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 | NAPP2317055972 |
| 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 32.13322 Longitude -103.92790

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

| | |
|---|---|
| Site Name PLU 18 Brushy Draw West CTB | Site Type Tank Battery |
| Date Release Discovered 06/14/2023 | API# *(if applicable)* |

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

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☒ Crude Oil | Volume Released (bbls) 5.01 | Volume Recovered (bbls) 5.00 |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: The top diaphragm gasket on the water dump on the bulk separator failed, causing the valve to hang open, sending fluid to the skim tank. Fluids released to both containment and pad. All contained fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2317055972 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| 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: 6/19/2023

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

**OCD Only**

Received by: Shelly Wells  Date: 6/21/2023

| Location: | PLU 18 Brushy Draw West CTB | |
|---|---|---|
| Spill Date: | 6/14/2023 | |
| **Area 1** | | |
| Approximate Area = | 28.01 | cu. ft. |
| VOLUME OF LEAK | | |
| Total Crude Oil = | 5.00 | bbls |
| Total Produced Water = | 0.00 | bbls |
| **Area 2** | | |
| Approximate Area = | 511.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 0.03 | inches |

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

| VOLUME OF LEAK | | |
|---|---|---|
| Total Crude Oil = | 0.01 | bbls |
| Total Produced Water = | 0.00 | bbls |

| **TOTAL VOLUME OF LEAK** | | |
|---|---|---|
| **Total Crude Oil =** | **5.01** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Crude Oil =** | **5.00** | **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

COMMENTS

Action 230341

## COMMENTS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>230341 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**COMMENTS**

| Created By | Comment | Comment Date |
|---|---|---|
| csmith | Returned to OCD Review - Reviewer did not replace signed filed before submission. | 6/21/2023 |

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

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



## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>230341 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| scwells | None | 6/21/2023 |

| | |
|---|---|
| Incident ID | NAPP2317055972 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2317055972 |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: Garrett Green Title: HSSE Coordinator

Signature: Date: 9/7/2023

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

**OCD Only**

Received by: Scott Rodgers Date: 09/12/2023

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2317055972 |
| 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: HSSE Coordinator

Signature: Date: 9/7/2023

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

**OCD Only**

Received by: Scott Rodgers Date: 09/12/2023

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

September 7, 2023

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

**Re: Closure Request**
**PLU 18 Brushy Draw West CTB**
**Incident Number nAPP2317055972**
**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 PLU 18 Brushy Draw West CTB (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil 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 nAPP2317055972.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit E, Section 18, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.13322°, -103.92790°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On June 14, 2023, the top diaphragm gasket on a water dump line from the bulk separator failed. This caused the valve to be stuck open and send fluid to the skim tank. Fluids were released to both the lined containment and unlined well pad in the immediate vicinity of the containment. All fluids released inside the containment, approximately 5.0 barrels (bbls) were able to be recovered by vacuum truck; however, a small volume of fluid misted the area immediately outside of the containment and was not recovered (approximately 0.01 bbls). XTO notified the New Mexico Oil Conservation Division (NMOCD) submitted a *Release Notification* Form C-141 (Form C-141) on June 19, 2023, and the release was assigned Incident Number nAPP2317055972.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest groundwater well is permitted by the New Mexico Office of the State Engineer (OSE file number C-04529) and is located approximately 86 feet northwest of the release. This boring was drilled to assess depth to groundwater on May 14, 2021. The boring was drilled to a total depth of 101 feet bgs and allowed to equilibrate for at least 72 hours to allow for slow infill of water to enter the well, if present. Groundwater was not detected during drilling or after

the 72-hour waiting period. All wells used for depth to water determination are depicted on Figure 1 and the Well Record and Log for OSE file number C-04529 is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater stream located approximately 3,752 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area).

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

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

## SITE ASSESSMENT ACTIVITIES

On July 7, 2023, Site assessment activities were conducted at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six delineation soil samples (SS01 through SS06) were collected within and around the release extent at a depth of 0.5 feet bgs. Soil samples SS01 and SS02 were collected within the release extent to assess for the presence of absence of soil impacted soil. Soil samples SS03 through SS06 were collected around the release extent to confirm the lateral extent of the release. 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. No obvious indications of staining or odors were present during the Site assessment activities. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. 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 (COCs): 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.

Laboratory analytical results for delineation samples SS01 through SS06 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for delineation samples SS03 through SS06 provided lateral delineation of the release to the strictest Table I Closure Criteria. Additional vertical delineation activities were warranted within the release extent to further confirm the absence of impacted soil.

On July 27, 2023, Ensolum personnel returned to the Site to complete vertical delineation activities to confirm the absence of impacted soil at depth. Two hand auger borings, BH01 and BH02, were advanced within the release footprint in the same locations as initial samples SS01 and SS02,

respectively. Discrete delineation soil samples were collected from each boring at a depth of 1-foot bgs. The delineation soil samples were field screened, handled, and analyzed as described above. The soil sample locations are depicted on Figure 2. Laboratory analytical results for vertical delineation samples BH01 and BH02 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results are summarized in Table 1, with the complete laboratory analytical reports included as Appendix C.

Additionally, XTO performed a liner inspection of the lined containment on July 27, 2023, and confirmed the liner was intact with no integrity issues. Photographs taken during the liner inspection are also included in Appendix B. Notifications provided to the NMOCD for the confirmation sampling and the liner integrity inspection are included as Appendix D.

## CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the June 14, 2023, release of crude oil. Laboratory analytical results for the delineation soil samples indicated petroleum hydrocarbon and chloride impacts were not present at the Site exceeding the applicable Table I Closure Criteria. Additionally, the release was laterally delineated to the strictest Table I Closure Criteria by soil samples SS03 through SS06.

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 the Site Closure Criteria, no further remediation is required. As such, XTO respectfully requests closure for Incident Number nAPP2317055972.

