4396-1
Project/Site: Remuda 500 SDG: 03C1558187

## Qualifiers

### GC VOA

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

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| *+ | LCS and/or LCSD is outside acceptance limits, high 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: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Job ID: 890-4396-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-4396-1**

**Receipt**
The samples were received on 3/23/2023 3:48 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 2.0°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-4396-1), PH02 (890-4396-2), PH03 (890-4396-3), PH04 (890-4396-4), PH05 (890-4396-5), PH06 (890-4396-6), PH07 (890-4396-7) and PH08 (890-4396-8).

**GC VOA**
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-50193/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

**GC Semi VOA**
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-49712 and analytical batch 880-49689 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-49712/2-A) and (LCSD 880-49712/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4387-A-7-B MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) associated with preparation batch 880-49712 and analytical batch 880-49689. MS/MSD will show recovery for the batch.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-49771 and analytical batch 880-49783 was outside the upper control limits.

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

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

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH01

**Lab Sample ID: 890-4396-1**
**Matrix: Solid**
**Date Collected: 03/23/23 10:30**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 12:53* | *1* |
| *1,4-Difluorobenzene (Surr)* | *86* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 12:53* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.8 | U | 49.8 | | mg/Kg | | | 03/29/23 14:59 | 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 | | 03/28/23 10:11 | 03/29/23 00:35 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U *+ | 49.8 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 00:35 | 1 |
| OII Range Organics (Over C28-C36) | <49.8 | U | 49.8 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 00:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *97* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 00:35* | *1* |
| *o-Terphenyl* | *118* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 00:35* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1990** | | 25.1 | | mg/Kg | | | 04/01/23 02:33 | 5 |

## Client Sample ID: PH02

**Lab Sample ID: 890-4396-2**
**Matrix: Solid**
**Date Collected: 03/23/23 10:20**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 13:19* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH02

**Lab Sample ID: 890-4396-2**
**Matrix: Solid**
**Date Collected: 03/23/23 10:20**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *89* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 13:19* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.8 | U | 49.8 | mg/Kg | | | 03/29/23 14:59 | 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 | | 03/28/23 10:11 | 03/29/23 00:57 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U *+ | 49.8 | mg/Kg | | 03/28/23 10:11 | 03/29/23 00:57 | 1 |
| OII Range Organics (Over C28-C36) | <49.8 | U | 49.8 | mg/Kg | | 03/28/23 10:11 | 03/29/23 00:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 00:57* | *1* |
| *o-Terphenyl* | *118* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 00:57* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **275** | | 4.97 | mg/Kg | | | 04/01/23 02:38 | 1 |

## Client Sample ID: PH03

**Lab Sample ID: 890-4396-3**
**Matrix: Solid**
**Date Collected: 03/23/23 09:55**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | mg/Kg | | 04/03/23 13:16 | 04/05/23 13:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *111* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 13:46* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 13:46* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 03/29/23 14:59 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH03

**Lab Sample ID: 890-4396-3**
**Matrix: Solid**
**Date Collected: 03/23/23 09:55**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *+ | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:18 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *+ | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:18 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *92* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 01:18* | *1* |
| *o-Terphenyl* | *109* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 01:18* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **243** | | 4.95 | | mg/Kg | | | 04/01/23 02:51 | 1 |

## Client Sample ID: PH04

**Lab Sample ID: 890-4396-4**
**Matrix: Solid**
**Date Collected: 03/23/23 10:05**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 14:12* | *1* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 14:12* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00396 | U | 0.00396 | | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 03/29/23 14:59 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U *+ | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:40 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *+ | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:40 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 01:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *90* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 01:40* | *1* |
| *o-Terphenyl* | *108* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 01:40* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH04

**Lab Sample ID: 890-4396-4**
**Matrix: Solid**
**Date Collected: 03/23/23 10:05**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 153 | | 4.98 | | mg/Kg | | | 04/01/23 02:56 | 1 |

## Client Sample ID: PH05

**Lab Sample ID: 890-4396-5**
**Matrix: Solid**
**Date Collected: 03/23/23 09:45**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 14:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 14:38* | *1* |
| *1,4-Difluorobenzene (Surr)* | *88* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 14:38* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/29/23 14:59 | 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 | | 03/28/23 10:11 | 03/29/23 02:02 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U *+ | 49.9 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 02:02 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 02:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 02:02* | *1* |
| *o-Terphenyl* | *104* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 02:02* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 183 | | 5.03 | | mg/Kg | | | 04/01/23 03:09 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH06

**Lab Sample ID: 890-4396-6**
**Matrix: Solid**
**Date Collected: 03/23/23 09:30**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *115* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:04* | *1* |
| *1,4-Difluorobenzene (Surr)* | *88* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:04* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 03/29/23 14:59 | 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 | | 03/28/23 10:11 | 03/29/23 02:23 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U *+ | 49.9 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 02:23 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/28/23 10:11 | 03/29/23 02:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *91* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 02:23* | *1* |
| *o-Terphenyl* | *109* | | *70 - 130* | *03/28/23 10:11* | *03/29/23 02:23* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **381** | | 5.04 | | mg/Kg | | | 04/01/23 03:14 | 1 |

## Client Sample ID: PH07

**Lab Sample ID: 890-4396-7**
**Matrix: Solid**
**Date Collected: 03/23/23 09:10**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.00201 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:31* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH07

