

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 03/13/2023

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

### OCD Only

Received by: Robert Hamlet Date: 7/28/2023

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: 7/28/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

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## Release Notification

### Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Adrian Baker	Contact Telephone 432-236-3808
Contact email adrian.baker@exxonmobil.com	Incident # (assigned by OCD)
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

### Location of Release Source

Latitude ~~32.10748~~ 32.11033 Longitude ~~-103.88734~~ -103.88261  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 21 Brushy Draw Pad B	Site Type Well pad
Date Release Discovered 04/01/2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
O	21 <del>28</del>	25S	30E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Janey Paschal)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input checked="" type="checkbox"/> Other (describe) Produced Water w/ FR	Volume/Weight Released (provide units) 23.84 BBLS	Volume/Weight Recovered (provide units) 0.00 BBLS

Cause of Release Internal corrosion caused weld on the metal road crossing to fail, releasing fluids to soil. A third-party contractor has been retained for remediation activities.

State of New Mexico  
Oil Conservation Division

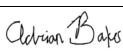
Page 2

Incident ID	NAPP2210553504
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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Adrian Baker</u>	Title: <u>SSHE Coordinator</u>
Signature: <u></u>	Date: _____
email: <u>adrian.baker@exxonmobil.com</u>	Telephone: <u>432-236-3808</u>
<b><u>OCD Only</u></b>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>04/18/2022</u>

<b>Location:</b>	<b>PLU 21 Brushy Draw Pad B</b>	
<b>Spill Date:</b>	<b>4/1/2022</b>	
<b>Area 1</b>		
Approximate Area =	10707.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.15	
<b>VOLUME OF LEAK</b>		
Total Crude Oil =	0.00	bbls
Total Produced Water =	23.84	bbls
<b>TOTAL VOLUME OF LEAK</b>		
Total Crude Oil =	0.00	bbls
Total Produced Water =	23.84	bbls
<b>TOTAL VOLUME RECOVERED</b>		
Total Crude Oil =	0.00	bbls
Total Produced Water =	0.00	bbls



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

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

CONDITIONS  
  
Action 98974

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  98974
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	4/18/2022

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## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

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

Printed Name: \_Garrett Green\_\_\_\_\_ Title: \_SSHE Coordinator\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_09/28/2022\_\_\_\_\_

email: \_garrett.green@exxonmobil.com\_\_\_\_\_ Telephone: \_575-200-0729\_\_\_\_\_

**OCD Only**

Received by: \_Jocelyn Harimon\_\_\_\_\_ Date: \_09/28/2022\_\_\_\_\_

Incident ID	NAPP2210553504
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## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Garrett Green Title: SSHE CoordinatorSignature:  Date: 09/28/2022email: garrett.green@exxonmobil.com Telephone: 575-200-0729**OCD Only**Received by: Jocelyn Harimon Date: 09/28/2022☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NAPP2210553504
District RP	
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## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

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Printed Name: Garrett Green Title: SSHE Coordinator

Signature:  Date: 09/28/2022

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

**OCD Only**

Received by: Jocelyn Harimon Date: 09/28/2022

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

Signature:  Date: 12/16/2022

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 03/13/2023

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

### OCD Only

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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: \_\_\_\_\_



March 13, 2023

**New Mexico Oil Conservation Division**

1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request  
PLU 21 Brushy Draw Pad B  
Incident Number NAPP2210553504  
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 excavation and soil sampling activities performed at the PLU 21 Brushy Draw Pad B (Site). The purpose of excavation and soil sampling activities, conducted in accordance with an approved Remediation Work Plan (*Work Plan*), was to address impacts to soil resulting from a release of produced water containing friction reducer (FR) at the Site. XTO is submitting this *Closure Request*, describing excavation activities that have occurred and requesting no further action for Incident Number NAPP2210553504.

## **SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit O, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.11033°, -103.88261°) and is associated with oil and gas exploration and production operations on private land owned by Ms. Janey Paschal (Figure 1). Please note the location of the release provided on the original Release Notification Form C-141 (Form C-141) has been corrected on the final Form C-141 submitted with this *Closure Request*.