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

Sincerely,
**Ensolum, LLC**

Stuart Hyde, LG
Senior Geologist

Daniel R. Moir, PG
Senior Managing Geologist

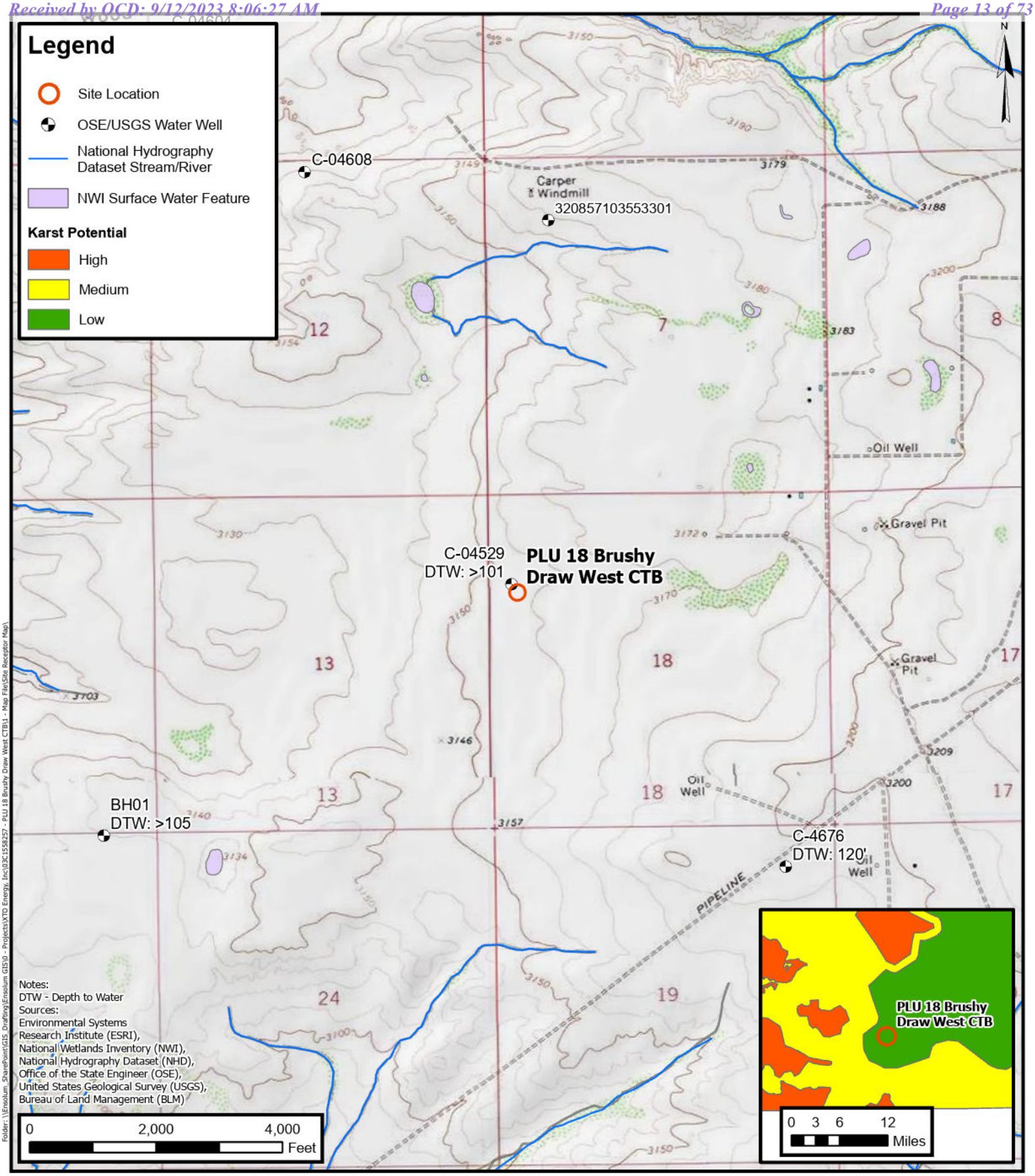
cc: Garrett Green, XTO
BLM

**Attachments:**

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

ENSOLUM

# FIGURES

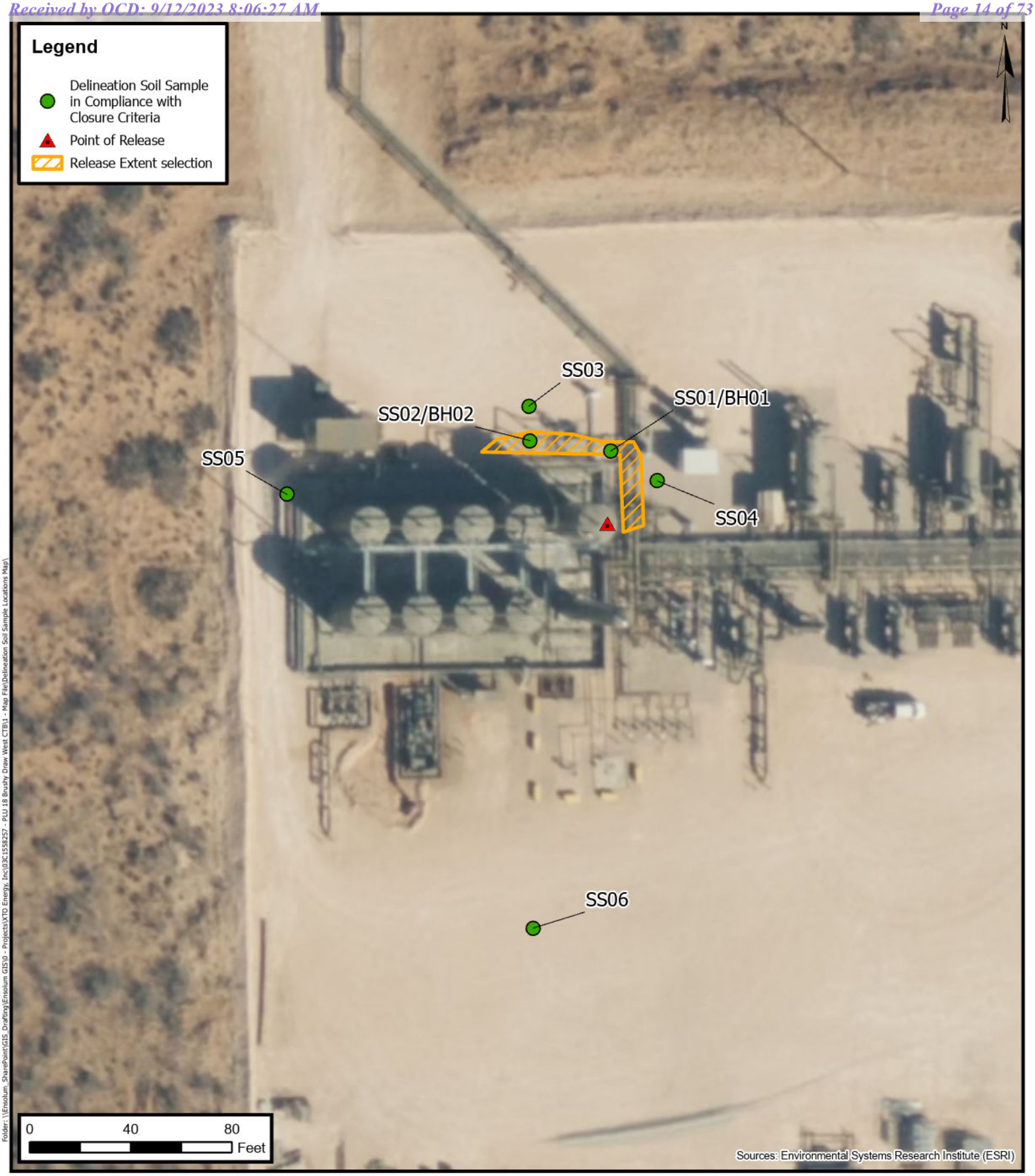



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Site Receptor Map

XTO Energy INC.
PLU 18 Brushy Draw West CTB
Incident Number: nAPP2317055972
32.13322 -103.9279
Eddy County, New Mexico

**FIGURE 1**




Folder: \\Ensolum SharePoint\GIS Drafting\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558257 - PLU 18 Brushy Draw West CTB\1 - Map File\Delineation Soil Sample Locations Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

# Delineation Soil Sample Locations

XTO Energy INC.
PLU 18 Brushy Draw West CTB
Incident Number: nAPP2317055972
32.13322 -103.9279
Eddy County, New Mexico