**Lab Sample ID: 890-4396-7**
**Matrix: Solid**
**Date Collected: 03/23/23 09:10**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:31* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00402 | U | 0.00402 | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 03/30/23 12:56 | 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 | | 03/28/23 17:17 | 03/29/23 18:11 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 03/28/23 17:17 | 03/29/23 18:11 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 03/28/23 17:17 | 03/29/23 18:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *105* | | *70 - 130* | *03/28/23 17:17* | *03/29/23 18:11* | *1* |
| *o-Terphenyl* | *99* | | *70 - 130* | *03/28/23 17:17* | *03/29/23 18:11* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **371** | | 5.05 | mg/Kg | | | 04/01/23 03:19 | 1 |

## Client Sample ID: PH08

**Lab Sample ID: 890-4396-8**
**Matrix: Solid**
**Date Collected: 03/23/23 08:55**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | mg/Kg | | 04/03/23 13:16 | 04/05/23 15:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:57* | *1* |
| *1,4-Difluorobenzene (Surr)* | *84* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 15:57* | *1* |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | mg/Kg | | | 04/05/23 17:13 | 1 |

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 03/30/23 12:56 | 1 |

Eurofins Carlsbad

# Client Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH08

**Date Collected: 03/23/23 08:55**
**Date Received: 03/23/23 15:48**
**Sample Depth: 2'**

## Lab Sample ID: 890-4396-8

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 03/28/23 17:17 | 03/29/23 18:32 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 03/28/23 17:17 | 03/29/23 18:32 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 03/28/23 17:17 | 03/29/23 18:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *106* | | *70 - 130* | *03/28/23 17:17* | *03/29/23 18:32* | *1* |
| *o-Terphenyl* | *101* | | *70 - 130* | *03/28/23 17:17* | *03/29/23 18:32* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1210** | | 4.98 | | mg/Kg | | | 04/01/23 03:23 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
| 890-4396-1 | PH01 | 93 | 86 |
| 890-4396-1 MS | PH01 | 94 | 105 |
| 890-4396-1 MSD | PH01 | 95 | 103 |
| 890-4396-2 | PH02 | 104 | 89 |
| 890-4396-3 | PH03 | 111 | 97 |
| 890-4396-4 | PH04 | 110 | 94 |
| 890-4396-5 | PH05 | 106 | 88 |
| 890-4396-6 | PH06 | 115 | 88 |
| 890-4396-7 | PH07 | 101 | 92 |
| 890-4396-8 | PH08 | 112 | 84 |
| LCS 880-50193/1-A | Lab Control Sample | 101 | 78 |
| LCSD 880-50193/2-A | Lab Control Sample Dup | 102 | 97 |
| MB 880-50193/5-A | Method Blank | 63 S1- | 85 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| Lab Sample ID | Client Sample ID | 1CO1 (70-130) | OTPH1 (70-130) |
| 880-26267-A-10-B MS | Matrix Spike | 117 | 101 |
| 880-26267-A-10-C MSD | Matrix Spike Duplicate | 105 | 91 |
| 890-4387-A-7-B MS | Matrix Spike | 127 | 135 S1+ |
| 890-4387-A-7-C MSD | Matrix Spike Duplicate | 116 | 123 |
| 890-4396-1 | PH01 | 97 | 118 |
| 890-4396-2 | PH02 | 103 | 118 |
| 890-4396-3 | PH03 | 92 | 109 |
| 890-4396-4 | PH04 | 90 | 108 |
| 890-4396-5 | PH05 | 87 | 104 |
| 890-4396-6 | PH06 | 91 | 109 |
| 890-4396-7 | PH07 | 105 | 99 |
| 890-4396-8 | PH08 | 106 | 101 |
| LCS 880-49712/2-A | Lab Control Sample | 139 S1+ | 165 S1+ |
| LCS 880-49771/2-A | Lab Control Sample | 123 | 115 |
| LCSD 880-49712/3-A | Lab Control Sample Dup | 127 | 149 S1+ |
| LCSD 880-49771/3-A | Lab Control Sample Dup | 118 | 113 |
| MB 880-49712/1-A | Method Blank | 124 | 153 S1+ |
| MB 880-49771/1-A | Method Blank | 132 S1+ | 119 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: MB 880-50193/5-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50361** — **Prep Batch: 50193**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 04/03/23 13:16 | 04/05/23 12:26 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *63* | *S1-* | *70 - 130* | *04/03/23 13:16* | *04/05/23 12:26* | *1* |
| *1,4-Difluorobenzene (Surr)* | *85* | | *70 - 130* | *04/03/23 13:16* | *04/05/23 12:26* | *1* |

**Lab Sample ID: LCS 880-50193/1-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50361** — **Prep Batch: 50193**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08752 | | mg/Kg | | 88 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09671 | | mg/Kg | | 97 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09057 | | mg/Kg | | 91 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1752 | | mg/Kg | | 88 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.08957 | | mg/Kg | | 90 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *78* | | *70 - 130* |