On April 1, 2022, while moving produced water across a caliche road, internal corrosion of the steel road crossing caused a weld to fail, resulting in the release of 23.84 barrels (bbls) of produced water with FR onto the caliche road and into the adjacent pasture. No free fluids were recovered. XTO reported the release to the New Mexico Oil and Gas Division (NMOCD) on a Form C-141 on April 15, 2022. The release was assigned Incident Number NAPP2210553504.

Ensolum conducted Site assessment and delineation activities and presented the results in the *Work Plan* submitted to the NMOCD on September 28, 2022. The *Work Plan* proposed excavation of impacted soil identified during delineation activities. Delineation sample locations are shown on Figure 2 and laboratory analytical results are on Table 1. The *Work Plan* was approved by the NMOCD on December 16, 2022.

## **SITE CHARACTERIZATION AND CLOSURE CRITERIA**

As documented in the approved *Work Plan*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

XTO Energy  
PLU 21 Brushy Draw Pad B  
Closure Request

- 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 diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

## EXCAVATION SOIL SAMPLING ACTIVITIES

Between December 28, 2022 and January 5, 2023, Ensolum oversaw excavation activities according to the approved *Work Plan*. Excavation activities were performed by use of heavy equipment. To direct excavation activities, soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The excavation extent is depicted on Figure 3. A photographic log of excavation activities can be found in Appendix A.

Following the removal of impacted soil, Ensolum personnel collected eight 5-point composite soil samples representing up to 200 square feet from the floor and sidewalls of the excavation. Composite soil samples FS01 through FS04 were collected from the floor of the excavation at a depth of 1-foot below ground surface (bgs) and SW01 through SW04 were collected from the sidewalls of the excavation at depths ranging from ground surface to 1-foot bgs. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH oil-range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shipment and long-term storage, but are considered to have been received in acceptable condition by the laboratory. The excavation extent and excavation soil sample locations are presented on Figure 3. After completing the excavation, surface scraping within the release extent was completed by use of a backhoe to remove surficial staining.

The final excavation extent measured approximately 750 square feet. A total of approximately 28 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. After the excavation was completed, the excavation areas were secured with fencing.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all excavation floor and sidewall samples indicated COC concentrations were compliant with the Closure Criteria and the reclamation standard. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix C.



XTO Energy  
PLU 21 Brushy Draw Pad B  
Closure Request

## CLOSURE REQUEST

Excavation activities were conducted at the Site as indicated in the *Work Plan* to address the April 1, 2022 release of produced water with FR. Laboratory analytical results for all excavation soil samples collected indicate COC concentrations were compliant with the Closure Criteria and the reclamation standard. Based on the soil sample laboratory analytical results, no further remediation is required. The excavation has been backfilled with material purchased locally and the Site has been recontoured to match pre-existing site conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture. Photographic documentation of the backfill is provided in Appendix A.

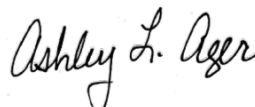
Excavation of soil has mitigated impacts exceeding the Closure Criteria and reclamation standard at the Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2210553504.