**FIGURE 2**

ENSOLUM

# TABLES

ENSOLUM

**TABLE 1**
**SOIL SAMPLE ANALYTICAL RESULTS**
**PLU 18 Brushy Draw West CTB**
**XTO Energy, Inc**
**Eddy County, New Mexico**

| Sample I.D. | Sample Date | Sample Depth (feet bgs) | Benzene (mg/kg) | Total BTEX (mg/kg) | TPH GRO (mg/kg) | TPH DRO (mg/kg) | TPH ORO (mg/kg) | GRO+DRO (mg/kg) | Total TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| NMOCD Table I Closure Criteria (NMAC 19.15.29) | | | 10 | 50 | NE | NE | NE | 1,000 | 2,500 | 20,000 |
| Delineation Soil Samples | | | | | | | | | | |
| SS01 | 07/07/2023 | 0.5 | <0.00199 | <0.00398 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 119 |
| BH01 | 07/27/2023 | 1 | <0.00202 | <0.00404 | <50.5 | <50.5 | <50.5 | <50.5 | <50.5 | 188 |
| SS02 | 07/07/2023 | 0.5 | <0.00200 | <0.00399 | <50.5 | 166 | <50.5 | 166 | 166 | 719 |
| BH02 | 07/27/2023 | 1 | <0.00200 | <0.00401 | <50.0 | 118 | <50.0 | 118 | 118 | 459 |
| SS03 | 07/07/2023 | 0.5 | <0.00199 | <0.00398 | 87.8 | <50.3 | <50.3 | 87.8 | 87.8 | 53.4 |
| SS04 | 07/07/2023 | 0.5 | <0.00198 | <0.00396 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 37.5 |
| SS05 | 07/07/2023 | 0.5 | <0.00201 | <0.00402 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 288 |
| SS06 | 07/07/2023 | 0.5 | <0.00202 | <0.00404 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 11.2 |

**Notes:**

bgs: below ground surface
mg/kg: milligrams per kilogram
NMAC: New Mexico Administrative Code
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

ENSOLUM

# APPENDIX A

## Referenced Well Records

# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

**1. GENERAL AND WELL LOCATION**

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

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

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

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

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE
NW NW Sec. 18 T25S R30E

**2. DRILLING & CASING INFORMATION**

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

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

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

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

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

**3. ANNULAR MATERIAL**

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

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

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

OSE DIT JUN 10 2021 PM 2:45

**4. HYDROGEOLOGIC LOG OF WELL**

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

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

**5. TEST; RIG SUPERVISION**

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

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

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

Shane Eldridge, Carmelo Trevino, Cameron Pruitt

**6. SIGNATURE**

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

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

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

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

OSE DIT JUN 10 2021 PM 2:45

ENSOLUM

# APPENDIX B

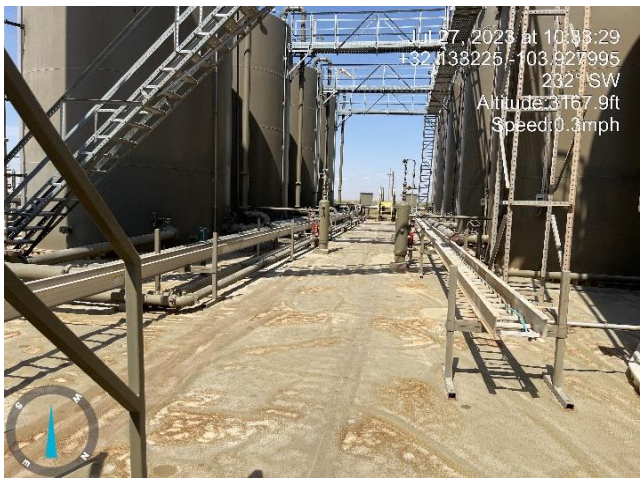
## Photographic Log

ENSOLUM

**Photographic Log**
XTO Energy, Inc
PLU 18 Brushy Draw West CTB
nAPP2317055972


Photograph 1 Date: 07/07/2023
Description: Site assessment, release location.
View: East


Photograph 2 Date: 07/27/2023
Description: Assessment area near BH01 and BH02
View: East




Photograph 3 Date: 07/27/2023
Description: Site assessment, liner condition.
View: Southwest


Photograph 4 Date: 07/27/2023
Description: Site assessment, liner condition.
View: East

ENSOLUM

# APPENDIX C

## Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 7/17/2023 1:58:33 PM

## JOB DESCRIPTION

PLU 18 Brushy Draw West CTB
SDG NUMBER 03C1558257

## JOB NUMBER

890-4916-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

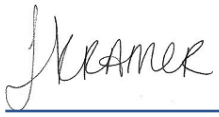
# Eurofins Carlsbad

## Job Notes

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

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

## Authorization



Generated
7/17/2023 1:58:33 PM

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

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Laboratory Job ID: 890-4916-1
SDG: 03C1558257

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-4916-1
Project/Site: PLU 18 Brushy Draw West CTB SDG: 03C1558257

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Job ID: 890-4916-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-4916-1**

**Receipt**
The samples were received on 7/7/2023 3:46 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

**GC VOA**
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-57442 and analytical batch 880-57448 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-57448 recovered above the upper control limit for Benzene and Toluene. An acceptable CCV was ran within the 12 hour window; therefore, the data have been reported. The associated sample is impacted: (CCV 880-57448/20).

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 880-57501 and analytical batch 880-57664 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-57664/20), (CCV 880-57664/31) and (CCV 880-57664/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-4916-1), SS02 (890-4916-2), SS03 (890-4916-3), SS04 (890-4916-4), (890-4915-A-1-E), (890-4915-A-1-F MS) and (890-4915-A-1-G 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.

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

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS01

**Date Collected: 07/07/23 12:30**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-1**
**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 | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |
| Toluene | <0.00199 | U *+ | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 15:00 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 15:00* | *1* |
| *1,4-Difluorobenzene (Surr)* | *114* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 15:00* | *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 | | | 07/13/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.1 | U | 50.1 | | mg/Kg | | | 07/14/23 17:31 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.1 | U | 50.1 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:14 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.1 | U | 50.1 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:14 | 1 |
| OII Range Organics (Over C28-C36) | <50.1 | U | 50.1 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:14 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *140* | *S1+* | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:14* | *1* |
| *o-Terphenyl* | *118* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:14* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **119** | | 5.03 | | mg/Kg | | | 07/13/23 16:33 | 1 |

## Client Sample ID: SS02

**Date Collected: 07/07/23 12:35**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-2**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |
| Toluene | <0.00200 | U *+ | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *89* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 16:24* | *1* |

Eurofins Carlsbad

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS02

**Lab Sample ID: 890-4916-2**
**Matrix: Solid**
**Date Collected: 07/07/23 12:35**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *112* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 16:24* | *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 | | | 07/13/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **166** | | 50.5 | | mg/Kg | | | 07/14/23 17:31 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.5 | U | 50.5 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:35 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **166** | | 50.5 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:35 | 1 |
| OII Range Organics (Over C28-C36) | <50.5 | U | 50.5 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *142* | *S1+* | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:35* | *1* |
| *o-Terphenyl* | *115* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:35* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **719** | | 4.97 | | mg/Kg | | | 07/13/23 16:48 | 1 |

## Client Sample ID: SS03

**Lab Sample ID: 890-4916-3**
**Matrix: Solid**
**Date Collected: 07/07/23 12:50**
**Date Received: 07/07/23 15:46**
**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 | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |
| Toluene | <0.00199 | U *+ | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 16:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 16:45* | *1* |
| *1,4-Difluorobenzene (Surr)* | *117* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 16:45* | *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 | | | 07/13/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **87.8** | | 50.3 | | mg/Kg | | | 07/14/23 17:31 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS03

**Date Collected: 07/07/23 12:50**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-3**
**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 | 87.8 | | 50.3 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:57 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.3 | U | 50.3 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:57 | 1 |
| OII Range Organics (Over C28-C36) | <50.3 | U | 50.3 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 14:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *134* | *S1+* | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:57* | *1* |
| *o-Terphenyl* | *110* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 14:57* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 53.4 | | 4.96 | | mg/Kg | | | 07/13/23 16:53 | 1 |