**Lab Sample ID: LCSD 880-50193/2-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50361** — **Prep Batch: 50193**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1092 | | mg/Kg | | 109 | 70 - 130 | 22 | 35 |
| Toluene | | | 0.100 | 0.1119 | | mg/Kg | | 112 | 70 - 130 | 15 | 35 |
| Ethylbenzene | | | 0.100 | 0.1031 | | mg/Kg | | 103 | 70 - 130 | 13 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1996 | | mg/Kg | | 100 | 70 - 130 | 13 | 35 |
| o-Xylene | | | 0.100 | 0.1044 | | mg/Kg | | 104 | 70 - 130 | 15 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: 890-4396-1 MS** — **Client Sample ID: PH01**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50361** — **Prep Batch: 50193**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0998 | 0.09335 | | mg/Kg | | 94 | 70 - 130 | | |
| Toluene | <0.00200 | U | 0.0998 | 0.09259 | | mg/Kg | | 93 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: 890-4396-1 MS**
**Matrix: Solid**
**Analysis Batch: 50361**

**Client Sample ID: PH01**
**Prep Type: Total/NA**
**Prep Batch: 50193**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00200 | U | 0.0998 | 0.08958 | | mg/Kg | | 90 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.200 | 0.1736 | | mg/Kg | | 87 | 70 - 130 |
| o-Xylene | <0.00200 | U | 0.0998 | 0.08834 | | mg/Kg | | 89 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* |

**Lab Sample ID: 890-4396-1 MSD**
**Matrix: Solid**
**Analysis Batch: 50361**

**Client Sample ID: PH01**
**Prep Type: Total/NA**
**Prep Batch: 50193**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.100 | 0.09826 | | mg/Kg | | 98 | 70 - 130 | 5 | 35 |
| Toluene | <0.00200 | U | 0.100 | 0.09578 | | mg/Kg | | 95 | 70 - 130 | 3 | 35 |
| Ethylbenzene | <0.00200 | U | 0.100 | 0.09321 | | mg/Kg | | 93 | 70 - 130 | 4 | 35 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.201 | 0.1814 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |
| o-Xylene | <0.00200 | U | 0.100 | 0.09279 | | mg/Kg | | 92 | 70 - 130 | 5 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* |

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

**Lab Sample ID: MB 880-49712/1-A**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| 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 | | 03/28/23 10:11 | 03/28/23 21:43 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 03/28/23 10:11 | 03/28/23 21:43 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/28/23 10:11 | 03/28/23 21:43 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *124* | | *70 - 130* | *03/28/23 10:11* | *03/28/23 21:43* | *1* |
| *o-Terphenyl* | *153* | *S1+* | *70 - 130* | *03/28/23 10:11* | *03/28/23 21:43* | *1* |

**Lab Sample ID: LCS 880-49712/2-A**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 1940 | *+ | mg/Kg | | 194 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 2086 | *+ | mg/Kg | | 209 | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: LCS 880-49712/2-A**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 139 | S1+ | 70 - 130 |
| o-Terphenyl | 165 | S1+ | 70 - 130 |

**Lab Sample ID: LCSD 880-49712/3-A**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1829 | *+ | mg/Kg | | 183 | 70 - 130 | 6 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 1842 | *+ | mg/Kg | | 184 | 70 - 130 | 12 | 20 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 127 | | 70 - 130 |
| o-Terphenyl | 149 | S1+ | 70 - 130 |

**Lab Sample ID: 890-4387-A-7-B MS**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| 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 *+ | 998 | 1168 | | mg/Kg | | 114 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U *+ | 998 | 1219 | | mg/Kg | | 120 | 70 - 130 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 127 | | 70 - 130 |
| o-Terphenyl | 135 | S1+ | 70 - 130 |

**Lab Sample ID: 890-4387-A-7-C MSD**
**Matrix: Solid**
**Analysis Batch: 49689**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 49712**

| 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 | 1099 | | mg/Kg | | 107 | 70 - 130 | 6 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U *+ | 999 | 1195 | | mg/Kg | | 118 | 70 - 130 | 2 | 20 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 116 | | 70 - 130 |
| o-Terphenyl | 123 | | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: MB 880-49771/1-A**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| 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 | | 03/28/23 17:17 | 03/29/23 08:47 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/28/23 17:17 | 03/29/23 08:47 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/28/23 17:17 | 03/29/23 08:47 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *132* | *S1+* | *70 - 130* | *03/28/23 17:17* | *03/29/23 08:47* | *1* |
| *o-Terphenyl* | *119* | | *70 - 130* | *03/28/23 17:17* | *03/29/23 08:47* | *1* |

**Lab Sample ID: LCS 880-49771/2-A**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 846.1 | | mg/Kg | | 85 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 801.6 | | mg/Kg | | 80 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *123* | | *70 - 130* |
| *o-Terphenyl* | *115* | | *70 - 130* |

**Lab Sample ID: LCSD 880-49771/3-A**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 820.0 | | mg/Kg | | 82 | 70 - 130 | 3 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 833.0 | | mg/Kg | | 83 | 70 - 130 | 4 | 20 |

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

**Lab Sample ID: 880-26267-A-10-B MS**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| 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 | 998 | 1118 | | mg/Kg | | 109 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 998 | 833.6 | | mg/Kg | | 81 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: 880-26267-A-10-B MS**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 117 | | 70 - 130 |
| o-Terphenyl | 101 | | 70 - 130 |