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

Sincerely,  
**Ensolum, LLC**



Meredith Roberts  
Field Geologist



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

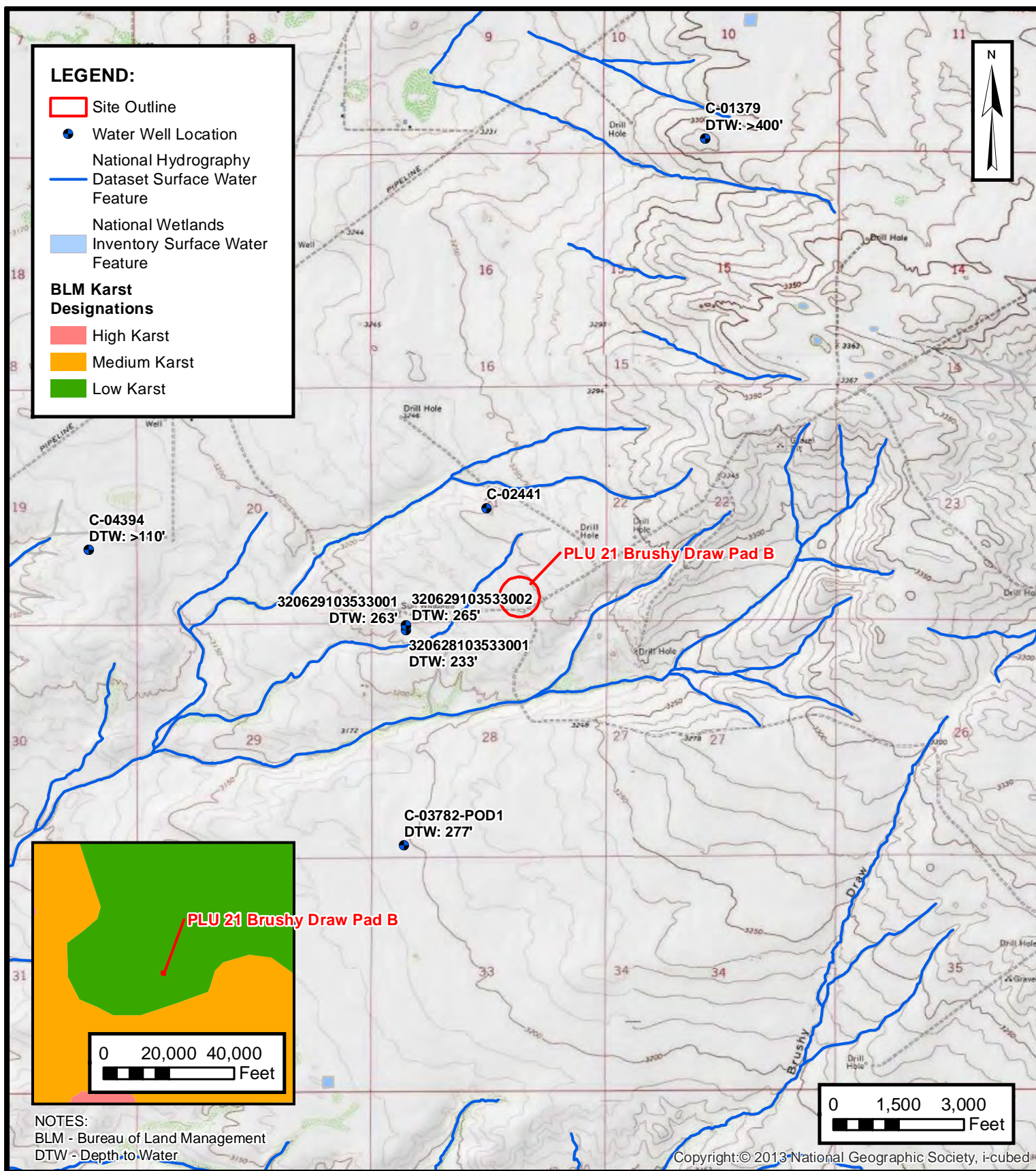
cc: Garrett Green, XTO  
Shelby Pennington, XTO  
Janey Paschal

### Appendices:

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



FIGURES



## SITE RECEPTOR MAP

XTO ENERGY, INC  
 PLU 21 Brushy Draw Pad B  
 Incident ID: NAPP2210553504  
 Unit O, Sec 21, T25S, R30E  
 Eddy County, New Mexico