## Client Sample ID: SS04

**Date Collected: 07/07/23 13:40**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-4**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |
| Toluene | <0.00198 | U *+ | 0.00198 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:06* | *1* |
| *1,4-Difluorobenzene (Surr)* | *119* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:06* | *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 | | | 07/13/23 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 | | | 07/14/23 17:31 | 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 | | 07/12/23 12:11 | 07/14/23 15:19 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 15:19 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 15:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *139* | *S1+* | *70 - 130* | *07/12/23 12:11* | *07/14/23 15:19* | *1* |
| *o-Terphenyl* | *115* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 15:19* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS04

**Date Collected: 07/07/23 13:40**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-4**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 37.5 | | 5.04 | | mg/Kg | | | 07/13/23 16:58 | 1 |

## Client Sample ID: SS05

**Date Collected: 07/07/23 13:25**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

**Lab Sample ID: 890-4916-5**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.00201 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |
| Toluene | <0.00201 | U *+ | 0.00201 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:27 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:27* | *1* |
| *1,4-Difluorobenzene (Surr)* | *118* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:27* | *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 | | | 07/13/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.8 | U | 49.8 | | mg/Kg | | | 07/17/23 13:24 | 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 | | 07/12/23 12:11 | 07/14/23 16:06 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U | 49.8 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 16:06 | 1 |
| OII Range Organics (Over C28-C36) | <49.8 | U | 49.8 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 16:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *130* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 16:06* | *1* |
| *o-Terphenyl* | *109* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 16:06* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 288 | | 4.96 | | mg/Kg | | | 07/13/23 17:03 | 1 |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS06

**Date Collected: 07/07/23 13:15**
**Date Received: 07/07/23 15:46**
**Sample Depth: 0.5**

## Lab Sample ID: 890-4916-6

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |
| Toluene | <0.00202 | U *+ | 0.00202 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 17:47 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:47* | *1* |
| *1,4-Difluorobenzene (Surr)* | *119* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 17:47* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 07/13/23 10:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.2 | U | 50.2 | | mg/Kg | | | 07/17/23 13:24 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.2 | U | 50.2 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 16:28 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.2 | U | 50.2 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 16:28 | 1 |
| OII Range Organics (Over C28-C36) | <50.2 | U | 50.2 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 16:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *119* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 16:28* | *1* |
| *o-Terphenyl* | *102* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 16:28* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **11.2** | | 4.95 | | mg/Kg | | | 07/13/23 17:18 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## 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) |
| 880-30598-A-1-A MS | Matrix Spike | 110 | 103 |
| 880-30598-A-1-B MSD | Matrix Spike Duplicate | 108 | 108 |
| 890-4916-1 | SS01 | 93 | 114 |
| 890-4916-2 | SS02 | 89 | 112 |
| 890-4916-3 | SS03 | 91 | 117 |
| 890-4916-4 | SS04 | 94 | 119 |
| 890-4916-5 | SS05 | 94 | 118 |
| 890-4916-6 | SS06 | 99 | 119 |
| LCS 880-57442/1-A | Lab Control Sample | 108 | 103 |
| LCSD 880-57442/2-A | Lab Control Sample Dup | 113 | 103 |
| MB 880-57442/5-A | Method Blank | 89 | 97 |

**Surrogate Legend**

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

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

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-4915-A-1-F MS | Matrix Spike | 140 S1+ | 103 |
| 890-4915-A-1-G MSD | Matrix Spike Duplicate | 124 | 89 |
| 890-4916-1 | SS01 | 140 S1+ | 118 |
| 890-4916-2 | SS02 | 142 S1+ | 115 |
| 890-4916-3 | SS03 | 134 S1+ | 110 |
| 890-4916-4 | SS04 | 139 S1+ | 115 |
| 890-4916-5 | SS05 | 130 | 109 |
| 890-4916-6 | SS06 | 119 | 102 |
| LCS 880-57501/2-A | Lab Control Sample | 106 | 92 |
| LCSD 880-57501/3-A | Lab Control Sample Dup | 103 | 91 |
| MB 880-57501/1-A | Method Blank | 146 S1+ | 122 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

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

**Lab Sample ID: MB 880-57442/5-A**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 07/12/23 08:12 | 07/12/23 11:31 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *89* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 11:31* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *07/12/23 08:12* | *07/12/23 11:31* | *1* |

**Lab Sample ID: LCS 880-57442/1-A**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1191 | | mg/Kg | | 119 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1324 | *+ | mg/Kg | | 132 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1222 | | mg/Kg | | 122 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2577 | | mg/Kg | | 129 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1213 | | mg/Kg | | 121 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* |

**Lab Sample ID: LCSD 880-57442/2-A**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1159 | | mg/Kg | | 116 | 70 - 130 | 3 | 35 |
| Toluene | | | 0.100 | 0.1296 | | mg/Kg | | 130 | 70 - 130 | 2 | 35 |
| Ethylbenzene | | | 0.100 | 0.1194 | | mg/Kg | | 119 | 70 - 130 | 2 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2531 | | mg/Kg | | 127 | 70 - 130 | 2 | 35 |
| o-Xylene | | | 0.100 | 0.1201 | | mg/Kg | | 120 | 70 - 130 | 1 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *113* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* |

**Lab Sample ID: 880-30598-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.0994 | 0.08092 | | mg/Kg | | 81 | 70 - 130 | | |
| Toluene | <0.00201 | U *+ | 0.0994 | 0.09383 | | mg/Kg | | 94 | 70 - 130 | | |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

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

**Lab Sample ID: 880-30598-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00201 | U | 0.0994 | 0.08774 | | mg/Kg | | 88 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.199 | 0.1831 | | mg/Kg | | 92 | 70 - 130 |
| o-Xylene | <0.00201 | U | 0.0994 | 0.08997 | | mg/Kg | | 91 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *103* | | *70 - 130* |

**Lab Sample ID: 880-30598-A-1-B MSD**
**Matrix: Solid**
**Analysis Batch: 57448**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 57442**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00201 | U | 0.0990 | 0.1020 | | mg/Kg | | 103 | 70 - 130 | 23 | 35 |
| Toluene | <0.00201 | U *+ | 0.0990 | 0.1089 | | mg/Kg | | 110 | 70 - 130 | 15 | 35 |
| Ethylbenzene | <0.00201 | U | 0.0990 | 0.09762 | | mg/Kg | | 99 | 70 - 130 | 11 | 35 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.198 | 0.1984 | | mg/Kg | | 100 | 70 - 130 | 8 | 35 |
| o-Xylene | <0.00201 | U | 0.0990 | 0.09622 | | mg/Kg | | 97 | 70 - 130 | 7 | 35 |

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

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

**Lab Sample ID: MB 880-57501/1-A**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| 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 | | 07/12/23 12:11 | 07/14/23 07:48 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 07:48 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 07/12/23 12:11 | 07/14/23 07:48 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *146* | *S1+* | *70 - 130* | *07/12/23 12:11* | *07/14/23 07:48* | *1* |
| *o-Terphenyl* | *122* | | *70 - 130* | *07/12/23 12:11* | *07/14/23 07:48* | *1* |

**Lab Sample ID: LCS 880-57501/2-A**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1156 | | mg/Kg | | 116 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 990.1 | | mg/Kg | | 99 | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