**Lab Sample ID: 880-26267-A-10-C MSD**
**Matrix: Solid**
**Analysis Batch: 49783**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 49771**

| 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 | 1004 | | mg/Kg | | 98 | 70 - 130 | 11 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 999 | 748.7 | | mg/Kg | | 72 | 70 - 130 | 11 | 20 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 105 | | 70 - 130 |
| o-Terphenyl | 91 | | 70 - 130 |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-50012/1-A**
**Matrix: Solid**
**Analysis Batch: 50068**

**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 | | | 04/01/23 01:23 | 1 |

**Lab Sample ID: LCS 880-50012/2-A**
**Matrix: Solid**
**Analysis Batch: 50068**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 248.9 | | mg/Kg | | 100 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-50012/3-A**
**Matrix: Solid**
**Analysis Batch: 50068**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 246.9 | | mg/Kg | | 99 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-4396-2 MS**
**Matrix: Solid**
**Analysis Batch: 50068**

**Client Sample ID: PH02**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 275 | | 248 | 500.9 | | mg/Kg | | 91 | 90 - 110 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Lab Sample ID: 890-4396-2 MSD**
**Matrix: Solid**
**Analysis Batch: 50068**

**Client Sample ID: PH02**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 275 | | 248 | 499.5 | | mg/Kg | | 91 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## GC VOA

### Prep Batch: 50193

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | 5035 | |
| 890-4396-2 | PH02 | Total/NA | Solid | 5035 | |
| 890-4396-3 | PH03 | Total/NA | Solid | 5035 | |
| 890-4396-4 | PH04 | Total/NA | Solid | 5035 | |
| 890-4396-5 | PH05 | Total/NA | Solid | 5035 | |
| 890-4396-6 | PH06 | Total/NA | Solid | 5035 | |
| 890-4396-7 | PH07 | Total/NA | Solid | 5035 | |
| 890-4396-8 | PH08 | Total/NA | Solid | 5035 | |
| MB 880-50193/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-50193/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-50193/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-4396-1 MS | PH01 | Total/NA | Solid | 5035 | |
| 890-4396-1 MSD | PH01 | Total/NA | Solid | 5035 | |

### Analysis Batch: 50361

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-2 | PH02 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-3 | PH03 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-4 | PH04 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-5 | PH05 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-6 | PH06 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-7 | PH07 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-8 | PH08 | Total/NA | Solid | 8021B | 50193 |
| MB 880-50193/5-A | Method Blank | Total/NA | Solid | 8021B | 50193 |
| LCS 880-50193/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 50193 |
| LCSD 880-50193/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 50193 |
| 890-4396-1 MS | PH01 | Total/NA | Solid | 8021B | 50193 |
| 890-4396-1 MSD | PH01 | Total/NA | Solid | 8021B | 50193 |

### Analysis Batch: 50432

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | Total BTEX | |
| 890-4396-2 | PH02 | Total/NA | Solid | Total BTEX | |
| 890-4396-3 | PH03 | Total/NA | Solid | Total BTEX | |
| 890-4396-4 | PH04 | Total/NA | Solid | Total BTEX | |
| 890-4396-5 | PH05 | Total/NA | Solid | Total BTEX | |
| 890-4396-6 | PH06 | Total/NA | Solid | Total BTEX | |
| 890-4396-7 | PH07 | Total/NA | Solid | Total BTEX | |
| 890-4396-8 | PH08 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Analysis Batch: 49689

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | 8015B NM | 49712 |
| 890-4396-2 | PH02 | Total/NA | Solid | 8015B NM | 49712 |
| 890-4396-3 | PH03 | Total/NA | Solid | 8015B NM | 49712 |
| 890-4396-4 | PH04 | Total/NA | Solid | 8015B NM | 49712 |
| 890-4396-5 | PH05 | Total/NA | Solid | 8015B NM | 49712 |
| 890-4396-6 | PH06 | Total/NA | Solid | 8015B NM | 49712 |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## GC Semi VOA (Continued)

### Analysis Batch: 49689 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-49712/1-A | Method Blank | Total/NA | Solid | 8015B NM | 49712 |
| LCS 880-49712/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 49712 |
| LCSD 880-49712/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 49712 |
| 890-4387-A-7-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 49712 |
| 890-4387-A-7-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 49712 |

### Prep Batch: 49712

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-2 | PH02 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-3 | PH03 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-4 | PH04 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-5 | PH05 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-6 | PH06 | Total/NA | Solid | 8015NM Prep | |
| MB 880-49712/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-49712/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-49712/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-4387-A-7-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-4387-A-7-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Prep Batch: 49771

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-7 | PH07 | Total/NA | Solid | 8015NM Prep | |
| 890-4396-8 | PH08 | Total/NA | Solid | 8015NM Prep | |
| MB 880-49771/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-49771/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-49771/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-26267-A-10-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-26267-A-10-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 49783

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-7 | PH07 | Total/NA | Solid | 8015B NM | 49771 |
| 890-4396-8 | PH08 | Total/NA | Solid | 8015B NM | 49771 |
| MB 880-49771/1-A | Method Blank | Total/NA | Solid | 8015B NM | 49771 |
| LCS 880-49771/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 49771 |
| LCSD 880-49771/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 49771 |
| 880-26267-A-10-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 49771 |
| 880-26267-A-10-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 49771 |