FIGURE

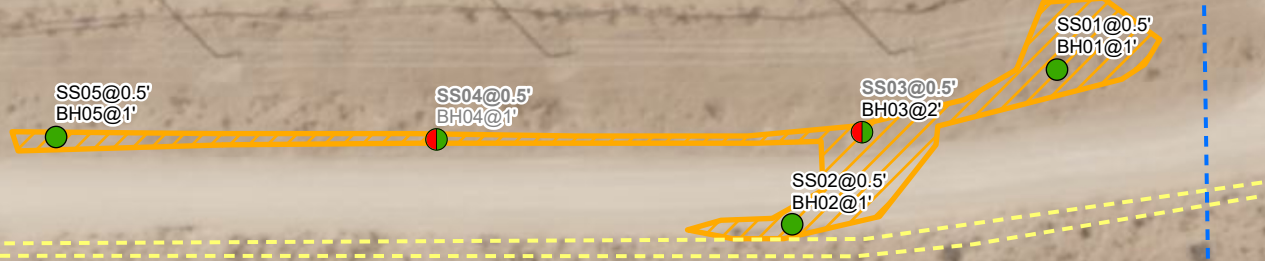
1

**ENSOLUM**  
 Environmental, Engineering and  
 Hydrogeologic Consultants



## Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Buried Produced Water Line
- Buried Gas Pipeline
- Release Extent



Notes:  
 Soil samples in **bold** indicate soil concentrations exceeds the applicable regulatory closure criteria.  
 Grey text indicates soil sample removed during excavation activities  
 Sample ID @ Depth Below Ground Surface.

0 100 200  
 Feet

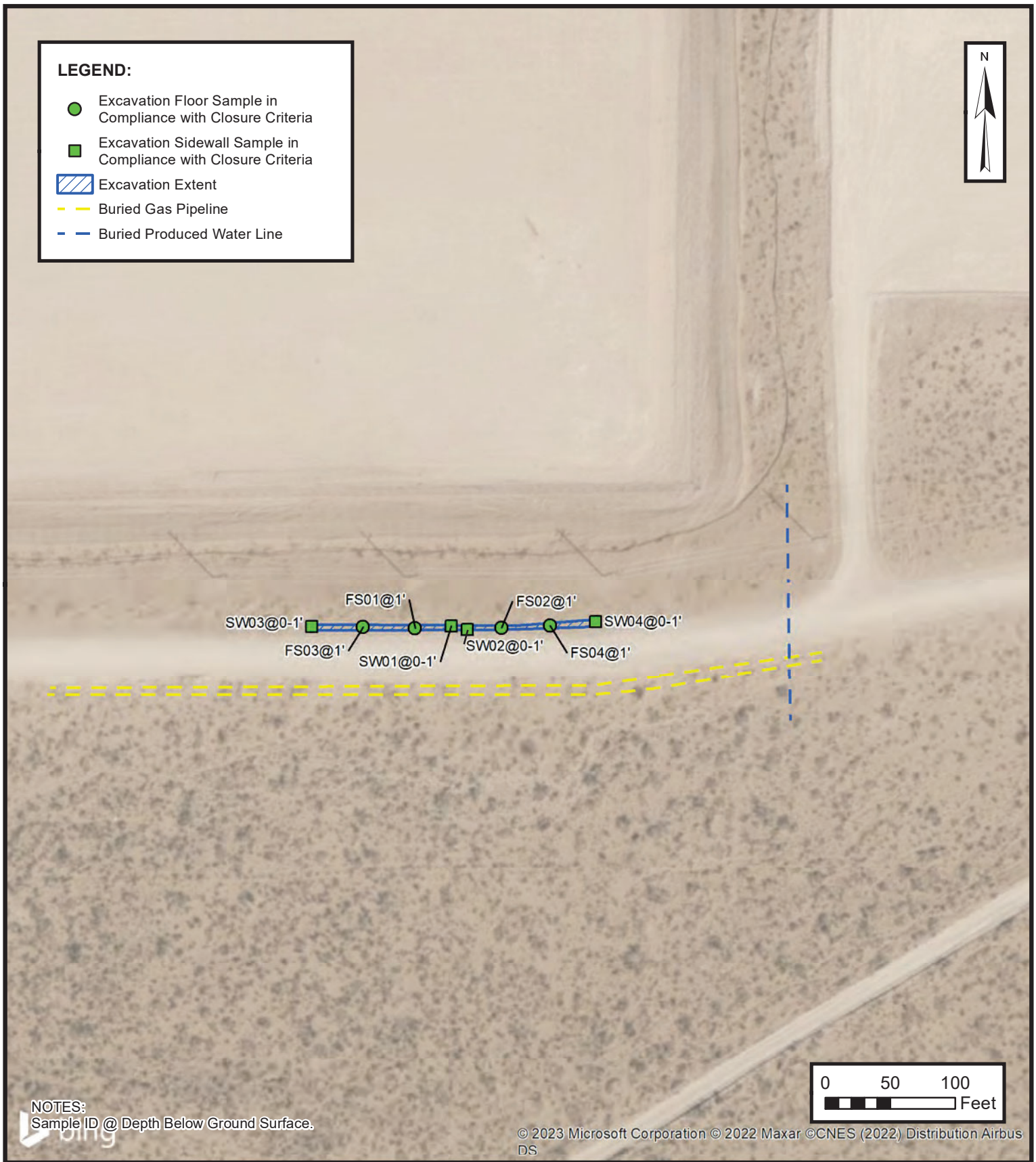
Sources: Environmental Systems Research Institute (ESRI)