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

**Lab Sample ID: LCS 880-57501/2-A**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 106 | | 70 - 130 |
| o-Terphenyl | 92 | | 70 - 130 |

**Lab Sample ID: LCSD 880-57501/3-A**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1034 | | mg/Kg | | 103 | 70 - 130 | 11 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 873.4 | | mg/Kg | | 87 | 70 - 130 | 13 | 20 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 103 | | 70 - 130 |
| o-Terphenyl | 91 | | 70 - 130 |

**Lab Sample ID: 890-4915-A-1-F MS**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.1 | U | 1000 | 1142 | | mg/Kg | | 110 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 164 | | 1000 | 1252 | | mg/Kg | | 108 | 70 - 130 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 140 | S1+ | 70 - 130 |
| o-Terphenyl | 103 | | 70 - 130 |

**Lab Sample ID: 890-4915-A-1-G MSD**
**Matrix: Solid**
**Analysis Batch: 57664**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 57501**

| 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 | <50.1 | U | 999 | 1002 | | mg/Kg | | 97 | 70 - 130 | 13 | 20 |
| Diesel Range Organics (Over C10-C28) | 164 | | 999 | 1081 | | mg/Kg | | 92 | 70 - 130 | 15 | 20 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 124 | | 70 - 130 |
| o-Terphenyl | 89 | | 70 - 130 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-57592/1-A**
**Matrix: Solid**
**Analysis Batch: 57621**

**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 | | | 07/13/23 16:18 | 1 |

**Lab Sample ID: LCS 880-57592/2-A**
**Matrix: Solid**
**Analysis Batch: 57621**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 248.0 | | mg/Kg | | 99 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-57592/3-A**
**Matrix: Solid**
**Analysis Batch: 57621**

**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 | 249.1 | | mg/Kg | | 100 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 890-4916-1 MS**
**Matrix: Solid**
**Analysis Batch: 57621**

**Client Sample ID: SS01**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 119 | | 252 | 386.8 | | mg/Kg | | 106 | 90 - 110 | | |

**Lab Sample ID: 890-4916-1 MSD**
**Matrix: Solid**
**Analysis Batch: 57621**

**Client Sample ID: SS01**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 119 | | 252 | 386.8 | | mg/Kg | | 106 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## GC VOA

### Prep Batch: 57442

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-4916-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-4916-3 | SS03 | Total/NA | Solid | 5035 | |
| 890-4916-4 | SS04 | Total/NA | Solid | 5035 | |
| 890-4916-5 | SS05 | Total/NA | Solid | 5035 | |
| 890-4916-6 | SS06 | Total/NA | Solid | 5035 | |
| MB 880-57442/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-57442/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-57442/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-30598-A-1-A MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-30598-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 57448

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | 8021B | 57442 |
| 890-4916-2 | SS02 | Total/NA | Solid | 8021B | 57442 |
| 890-4916-3 | SS03 | Total/NA | Solid | 8021B | 57442 |
| 890-4916-4 | SS04 | Total/NA | Solid | 8021B | 57442 |
| 890-4916-5 | SS05 | Total/NA | Solid | 8021B | 57442 |
| 890-4916-6 | SS06 | Total/NA | Solid | 8021B | 57442 |
| MB 880-57442/5-A | Method Blank | Total/NA | Solid | 8021B | 57442 |
| LCS 880-57442/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 57442 |
| LCSD 880-57442/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 57442 |
| 880-30598-A-1-A MS | Matrix Spike | Total/NA | Solid | 8021B | 57442 |
| 880-30598-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 57442 |

### Analysis Batch: 57573

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-4916-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-4916-3 | SS03 | Total/NA | Solid | Total BTEX | |
| 890-4916-4 | SS04 | Total/NA | Solid | Total BTEX | |
| 890-4916-5 | SS05 | Total/NA | Solid | Total BTEX | |
| 890-4916-6 | SS06 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 57501

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4916-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-4916-3 | SS03 | Total/NA | Solid | 8015NM Prep | |
| 890-4916-4 | SS04 | Total/NA | Solid | 8015NM Prep | |
| 890-4916-5 | SS05 | Total/NA | Solid | 8015NM Prep | |
| 890-4916-6 | SS06 | Total/NA | Solid | 8015NM Prep | |
| MB 880-57501/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-57501/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-57501/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-4915-A-1-F MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-4915-A-1-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## GC Semi VOA

### Analysis Batch: 57664

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | 8015B NM | 57501 |
| 890-4916-2 | SS02 | Total/NA | Solid | 8015B NM | 57501 |
| 890-4916-3 | SS03 | Total/NA | Solid | 8015B NM | 57501 |
| 890-4916-4 | SS04 | Total/NA | Solid | 8015B NM | 57501 |
| 890-4916-5 | SS05 | Total/NA | Solid | 8015B NM | 57501 |
| 890-4916-6 | SS06 | Total/NA | Solid | 8015B NM | 57501 |
| MB 880-57501/1-A | Method Blank | Total/NA | Solid | 8015B NM | 57501 |
| LCS 880-57501/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 57501 |
| LCSD 880-57501/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 57501 |
| 890-4915-A-1-F MS | Matrix Spike | Total/NA | Solid | 8015B NM | 57501 |
| 890-4915-A-1-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 57501 |

### Analysis Batch: 57738

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-4916-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-4916-3 | SS03 | Total/NA | Solid | 8015 NM | |
| 890-4916-4 | SS04 | Total/NA | Solid | 8015 NM | |
| 890-4916-5 | SS05 | Total/NA | Solid | 8015 NM | |
| 890-4916-6 | SS06 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 57592

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-4916-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-4916-3 | SS03 | Soluble | Solid | DI Leach | |
| 890-4916-4 | SS04 | Soluble | Solid | DI Leach | |
| 890-4916-5 | SS05 | Soluble | Solid | DI Leach | |
| 890-4916-6 | SS06 | Soluble | Solid | DI Leach | |
| MB 880-57592/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-57592/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-57592/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4916-1 MS | SS01 | Soluble | Solid | DI Leach | |
| 890-4916-1 MSD | SS01 | Soluble | Solid | DI Leach | |

### Analysis Batch: 57621

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-2 | SS02 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-3 | SS03 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-4 | SS04 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-5 | SS05 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-6 | SS06 | Soluble | Solid | 300.0 | 57592 |
| MB 880-57592/1-A | Method Blank | Soluble | Solid | 300.0 | 57592 |
| LCS 880-57592/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 57592 |
| LCSD 880-57592/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 57592 |
| 890-4916-1 MS | SS01 | Soluble | Solid | 300.0 | 57592 |
| 890-4916-1 MSD | SS01 | Soluble | Solid | 300.0 | 57592 |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS01

**Date Collected: 07/07/23 12:30**
**Date Received: 07/07/23 15:46**

## Lab Sample ID: 890-4916-1

**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 | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 15:00 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 57738 | 07/14/23 17:31 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.98 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 14:14 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 16:33 | CH | EET MID |

## Client Sample ID: SS02

**Date Collected: 07/07/23 12:35**
**Date Received: 07/07/23 15:46**

## Lab Sample ID: 890-4916-2

**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 | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 16:24 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 57738 | 07/14/23 17:31 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.91 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 14:35 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 16:48 | CH | EET MID |

## Client Sample ID: SS03

**Date Collected: 07/07/23 12:50**
**Date Received: 07/07/23 15:46**

## Lab Sample ID: 890-4916-3

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 16:45 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 57738 | 07/14/23 17:31 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.94 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 14:57 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 16:53 | CH | EET MID |