### Analysis Batch: 49858

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Total/NA | Solid | 8015 NM | |
| 890-4396-2 | PH02 | Total/NA | Solid | 8015 NM | |
| 890-4396-3 | PH03 | Total/NA | Solid | 8015 NM | |
| 890-4396-4 | PH04 | Total/NA | Solid | 8015 NM | |
| 890-4396-5 | PH05 | Total/NA | Solid | 8015 NM | |
| 890-4396-6 | PH06 | Total/NA | Solid | 8015 NM | |
| 890-4396-7 | PH07 | Total/NA | Solid | 8015 NM | |
| 890-4396-8 | PH08 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## HPLC/IC

### Leach Batch: 50012

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Soluble | Solid | DI Leach | |
| 890-4396-2 | PH02 | Soluble | Solid | DI Leach | |
| 890-4396-3 | PH03 | Soluble | Solid | DI Leach | |
| 890-4396-4 | PH04 | Soluble | Solid | DI Leach | |
| 890-4396-5 | PH05 | Soluble | Solid | DI Leach | |
| 890-4396-6 | PH06 | Soluble | Solid | DI Leach | |
| 890-4396-7 | PH07 | Soluble | Solid | DI Leach | |
| 890-4396-8 | PH08 | Soluble | Solid | DI Leach | |
| MB 880-50012/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-50012/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-50012/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4396-2 MS | PH02 | Soluble | Solid | DI Leach | |
| 890-4396-2 MSD | PH02 | Soluble | Solid | DI Leach | |

### Analysis Batch: 50068

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-2 | PH02 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-3 | PH03 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-4 | PH04 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-5 | PH05 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-6 | PH06 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-7 | PH07 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-8 | PH08 | Soluble | Solid | 300.0 | 50012 |
| MB 880-50012/1-A | Method Blank | Soluble | Solid | 300.0 | 50012 |
| LCS 880-50012/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 50012 |
| LCSD 880-50012/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 50012 |
| 890-4396-2 MS | PH02 | Soluble | Solid | 300.0 | 50012 |
| 890-4396-2 MSD | PH02 | Soluble | Solid | 300.0 | 50012 |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH01

**Date Collected: 03/23/23 10:30**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-1**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 12:53 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.04 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 00:35 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 50068 | 04/01/23 02:33 | SMC | EET MID |

## Client Sample ID: PH02

**Date Collected: 03/23/23 10:20**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-2**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 13:19 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.05 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 00:57 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 02:38 | SMC | EET MID |

## Client Sample ID: PH03

**Date Collected: 03/23/23 09:55**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-3**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 13:46 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 01:18 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 02:51 | SMC | EET MID |

## Client Sample ID: PH04

**Date Collected: 03/23/23 10:05**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-4**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.05 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 14:12 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH04

**Date Collected: 03/23/23 10:05**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-4**
**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 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 01:40 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 02:56 | SMC | EET MID |

## Client Sample ID: PH05

**Date Collected: 03/23/23 09:45**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-5**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 14:38 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 02:02 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 03:09 | SMC | EET MID |

## Client Sample ID: PH06

**Date Collected: 03/23/23 09:30**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-6**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 15:04 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/29/23 14:59 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 49712 | 03/28/23 10:11 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49689 | 03/29/23 02:23 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 03:14 | SMC | EET MID |

## Client Sample ID: PH07

**Date Collected: 03/23/23 09:10**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-7**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.97 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 15:31 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/30/23 12:56 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 49771 | 03/28/23 17:17 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49783 | 03/29/23 18:11 | SM | EET MID |

Eurofins Carlsbad

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Client Sample ID: PH07

**Date Collected: 03/23/23 09:10**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-7**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 4.95 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 03:19 | SMC | EET MID |

## Client Sample ID: PH08

**Date Collected: 03/23/23 08:55**
**Date Received: 03/23/23 15:48**

**Lab Sample ID: 890-4396-8**
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 50193 | 04/03/23 13:16 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50361 | 04/05/23 15:57 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50432 | 04/05/23 17:13 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49858 | 03/30/23 12:56 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 49771 | 03/28/23 17:17 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 49783 | 03/29/23 18:32 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 50012 | 03/31/23 09:26 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50068 | 04/01/23 03:23 | 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: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4396-1
SDG: 03C1558187

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4396-1 | PH01 | Solid | 03/23/23 10:30 | 03/23/23 15:48 | 2' |
| 890-4396-2 | PH02 | Solid | 03/23/23 10:20 | 03/23/23 15:48 | 2' |
| 890-4396-3 | PH03 | Solid | 03/23/23 09:55 | 03/23/23 15:48 | 2' |
| 890-4396-4 | PH04 | Solid | 03/23/23 10:05 | 03/23/23 15:48 | 2' |
| 890-4396-5 | PH05 | Solid | 03/23/23 09:45 | 03/23/23 15:48 | 2' |
| 890-4396-6 | PH06 | Solid | 03/23/23 09:30 | 03/23/23 15:48 | 2' |
| 890-4396-7 | PH07 | Solid | 03/23/23 09:10 | 03/23/23 15:48 | 2' |
| 890-4396-8 | PH08 | Solid | 03/23/23 08:55 | 03/23/23 15:48 | 2' |

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# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Ben Belill | 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: | 989-854-0852 | Email: | bbelill@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | Remuda 500 | Turn Around | ☑ Routine ☐ Rush |
| Project Number: | 03C1558187 | Due Date: | |
| Project Location: | 32.26994, -103.93624 | 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: | IR-07 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 2.2 |
| Total Containers: | | Corrected Temperature: | 2.0 |