## Delineation Soil Sample Locations

XTO ENERGY, INC  
 PLU 21 Brushy Draw Pad B  
 Incident ID: NAPP2210553504  
 Unit O, Sec 21, T25S, R30E  
 Eddy County, New Mexico

FIGURE  
**2**



## EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC  
PLU 21 BRUSHY DRAW PAD B  
Incident ID: NAPP2210553504  
Unit O, Sec 21, T25S, R30E  
Eddy County, New Mexico

FIGURE  
**3**



TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**PLU 21 BRUSHY DRAW PAD B**  
**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 Sample Analytical Results										
SS01	06/06/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	250
BH01	09/12/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	196
SS02	06/06/2022	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	57.7
BH02	09/12/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	17.8
SS03	06/06/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	634
BH03	09/12/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	484
SS04	06/06/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,100
BH04	09/12/2022	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	24.6
SS05	06/06/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	206
BH05	09/12/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	22.7
Excavation Soil Sample Analytical Results										
FS01	12/28/2022	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	167
FS02	12/28/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	180
FS03	01/05/2023	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	293
FS04	01/05/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	355



TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
PLU 21 BRUSHY DRAW PAD B  
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
SW01	12/28/2022	0 - 1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	96.3
SW02	12/28/2022	0 - 1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	138
SW03	01/05/2023	0 - 1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	75.8
SW04	01/05/2023	0 - 1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	153

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

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

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and reclamation standard

Grey text indicates soil sample removed during excavation activities





## APPENDIX A

### Photographic Log

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## Photographic Log

XTO Energy, Inc.

PLU 21 Brushy Draw Pad B

Incident Number NAPP2210553504



Photograph 1 Date: 12/28/2022  
Description: Excavation activities, near BH03  
View: West



Photograph 2 Date: 12/28/2022  
Description: Final excavation extent  
View: West



Photograph 3 Date: 12/28/2022  
Description: Final excavation extent  
View: East




Photograph 4 Date: 2/15/2023  
Description: Backfilled excavation extent  
View: West





## APPENDIX B


### Lithologic/ Soil Sampling Logs


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 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH01		Date: 9/12/2022				
		Site Name: PLU Brushy Draw Pad B						
		Incident Number: NAPP2210553504						
		Job Number: 03E1558054						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.110405, -103.883076			Logged By: CW		Method: Hand Auger			
			Hole Diameter: 3.5"		Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	1,405	0.8	N	SS01	0.5			
M	168	0.0	N	BH01	1	1		@1', Auger refusal
							TD	Total Depth at 1' bgs.

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH02		Date: 9/12/2022				
		Site Name: PLU Brushy Draw Pad B						
		Incident Number: NAPP2210553504						
		Job Number: 03E1558054						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: CW	Method: Hand Auger			
Coordinates: 32.110405, -103.883076				Hole Diameter: 3.5"	Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	400	0.1	N	SS02	0.5	0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	<168	0.0	N	BH02	1	1		@1', Auger refusal
							TD	Total Depth at 1' bgs.