## Client Sample ID: SS04

**Date Collected: 07/07/23 13:40**
**Date Received: 07/07/23 15:46**

## Lab Sample ID: 890-4916-4

**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 | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 17:06 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Client Sample ID: SS04

**Lab Sample ID: 890-4916-4**

**Date Collected: 07/07/23 13:40**

**Matrix: Solid**

**Date Received: 07/07/23 15:46**

| 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 | | | 57738 | 07/14/23 17:31 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 15:19 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 16:58 | CH | EET MID |

## Client Sample ID: SS05

**Lab Sample ID: 890-4916-5**

**Date Collected: 07/07/23 13:25**

**Matrix: Solid**

**Date Received: 07/07/23 15:46**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.98 g | 5 mL | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 17:27 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 57738 | 07/17/23 13:24 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.05 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 16:06 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 17:03 | CH | EET MID |

## Client Sample ID: SS06

**Lab Sample ID: 890-4916-6**

**Date Collected: 07/07/23 13:15**

**Matrix: Solid**

**Date Received: 07/07/23 15:46**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.95 g | 5 mL | 57442 | 07/12/23 08:12 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 57448 | 07/12/23 17:47 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 57573 | 07/13/23 10:17 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 57738 | 07/17/23 13:24 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.97 g | 10 mL | 57501 | 07/12/23 12:11 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 57664 | 07/14/23 16:28 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 57592 | 07/13/23 11:48 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 57621 | 07/13/23 17:18 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-23-26 | 06-30-24 |

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

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

# Method Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: PLU 18 Brushy Draw West CTB

Job ID: 890-4916-1
SDG: 03C1558257

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-4916-1 | SS01 | Solid | 07/07/23 12:30 | 07/07/23 15:46 | 0.5 |
| 890-4916-2 | SS02 | Solid | 07/07/23 12:35 | 07/07/23 15:46 | 0.5 |
| 890-4916-3 | SS03 | Solid | 07/07/23 12:50 | 07/07/23 15:46 | 0.5 |
| 890-4916-4 | SS04 | Solid | 07/07/23 13:40 | 07/07/23 15:46 | 0.5 |
| 890-4916-5 | SS05 | Solid | 07/07/23 13:25 | 07/07/23 15:46 | 0.5 |
| 890-4916-6 | SS06 | Solid | 07/07/23 13:15 | 07/07/23 15:46 | 0.5 |

eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Ben Belill | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 National Parks Hwy | Address: | 3104 E. Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 989-854-0852 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: | PLU 18 Brushy Draw West CTB | Turn Around | |
| Project Number: | 03C1558257 | ☒ Routine ☐ Rush | Pres. Code |
| Project Location: | 32.13322, -103.9279 | Due Date: | 5 days |
| Sampler's Name: | Mariaha O'Dell | 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#007 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 4.4 |
| Total Containers: | | Corrected Temperature: | 4.2 |

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | BTEX | TPH | Chlorides |
|---|---|---|---|---|---|---|---|---|---|
| SS01 | S | 7/7/23 | 12:30 | 0.5' | G | C | X | X | X |
| SS02 | S | | 12:35 | 0.5' | | | | | |
| SS03 | S | | 12:50 | 0.5' | | | | | |
| SS04 | S | | 13:40 | 0.5' | | | | | |
| SS05 | S | | 13:25 | 0.5' | | | | | |
| SS06 | S | | 13:25 | 0.5' | | | | | |

890-4916 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 #:
nAPP2317055972

Cost Center:
1056711001

Ben Belill:
bbelill@ensolum.com

MD

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 | M. O'Dell | Ave Gp | 7.7.23 1546 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4916-1
SDG Number: 03C1558257

**Login Number: 4916**
**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: 890-4916-1
SDG Number: 03C1558257

**Login Number: 4916**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 07/11/23 11:07 AM**

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

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 8/14/2023 8:44:25 PM

## JOB DESCRIPTION

PLU 18 BRUSHY DRAW WEST CTB
SDG NUMBER 03C1558251

## JOB NUMBER

890-5002-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

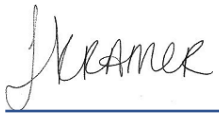
# Eurofins Carlsbad

## Job Notes

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

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

## Authorization



Generated
8/14/2023 8:44:25 PM

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

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Laboratory Job ID: 890-5002-1
SDG: 03C1558251

# Table of Contents

# Definitions/Glossary

Client: Ensolum Job ID: 890-5002-1
Project/Site: PLU 18 BRUSHY DRAW WEST CTB SDG: 03C1558251

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## Job ID: 890-5002-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-5002-1**

**Receipt**
The samples were received on 7/27/2023 1:40 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 3.6°C

**Receipt Exceptions**
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-5002-1) and BH02 (890-5002-2).

**GC VOA**
Method 8021B: Surrogate recovery for the following samples were outside control limits: BH01 (890-5002-1), BH02 (890-5002-2), (880-31298-A-1-F), (880-31298-A-1-D MS) and (880-31298-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-58964 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: (CCV 880-58964/2) and (CCV 880-58964/20).

Method 8021B: The method blank for preparation batch 880-58815 and 880-58990 and analytical batch 880-58964 contained Ethylbenzene 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.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-58964 recovered above the upper control limit for Benzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-58964/64).

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 880-59651 and analytical batch 880-60035 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-60035/31). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH01 (890-5002-1), BH02 (890-5002-2), (CCV 880-60035/47), (LCS 880-59651/2-A), (LCSD 880-59651/3-A), (890-5020-A-7-E), (890-5020-A-7-H MS) and (890-5020-A-7-I MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-59651 and analytical batch 880-60035 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.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-59651 and analytical batch 880-60035 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

**HPLC/IC**
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-58714

# Case Narrative

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## Job ID: 890-5002-1 (Continued)

### Laboratory: Eurofins Carlsbad (Continued)

and analytical batch 880-58857 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## Client Sample ID: BH01

**Lab Sample ID: 890-5002-1**
**Matrix: Solid**
**Date Collected: 07/27/23 10:05**
**Date Received: 07/27/23 13:40**
**Sample Depth: 1**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 10:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *175* | *S1+* | *70 - 130* | *08/01/23 10:33* | *08/02/23 10:37* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *08/01/23 10:33* | *08/02/23 10:37* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 08/02/23 15:47 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.5 | U | 50.5 | | mg/Kg | | | 08/14/23 20:51 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.5 | U | 50.5 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 23:11 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.5 | U | 50.5 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 23:11 | 1 |
| OII Range Organics (Over C28-C36) | <50.5 | U | 50.5 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 23:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *172* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 23:11* | *1* |
| *o-Terphenyl* | *155* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 23:11* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **188** | | 5.05 | | mg/Kg | | | 07/31/23 17:50 | 1 |

## Client Sample ID: BH02

**Lab Sample ID: 890-5002-2**
**Matrix: Solid**
**Date Collected: 07/27/23 10:10**
**Date Received: 07/27/23 13:40**
**Sample Depth: 1**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 11:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *148* | *S1+* | *70 - 130* | *08/01/23 10:33* | *08/02/23 11:02* | *1* |