**Preservative Codes**

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

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | Parameters: BTEX | Chlorides | TPH | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PH01 | S | 3/23/23 | 1030 | 2' | G | 1 | | X | X | X | Incident ID: |
| PH02 | | | 1020 | | | | | | | | NAPP2303854000 |
| PH03 | | | 0955 | | | | | | | | |
| PH04 | | | 1005 | | | | | | | | Cost Center: |
| PH05 | | | 0945 | | | | | | | | 1067601001 |
| PH06 | | | 0930 | | | | | | | | |
| PH07 | | | 0910 | | | | | | | | mroberts@ensolum.com |
| PH08 | ↓ | ↓ | 0855 | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | |
| | | | | | | | | → five | | | Samples say (EAST) |
| | | | | | | | | | | | after proj. name |

890-4396 Chain of Custody

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

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

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 3/23/23 1545 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4396-1
SDG Number: 03C1558187

**Login Number: 4396**
**List Number: 1**
**Creator: Stutzman, Amanda**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4396-1
SDG Number: 03C1558187

**Login Number: 4396**
**List Number: 2**
**Creator: Kramer, Jessica**

**List Source: Eurofins Midland**
**List Creation: 03/28/23 01:37 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? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 4/14/2023 11:33:39 AM

## JOB DESCRIPTION

Remuda 500
SDG NUMBER 03C1558187

## JOB NUMBER

890-4484-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

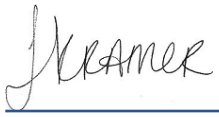
# Eurofins Carlsbad

## 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



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4/14/2023 11:33:39 AM

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

Client: Ensolum
Project/Site: Remuda 500

Laboratory Job ID: 890-4484-1
SDG: 03C1558187

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# Definitions/Glossary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## Qualifiers

### GC VOA

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

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| S1- | Surrogate recovery exceeds control limits, low 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: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## Job ID: 890-4484-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-4484-1**

**Receipt**
The sample was received on 4/7/2023 1:47 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**
The following sample was received and analyzed from an unpreserved bulk soil jar: SS14 (890-4484-1).

**GC VOA**
Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-26842-A-1-G MS) and (880-26842-A-1-H MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-50884 and analytical batch 880-51006 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Toluene in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

**GC Semi VOA**
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-50902/2-A) and (LCSD 880-50902/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-26982-A-1-D MS) and (880-26982-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS14 (890-4484-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-50902 and analytical batch 880-50866 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

**HPLC/IC**
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: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

**Client Sample ID: SS14**
**Date Collected: 04/07/23 12:15**
**Date Received: 04/07/23 13:47**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4484-1**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 02:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *70 - 130* | *04/11/23 10:01* | *04/14/23 02:35* | *1* |
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* | *04/11/23 10:01* | *04/14/23 02:35* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 04/14/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 04/12/23 09:01 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 04/11/23 11:07 | 04/12/23 00:06 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 04/11/23 11:07 | 04/12/23 00:06 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 04/11/23 11:07 | 04/12/23 00:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *64* | *S1-* | *70 - 130* | *04/11/23 11:07* | *04/12/23 00:06* | *1* |
| *o-Terphenyl* | *66* | *S1-* | *70 - 130* | *04/11/23 11:07* | *04/12/23 00:06* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **393** | | 4.98 | | mg/Kg | | | 04/13/23 12:20 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BFB1 | DFBZ1 | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | | | | | | | | | | |
| 880-26842-A-1-G MS | Matrix Spike | 64 S1- | 68 S1- | | | | | | | | | | |
| 880-26842-A-1-H MSD | Matrix Spike Duplicate | 66 S1- | 74 | | | | | | | | | | |
| 890-4484-1 | SS14 | 102 | 105 | | | | | | | | | | |
| LCS 880-50884/1-A | Lab Control Sample | 103 | 111 | | | | | | | | | | |
| LCSD 880-50884/2-A | Lab Control Sample Dup | 101 | 109 | | | | | | | | | | |
| MB 880-50884/5-A | Method Blank | 91 | 97 | | | | | | | | | | |
| MB 880-50904/5-A | Method Blank | 94 | 99 | | | | | | | | | | |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1CO1 | OTPH1 | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) | | | | | | | | | | |
| 880-26982-A-1-D MS | Matrix Spike | 74 | 67 S1- | | | | | | | | | | |
| 880-26982-A-1-E MSD | Matrix Spike Duplicate | 76 | 69 S1- | | | | | | | | | | |
| 890-4484-1 | SS14 | 64 S1- | 66 S1- | | | | | | | | | | |
| LCS 880-50902/2-A | Lab Control Sample | 9 S1- | 7 S1- | | | | | | | | | | |
| LCSD 880-50902/3-A | Lab Control Sample Dup | 9 S1- | 7 S1- | | | | | | | | | | |
| MB 880-50902/1-A | Method Blank | 83 | 92 | | | | | | | | | | |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

**Lab Sample ID: MB 880-50884/5-A**
**Matrix: Solid**
**Analysis Batch: 51006**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 50884**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 04/11/23 10:01 | 04/14/23 00:03 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | *04/11/23 10:01* | *04/14/23 00:03* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *04/11/23 10:01* | *04/14/23 00:03* | *1* |