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH03		Date: 9/12/2022				
		Site Name: PLU Brushy Draw Pad B						
		Incident Number: NAPP2210553504						
		Job Number: 03E1558054						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.110405, -103.883076		Logged By: CW		Method: Hand Auger				
		Hole Diameter: 3.5"		Total Depth: 2'				
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	0-2', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	800	0.2	N	SS03	0.5			
M	168	0.7	N		1	1		
M	705	0.2	N	BH03	2	2		
							TD	Total Depth at 2' bgs.

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH04		Date: 9/12/2022				
		Site Name: PLU Brushy Draw Pad B						
		Incident Number: NAPP2210553504						
		Job Number: 03E1558054						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.110405, -103.883076			Logged By: CW		Method: Hand Auger			
			Hole Diameter: 3.5"		Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	1,512	0.0	N	SS04	0.5	0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	<168	0.1	N	BH04	1	1		@1', Auger refusal
							TD	Total Depth at 1' bgs.

 <b>ENSOLUM</b> Environmental, Engineering and Hydrogeologic Consultants		Sample Name: BH05		Date: 9/12/2022				
		Site Name: PLU Brushy Draw Pad B						
		Incident Number: NAPP2210553504						
		Job Number: 03E1558054						
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Coordinates: 32.110405, -103.883076			Logged By: CW		Method: Hand Auger			
			Hole Diameter: 3.5"		Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	168	0.0	N	SS05	0.5	0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	<168	0.0	N	BH05	1	1		@1', Auger refusal
							TD	Total Depth at 1' bgs.





## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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## Environment Testing America

### ANALYTICAL REPORT

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-2381-1

Laboratory Sample Delivery Group: 03E1558054

Client Project/Site: PLU Brushy Draw Pad B

**For:**

Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Attn: Ben Belill

Authorized for release by:

6/10/2022 12:28:04 PM

Jessica Kramer, Project Manager  
(432)704-5440

[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)

#### LINKS

Review your project  
results through



Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Laboratory Job ID: 890-2381-1  
SDG: 03E1558054

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## Definitions/Glossary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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

Case Narrative

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Job ID: 890-2381-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-2381-1

Receipt

The samples were received on 6/6/2022 2:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

## Client Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Client Sample ID: SS01

Lab Sample ID: 890-2381-1

Date Collected: 06/06/22 11:25

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 16:54	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 16:54	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 16:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/09/22 11:24	06/09/22 16:54	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 16:54	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/09/22 11:24	06/09/22 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	06/09/22 11:24	06/09/22 16:54	1
1,4-Difluorobenzene (Surr)	101		70 - 130	06/09/22 11:24	06/09/22 16:54	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/10/22 10:31	1

## Method: 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			06/10/22 08:41	1

## Method: 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		06/08/22 17:20	06/09/22 21:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/08/22 17:20	06/09/22 21:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/08/22 17:20	06/09/22 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	06/08/22 17:20	06/09/22 21:40	1
o-Terphenyl	122		70 - 130	06/08/22 17:20	06/09/22 21:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	250		5.05	mg/Kg			06/08/22 15:31	1

Client Sample ID: SS02

Lab Sample ID: 890-2381-2

Date Collected: 06/06/22 11:45

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		06/09/22 11:24	06/09/22 17:14	1
Toluene	<0.00198	U	0.00198	mg/Kg		06/09/22 11:24	06/09/22 17:14	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		06/09/22 11:24	06/09/22 17:14	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		06/09/22 11:24	06/09/22 17:14	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		06/09/22 11:24	06/09/22 17:14	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		06/09/22 11:24	06/09/22 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	06/09/22 11:24	06/09/22 17:14	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Client Sample ID: SS02

Lab Sample ID: 890-2381-2

Date Collected: 06/06/22 11:45

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	100		70 - 130	06/09/22 11:24	06/09/22 17:14	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/10/22 08:41	1