# Client Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

**Client Sample ID: BH02**
**Date Collected: 07/27/23 10:10**
**Date Received: 07/27/23 13:40**
**Sample Depth: 1**

**Lab Sample ID: 890-5002-2**
**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *77* | | *70 - 130* | *08/01/23 10:33* | *08/02/23 11:02* | *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 | | | 08/02/23 15:47 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **118** | | 50.0 | | mg/Kg | | | 08/14/23 20:51 | 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 | | 08/08/23 15:22 | 08/13/23 23:33 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **118** | | 50.0 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 23:33 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 23:33 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *174* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 23:33* | *1* |
| *o-Terphenyl* | *151* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 23:33* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **459** | | 4.98 | | mg/Kg | | | 07/31/23 17:56 | 1 |

# Surrogate Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## 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) |
| 880-31298-A-1-D MS | Matrix Spike | 137 S1+ | 97 |
| 880-31298-A-1-E MSD | Matrix Spike Duplicate | 149 S1+ | 97 |
| 890-5002-1 | BH01 | 175 S1+ | 97 |
| 890-5002-2 | BH02 | 148 S1+ | 77 |
| LCS 880-58990/1-A | Lab Control Sample | 128 | 108 |
| LCSD 880-58990/2-A | Lab Control Sample Dup | 114 | 74 |
| MB 880-58815/5-A | Method Blank | 73 | 93 |
| MB 880-58990/5-A | Method Blank | 80 | 83 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-5002-1 | BH01 | 172 S1+ | 155 S1+ |
| 890-5002-2 | BH02 | 174 S1+ | 151 S1+ |
| 890-5020-A-7-H MS | Matrix Spike | 158 S1+ | 127 |
| 890-5020-A-7-I MSD | Matrix Spike Duplicate | 160 S1+ | 127 |
| LCS 880-59651/2-A | Lab Control Sample | 125 | 113 |
| LCSD 880-59651/3-A | Lab Control Sample Dup | 130 | 118 |
| MB 880-59651/1-A | Method Blank | 150 S1+ | 138 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

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

**Lab Sample ID: MB 880-58815/5-A**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 58815**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 07/31/23 09:23 | 08/01/23 11:55 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *73* | | *70 - 130* | *07/31/23 09:23* | *08/01/23 11:55* | *1* |
| *1,4-Difluorobenzene (Surr)* | *93* | | *70 - 130* | *07/31/23 09:23* | *08/01/23 11:55* | *1* |

**Lab Sample ID: MB 880-58990/5-A**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 08/01/23 10:33 | 08/02/23 01:11 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *80* | | *70 - 130* | *08/01/23 10:33* | *08/02/23 01:11* | *1* |
| *1,4-Difluorobenzene (Surr)* | *83* | | *70 - 130* | *08/01/23 10:33* | *08/02/23 01:11* | *1* |

**Lab Sample ID: LCS 880-58990/1-A**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1132 | | mg/Kg | | 113 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.1137 | | mg/Kg | | 114 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.1119 | | mg/Kg | | 112 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2278 | | mg/Kg | | 114 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.1085 | | mg/Kg | | 109 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *128* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *108* | | *70 - 130* |

**Lab Sample ID: LCSD 880-58990/2-A**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09487 | | mg/Kg | | 95 | 70 - 130 | 18 | 35 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

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

**Lab Sample ID: LCSD 880-58990/2-A**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1006 | | mg/Kg | | 101 | 70 - 130 | 12 | 35 |
| Ethylbenzene | | | 0.100 | 0.1024 | | mg/Kg | | 102 | 70 - 130 | 9 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2067 | | mg/Kg | | 103 | 70 - 130 | 10 | 35 |
| o-Xylene | | | 0.100 | 0.09669 | | mg/Kg | | 97 | 70 - 130 | 12 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *74* | | *70 - 130* |

**Lab Sample ID: 880-31298-A-1-D MS**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0996 | 0.1021 | | mg/Kg | | 103 | 70 - 130 |
| Toluene | <0.00200 | U | 0.0996 | 0.08881 | | mg/Kg | | 88 | 70 - 130 |
| Ethylbenzene | <0.00200 | U | 0.0996 | 0.07294 | | mg/Kg | | 73 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.199 | 0.1536 | | mg/Kg | | 77 | 70 - 130 |
| o-Xylene | <0.00200 | U | 0.0996 | 0.07078 | | mg/Kg | | 71 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *137* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* |

**Lab Sample ID: 880-31298-A-1-E MSD**
**Matrix: Solid**
**Analysis Batch: 58964**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 58990**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.0994 | 0.1033 | | mg/Kg | | 104 | 70 - 130 | 1 | 35 |
| Toluene | <0.00200 | U | 0.0994 | 0.09014 | | mg/Kg | | 89 | 70 - 130 | 1 | 35 |
| Ethylbenzene | <0.00200 | U | 0.0994 | 0.07476 | | mg/Kg | | 75 | 70 - 130 | 2 | 35 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.199 | 0.1561 | | mg/Kg | | 78 | 70 - 130 | 2 | 35 |
| o-Xylene | <0.00200 | U | 0.0994 | 0.07104 | | mg/Kg | | 71 | 70 - 130 | 0 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *149* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* |

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

**Lab Sample ID: MB 880-59651/1-A**
**Matrix: Solid**
**Analysis Batch: 60035**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 59651**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 20:13 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

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

**Lab Sample ID: MB 880-59651/1-A**
**Matrix: Solid**
**Analysis Batch: 60035**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 59651**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 20:13 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 08/08/23 15:22 | 08/13/23 20:13 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *150* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 20:13* | *1* |
| *o-Terphenyl* | *138* | *S1+* | *70 - 130* | *08/08/23 15:22* | *08/13/23 20:13* | *1* |

**Lab Sample ID: LCS 880-59651/2-A**
**Matrix: Solid**
**Analysis Batch: 60035**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 59651**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 988.1 | | mg/Kg | | 99 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 845.9 | | mg/Kg | | 85 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *125* | | *70 - 130* |
| *o-Terphenyl* | *113* | | *70 - 130* |

**Lab Sample ID: LCSD 880-59651/3-A**
**Matrix: Solid**
**Analysis Batch: 60035**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 59651**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1005 | | mg/Kg | | 100 | 70 - 130 | 2 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 882.3 | | mg/Kg | | 88 | 70 - 130 | 4 | 20 |

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

**Lab Sample ID: 890-5020-A-7-H MS**
**Matrix: Solid**
**Analysis Batch: 60035**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 59651**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.4 | U | 996 | 1046 | | mg/Kg | | 102 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | <50.4 | U F1 | 996 | 1361 | F1 | mg/Kg | | 135 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *158* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *127* | | *70 - 130* |

# QC Sample Results

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

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

**Lab Sample ID: 890-5020-A-7-I MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 60035** — **Prep Batch: 59651**

| 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 | <50.4 | U | 996 | 1047 | | mg/Kg | | 102 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.4 | U F1 | 996 | 1380 | F1 | mg/Kg | | 137 | 70 - 130 | 1 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *160* | *S1+* | *70 - 130* |
| *o-Terphenyl* | *127* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-58714/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 58857**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 07/31/23 14:58 | 1 |

**Lab Sample ID: LCS 880-58714/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 58857**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 236.5 | | mg/Kg | | 95 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-58714/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 58857**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 235.0 | | mg/Kg | | 94 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 880-31356-A-1-B MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 58857**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 365 | F1 | 250 | 641.2 | F1 | mg/Kg | | 111 | 90 - 110 | | |

**Lab Sample ID: 880-31356-A-1-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 58857**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 365 | F1 | 250 | 636.6 | | mg/Kg | | 109 | 90 - 110 | 1 | 20 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## GC VOA