**Lab Sample ID: LCS 880-50884/1-A**
**Matrix: Solid**
**Analysis Batch: 51006**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 50884**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1075 | | mg/Kg | | 107 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1033 | | mg/Kg | | 103 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09454 | | mg/Kg | | 95 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1871 | | mg/Kg | | 94 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.09528 | | mg/Kg | | 95 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *111* | | *70 - 130* |

**Lab Sample ID: LCSD 880-50884/2-A**
**Matrix: Solid**
**Analysis Batch: 51006**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 50884**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1132 | | mg/Kg | | 113 | 70 - 130 | 5 | 35 |
| Toluene | | | 0.100 | 0.1110 | | mg/Kg | | 111 | 70 - 130 | 7 | 35 |
| Ethylbenzene | | | 0.100 | 0.09905 | | mg/Kg | | 99 | 70 - 130 | 5 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1953 | | mg/Kg | | 98 | 70 - 130 | 4 | 35 |
| o-Xylene | | | 0.100 | 0.1006 | | mg/Kg | | 101 | 70 - 130 | 5 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *109* | | *70 - 130* |

**Lab Sample ID: 880-26842-A-1-G MS**
**Matrix: Solid**
**Analysis Batch: 51006**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 50884**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.193 | F1 | 0.101 | 0.2291 | F1 | mg/Kg | | 36 | 70 - 130 | | |
| Ethylbenzene | 0.237 | F1 | 0.101 | 0.2480 | F1 | mg/Kg | | 10 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

**Lab Sample ID: 880-26842-A-1-G MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 51006** — **Prep Batch: 50884**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | 0.575 | F1 | 0.201 | 0.5756 | F1 | mg/Kg | | 0.3 | 70 - 130 |
| o-Xylene | 0.217 | F1 | 0.101 | 0.2325 | F1 | mg/Kg | | 15 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *64* | *S1-* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *68* | *S1-* | *70 - 130* |

**Lab Sample ID: 880-26842-A-1-H MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 51006** — **Prep Batch: 50884**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.193 | F1 | 0.0990 | 0.2126 | F1 | mg/Kg | | 20 | 70 - 130 | 7 | 35 |
| Ethylbenzene | 0.237 | F1 | 0.0990 | 0.2397 | F1 | mg/Kg | | 2 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | 0.575 | F1 | 0.198 | 0.5704 | F1 | mg/Kg | | -2 | 70 - 130 | 1 | 35 |
| o-Xylene | 0.217 | F1 | 0.0990 | 0.2298 | F1 | mg/Kg | | 13 | 70 - 130 | 1 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *66* | *S1-* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *74* | | *70 - 130* |

**Lab Sample ID: MB 880-50904/5-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 51006** — **Prep Batch: 50904**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | mg/Kg | | 04/11/23 11:19 | 04/13/23 12:26 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | *04/11/23 11:19* | *04/13/23 12:26* | *1* |
| *1,4-Difluorobenzene (Surr)* | *99* | | *70 - 130* | *04/11/23 11:19* | *04/13/23 12:26* | *1* |

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

**Lab Sample ID: MB 880-50902/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| 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 | | 04/11/23 11:07 | 04/11/23 21:06 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 04/11/23 11:07 | 04/11/23 21:06 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 04/11/23 11:07 | 04/11/23 21:06 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 83 | | 70 - 130 | 04/11/23 11:07 | 04/11/23 21:06 | 1 |
| o-Terphenyl | 92 | | 70 - 130 | 04/11/23 11:07 | 04/11/23 21:06 | 1 |

**Lab Sample ID: LCS 880-50902/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1136 | | mg/Kg | | 114 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 967.0 | | mg/Kg | | 97 | 70 - 130 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 9 | S1- | 70 - 130 |
| o-Terphenyl | 7 | S1- | 70 - 130 |

**Lab Sample ID: LCSD 880-50902/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1102 | | mg/Kg | | 110 | 70 - 130 | 3 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 946.9 | | mg/Kg | | 95 | 70 - 130 | 2 | 20 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 9 | S1- | 70 - 130 |
| o-Terphenyl | 7 | S1- | 70 - 130 |

**Lab Sample ID: 880-26982-A-1-D MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| 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 | 996 | 1099 | | mg/Kg | | 108 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 996 | 1051 | | mg/Kg | | 103 | 70 - 130 | | |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 74 | | 70 - 130 |
| o-Terphenyl | 67 | S1- | 70 - 130 |

**Lab Sample ID: 880-26982-A-1-E MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| 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 | 998 | 1116 | | mg/Kg | | 110 | 70 - 130 | 2 | 20 |

# QC Sample Results

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

**Lab Sample ID: 880-26982-A-1-E MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 50866** — **Prep Batch: 50902**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 998 | 1072 | | mg/Kg | | 105 | 70 - 130 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *76* | | *70 - 130* |
| *o-Terphenyl* | *69* | *S1-* | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-50787/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 51052**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 04/13/23 10:24 | 1 |

**Lab Sample ID: LCS 880-50787/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 51052**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 232.1 | | mg/Kg | | 93 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-50787/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 51052**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 234.3 | | mg/Kg | | 94 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-4480-A-6-F MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 51052**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 101 | | 249 | 328.0 | | mg/Kg | | 91 | 90 - 110 | | |

**Lab Sample ID: 890-4480-A-6-G MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 51052**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 101 | | 249 | 329.2 | | mg/Kg | | 92 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## GC VOA