## Method: 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		06/08/22 17:20	06/09/22 22:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 22:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 22:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			06/08/22 17:20	06/09/22 22:46	1
o-Terphenyl	101		70 - 130			06/08/22 17:20	06/09/22 22:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57.7		5.00	mg/Kg			06/08/22 15:39	1

Client Sample ID: SS03

Lab Sample ID: 890-2381-3

Date Collected: 06/06/22 11:40

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 17:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 17:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 17:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/09/22 11:24	06/09/22 17:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/09/22 11:24	06/09/22 17:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/09/22 11:24	06/09/22 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	06/09/22 11:24	06/09/22 17:35	1
1,4-Difluorobenzene (Surr)	101		70 - 130	06/09/22 11:24	06/09/22 17:35	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/10/22 08:41	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## Client Sample ID: SS03

## Lab Sample ID: 890-2381-3

Date Collected: 06/06/22 11:40

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

## Method: 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		06/08/22 17:20	06/09/22 23:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			06/08/22 17:20	06/09/22 23:08	1
o-Terphenyl	126		70 - 130			06/08/22 17:20	06/09/22 23:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	634		4.95	mg/Kg			06/08/22 16:02	1

## Client Sample ID: SS04

## Lab Sample ID: 890-2381-4

Date Collected: 06/06/22 11:35

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/09/22 11:24	06/09/22 17:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			06/09/22 11:24	06/09/22 17:55	1
1,4-Difluorobenzene (Surr)	101		70 - 130			06/09/22 11:24	06/09/22 17:55	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/10/22 08:41	1

## Method: 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		06/08/22 17:20	06/09/22 23:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130			06/08/22 17:20	06/09/22 23:30	1
o-Terphenyl	124		70 - 130			06/08/22 17:20	06/09/22 23:30	1

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## Client Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## Client Sample ID: SS04

## Lab Sample ID: 890-2381-4

Date Collected: 06/06/22 11:35

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100		4.95	mg/Kg			06/08/22 16:10	1

## Client Sample ID: SS05

## Lab Sample ID: 890-2381-5

Date Collected: 06/06/22 11:30

Matrix: Solid

Date Received: 06/06/22 14:10

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/09/22 11:24	06/09/22 18:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			06/09/22 11:24	06/09/22 18:16	1
1,4-Difluorobenzene (Surr)	99		70 - 130			06/09/22 11:24	06/09/22 18:16	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/10/22 08:41	1

## Method: 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		06/08/22 17:20	06/09/22 23:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 23:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			06/08/22 17:20	06/09/22 23:52	1
o-Terphenyl	99		70 - 130			06/08/22 17:20	06/09/22 23:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	206		5.03	mg/Kg			06/08/22 16:34	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2381-1	SS01	113	101
890-2381-1 MS	SS01	107	104
890-2381-1 MSD	SS01	103	102
890-2381-2	SS02	107	100
890-2381-3	SS03	109	101
890-2381-4	SS04	111	101
890-2381-5	SS05	114	99
LCS 880-27169/1-A	Lab Control Sample	104	99
LCSD 880-27169/2-A	Lab Control Sample Dup	109	95
MB 880-27169/5-A	Method Blank	98	97
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2381-1	SS01	114	122
890-2381-1 MS	SS01	92	89
890-2381-1 MSD	SS01	104	102
890-2381-2	SS02	98	101
890-2381-3	SS03	118	126
890-2381-4	SS04	117	124
890-2381-5	SS05	93	99
LCS 880-27116/2-A	Lab Control Sample	98	100
LCSD 880-27116/3-A	Lab Control Sample Dup	114	118
MB 880-27116/1-A	Method Blank	94	99
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-27169/5-A

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 27169

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 16:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/09/22 11:24	06/09/22 16:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/09/22 11:24	06/09/22 16:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	06/09/22 11:24	06/09/22 16:24	1
1,4-Difluorobenzene (Surr)	97		70 - 130	06/09/22 11:24	06/09/22 16:24	1