### Prep Batch: 58815

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-58815/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 58964

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | 8021B | 58990 |
| 890-5002-2 | BH02 | Total/NA | Solid | 8021B | 58990 |
| MB 880-58815/5-A | Method Blank | Total/NA | Solid | 8021B | 58815 |
| MB 880-58990/5-A | Method Blank | Total/NA | Solid | 8021B | 58990 |
| LCS 880-58990/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 58990 |
| LCSD 880-58990/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 58990 |
| 880-31298-A-1-D MS | Matrix Spike | Total/NA | Solid | 8021B | 58990 |
| 880-31298-A-1-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 58990 |

### Prep Batch: 58990

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | 5035 | |
| 890-5002-2 | BH02 | Total/NA | Solid | 5035 | |
| MB 880-58990/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-58990/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-58990/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-31298-A-1-D MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-31298-A-1-E MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 59137

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | Total BTEX | |
| 890-5002-2 | BH02 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 59651

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | 8015NM Prep | |
| 890-5002-2 | BH02 | Total/NA | Solid | 8015NM Prep | |
| MB 880-59651/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-59651/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-59651/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-5020-A-7-H MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-5020-A-7-I MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 60035

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | 8015B NM | 59651 |
| 890-5002-2 | BH02 | Total/NA | Solid | 8015B NM | 59651 |
| MB 880-59651/1-A | Method Blank | Total/NA | Solid | 8015B NM | 59651 |
| LCS 880-59651/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 59651 |
| LCSD 880-59651/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 59651 |
| 890-5020-A-7-H MS | Matrix Spike | Total/NA | Solid | 8015B NM | 59651 |
| 890-5020-A-7-I MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 59651 |

# QC Association Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## GC Semi VOA

### Analysis Batch: 60210

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Total/NA | Solid | 8015 NM | |
| 890-5002-2 | BH02 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 58714

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Soluble | Solid | DI Leach | |
| 890-5002-2 | BH02 | Soluble | Solid | DI Leach | |
| MB 880-58714/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-58714/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-58714/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-31356-A-1-B MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-31356-A-1-C MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 58857

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Soluble | Solid | 300.0 | 58714 |
| 890-5002-2 | BH02 | Soluble | Solid | 300.0 | 58714 |
| MB 880-58714/1-A | Method Blank | Soluble | Solid | 300.0 | 58714 |
| LCS 880-58714/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 58714 |
| LCSD 880-58714/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 58714 |
| 880-31356-A-1-B MS | Matrix Spike | Soluble | Solid | 300.0 | 58714 |
| 880-31356-A-1-C MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 58714 |

# Lab Chronicle

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## Client Sample ID: BH01

**Date Collected: 07/27/23 10:05**
**Date Received: 07/27/23 13:40**

## Lab Sample ID: 890-5002-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.95 g | 5 mL | 58990 | 08/01/23 10:33 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 58964 | 08/02/23 10:37 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 59137 | 08/02/23 15:47 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 60210 | 08/14/23 20:51 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 9.90 g | 10 mL | 59651 | 08/08/23 15:22 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 60035 | 08/13/23 23:11 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.95 g | 50 mL | 58714 | 07/28/23 11:20 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | | | 58857 | 07/31/23 17:50 | CH | EET MID |

## Client Sample ID: BH02

**Date Collected: 07/27/23 10:10**
**Date Received: 07/27/23 13:40**

## Lab Sample ID: 890-5002-2

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.99 g | 5 mL | 58990 | 08/01/23 10:33 | EL | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 58964 | 08/02/23 11:02 | SM | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 59137 | 08/02/23 15:47 | SM | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 60210 | 08/14/23 20:51 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 59651 | 08/08/23 15:22 | TKC | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 60035 | 08/13/23 23:33 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 58714 | 07/28/23 11:20 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | | | 58857 | 07/31/23 17:56 | CH | EET MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

## Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704400-23-26 | 06-30-24 |

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

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

# Method Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: Ensolum
Project/Site: PLU 18 BRUSHY DRAW WEST CTB

Job ID: 890-5002-1
SDG: 03C1558251

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-5002-1 | BH01 | Solid | 07/27/23 10:05 | 07/27/23 13:40 | 1 |
| 890-5002-2 | BH02 | Solid | 07/27/23 10:10 | 07/27/23 13:40 | 1 |

eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | PLU 18 Brushy Draw West | CTB Turn Around | |
| Project Number: | ~~03C1558257~~ 03C1558257 | ☑ Routine ☐ Rush | |
| Project Location: | 32.13324, -103.9279 | 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: | TMM007 |
| 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 |

**Preservative Codes**

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

ANALYSIS REQUEST

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | BTEX | Chlorides | TPH |
|---|---|---|---|---|---|---|---|---|---|---|
| BH01 | S | 7/27/23 | 1005 | 1' | G | 1 | | X | X | X |
| BH02 | S | 7/27/23 | 1010 | 1' | G | 1 | | X | X | X |

Parameters

890-5002 Chain of Custody

**Sample Comments**

Incident #: nAPP2317055972

Cost Center: 1056711001

mroberts@ensolum.com

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



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | [signature] | [signature] | 7.27.23 1340 | | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5002-1
SDG Number: 03C1558251

**Login Number: 5002**
**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: 890-5002-1
SDG Number: 03C1558251

**Login Number: 5002**
**List Number: 2**
**Creator: Teel, Brianna**

**List Source: Eurofins Midland**
**List Creation: 07/28/23 10:48 AM**

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

ENSOLUM

# APPENDIX D

## NMOCD Notifications

**From:** Collins, Melanie
**To:** ocd.enviro (ocd.enviro@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov); spills@slo.state.nm.us
**Cc:** DelawareSpills /SM; Green, Garrett J; Ben Belill
**Subject:** XTO - Sampling Notification (Week of 7/24/23 - 7/28/23)
**Date:** Wednesday, July 19, 2023 5:00:47 PM
**Attachments:** image001.png

[ **EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of July 24, 2023.

Wednesday 7/26/23

- PLU 18 Brushy Draw West CTB / nAPP2317055972

Friday 7/27/23

- Corral Canyon Expansion / NRM2021833146
- Muy Wayno 7H / 2RP-5023 NMAP1829649787 (SLO)

Thank you,

*Melanie Collins*

XTO ENERGY

Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

**From:** Collins, Melanie
**To:** ocd.enviro (ocd.enviro@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov)
**Cc:** Green, Garrett J; DelawareSpills /SM; Ben Belill
**Subject:** XTO - 48-Hour Liner Inspection Notification - PLU 18 Brushy Draw West CTB - Incident Number nAPP2317055972
**Date:** Tuesday, July 25, 2023 12:14:38 PM
**Attachments:** image001.png

[ **EXTERNAL EMAIL**]

Good morning,

This is sent as a 48-hour notification. XTO is scheduled to inspect the following lined containment listed below on Thursday, July 27, 2023. Please call us with any questions or concerns.

Site: PLU 18 Brushy Draw West CTB
Incident Number: nAPP2317055972
Time: 10:30 am MST
GPS Coordinates: (32.13322, -103.9279)

Thank you,

*Melanie Collins*
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

**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 264179

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>264179 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rhamlet | We have received your Remediation Closure Report for Incident #NAPP2317055972 PLU 18 BRUSHY DRAW WEST CTB, thank you. This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation including pictures of the contoured backfilled excavation surface and a thorough discussion on reseeding mixture, vegetation ratio, timelines, etc.., will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete". | 1/31/2024 |