### Prep Batch: 50884

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | 5035 | |
| MB 880-50884/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-50884/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-50884/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-26842-A-1-G MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-26842-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Prep Batch: 50904

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-50904/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 51006

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | 8021B | 50884 |
| MB 880-50884/5-A | Method Blank | Total/NA | Solid | 8021B | 50884 |
| MB 880-50904/5-A | Method Blank | Total/NA | Solid | 8021B | 50904 |
| LCS 880-50884/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 50884 |
| LCSD 880-50884/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 50884 |
| 880-26842-A-1-G MS | Matrix Spike | Total/NA | Solid | 8021B | 50884 |
| 880-26842-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 50884 |

### Analysis Batch: 51161

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Analysis Batch: 50866

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | 8015B NM | 50902 |
| MB 880-50902/1-A | Method Blank | Total/NA | Solid | 8015B NM | 50902 |
| LCS 880-50902/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 50902 |
| LCSD 880-50902/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 50902 |
| 880-26982-A-1-D MS | Matrix Spike | Total/NA | Solid | 8015B NM | 50902 |
| 880-26982-A-1-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 50902 |

### Prep Batch: 50902

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | 8015NM Prep | |
| MB 880-50902/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-50902/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-50902/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-26982-A-1-D MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-26982-A-1-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 50952

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## HPLC/IC

### Leach Batch: 50787

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Soluble | Solid | DI Leach | |
| MB 880-50787/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-50787/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-50787/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4480-A-6-F MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-4480-A-6-G MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 51052

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Soluble | Solid | 300.0 | 50787 |
| MB 880-50787/1-A | Method Blank | Soluble | Solid | 300.0 | 50787 |
| LCS 880-50787/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 50787 |
| LCSD 880-50787/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 50787 |
| 890-4480-A-6-F MS | Matrix Spike | Soluble | Solid | 300.0 | 50787 |
| 890-4480-A-6-G MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 50787 |

# Lab Chronicle

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## Client Sample ID: SS14

**Date Collected: 04/07/23 12:15**
**Date Received: 04/07/23 13:47**

## Lab Sample ID: 890-4484-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 50884 | 04/11/23 10:01 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 51006 | 04/14/23 02:35 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 51161 | 04/14/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 50952 | 04/12/23 09:01 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 50902 | 04/11/23 11:07 | SM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 50866 | 04/12/23 00:06 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 50787 | 04/10/23 09:47 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 51052 | 04/13/23 12:20 | 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: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: Remuda 500

Job ID: 890-4484-1
SDG: 03C1558187

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4484-1 | SS14 | Solid | 04/07/23 12:15 | 04/07/23 13:47 | 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: | Ben Belill | 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: | 989-854-0852 Email: | | bbelill@ensolum.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | Remuda 500 | Turn Around | Pres. Code |
| Project Number: | 03C558187 | ☑ Routine ☐ Rush | |
| Project Location: | 32.26994, -103.93624 | Due Date: | |
| Sampler's Name: | Meredith Roberts | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Samples Received Intact: | Yes No | Thermometer ID: | IR#09 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 3.8 |
| Total Containers: | | Corrected Temperature: | 3.6 |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | BTEX | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|
| SS14 | S | 4/7/23 | 1215 | 0.5' | G | 1 | X | X | X |

890-4484 Chain of Custody

**Preservative Codes**

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

**Sample Comments**

Incident #:
NAPP2303854000

Cost Center:
1067601001

mroberts@ensolum.com

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

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

| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 4.7.23 1347 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4484-1
SDG Number: 03C1558187

**Login Number: 4484**
**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: 890-4484-1
SDG Number: 03C1558187

**Login Number: 4484**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 04/11/23 10:22 AM**

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

ENSOLUM

# APPENDIX E

## NMOCD Notifications

**From:** Green, Garrett J
**To:** Tacoma Morrissey; Ben Belill
**Subject:** FW: [EXTERNAL] XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)
**Date:** Friday, March 17, 2023 1:38:12 PM

[ **EXTERNAL EMAIL**]

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
**Sent:** Thursday, March 16, 2023 4:33 PM
**To:** Green, Garrett J <garrett.green@exxonmobil.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
**Subject:** RE: [EXTERNAL] XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)

External Email – Think Before You Click

Garrett,

Please be aware that notification requirements are **two business days**, per rule. Please include specific days and times you will be sampling each site. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

**Jocelyn Harimon** ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

**From:** Green, Garrett J <garrett.green@exxonmobil.com>
**Sent:** Thursday, March 16, 2023 9:52 AM
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
**Subject:** [EXTERNAL] XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on

links or opening attachments.

All,

XTO plans to complete final sampling activities at the additional site the week of Mar 20, 2023.

-
- PLU 27 BD 163 / nAPP2226337852
- PLU CVX JV BS 008H / NAB1602154960
- PLU 420H / nAB1834656162
- Perla Verde 31 State battery/ nAPP2303444414
- BEU Hackberry / nAB1726335399
- Remuda 500 CTB / nAPP2303854000 & nAPP2306544797
- Indian Deep Com 7/ NAPP2301152626
- Nash Unit 36 / nAPP2224236187

Thank you,

**Garrett Green**
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

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

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

CONDITIONS

Action 211021

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>211021 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jharimon | Final remediation and reclamation shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations. | 8/28/2023 |