Lab Sample ID: LCS 880-27169/1-A

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 27169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08701		mg/Kg		87	70 - 130
Toluene	0.100	0.09313		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.08725		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	0.200	0.1998		mg/Kg		100	70 - 130
o-Xylene	0.100	0.09882		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-27169/2-A

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 27169

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08058		mg/Kg		81	70 - 130	8	35
Toluene	0.100	0.08864		mg/Kg		89	70 - 130	5	35
Ethylbenzene	0.100	0.08534		mg/Kg		85	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1981		mg/Kg		99	70 - 130	1	35
o-Xylene	0.100	0.09984		mg/Kg		100	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-2381-1 MS

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.101	0.1070		mg/Kg		106	70 - 130
Toluene	<0.00199	U	0.101	0.1057		mg/Kg		105	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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

Lab Sample ID: 890-2381-1 MS

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.09944		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.2272		mg/Kg		113	70 - 130
o-Xylene	<0.00199	U	0.101	0.1108		mg/Kg		110	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-2381-1 MSD

Matrix: Solid

Analysis Batch: 27183

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09863		mg/Kg		99	70 - 130	8	35
Toluene	<0.00199	U	0.0996	0.09833		mg/Kg		99	70 - 130	7	35
Ethylbenzene	<0.00199	U	0.0996	0.09226		mg/Kg		93	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.2103		mg/Kg		106	70 - 130	8	35
o-Xylene	<0.00199	U	0.0996	0.1033		mg/Kg		104	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-27116/1-A

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 27116

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		06/08/22 17:20	06/09/22 20:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 20:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/08/22 17:20	06/09/22 20:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	06/08/22 17:20	06/09/22 20:34	1
o-Terphenyl	99		70 - 130	06/08/22 17:20	06/09/22 20:34	1

Lab Sample ID: LCS 880-27116/2-A

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 27116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1165		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	1000	851.9		mg/Kg		85	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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

Lab Sample ID: LCS 880-27116/2-A

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 27116

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: LCSD 880-27116/3-A

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 27116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1006		mg/Kg		101	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	987.1		mg/Kg		99	70 - 130	15	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 890-2381-1 MS

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 27116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	995.7		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	998.3		mg/Kg		100	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: 890-2381-1 MSD

Matrix: Solid

Analysis Batch: 27125

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 27116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1142		mg/Kg		113	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1158		mg/Kg		116	70 - 130	15	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	102		70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27084/1-A

Matrix: Solid

Analysis Batch: 27100

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			06/08/22 13:25	1

Lab Sample ID: LCS 880-27084/2-A

Matrix: Solid

Analysis Batch: 27100

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	246.5		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-27084/3-A

Matrix: Solid

Analysis Batch: 27100

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	246.9		mg/Kg					

Lab Sample ID: 890-2381-2 MS

Matrix: Solid

Analysis Batch: 27100

Client Sample ID: SS02

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	57.7		250	299.0		mg/Kg		97	90 - 110

Lab Sample ID: 890-2381-2 MSD

Matrix: Solid

Analysis Batch: 27100

Client Sample ID: SS02

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	57.7		250	299.5		mg/Kg		97	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## GC VOA

## Prep Batch: 27169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	5035	
890-2381-2	SS02	Total/NA	Solid	5035	
890-2381-3	SS03	Total/NA	Solid	5035	
890-2381-4	SS04	Total/NA	Solid	5035	
890-2381-5	SS05	Total/NA	Solid	5035	
MB 880-27169/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2381-1 MS	SS01	Total/NA	Solid	5035	
890-2381-1 MSD	SS01	Total/NA	Solid	5035	

## Analysis Batch: 27183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	8021B	27169
890-2381-2	SS02	Total/NA	Solid	8021B	27169
890-2381-3	SS03	Total/NA	Solid	8021B	27169
890-2381-4	SS04	Total/NA	Solid	8021B	27169
890-2381-5	SS05	Total/NA	Solid	8021B	27169
MB 880-27169/5-A	Method Blank	Total/NA	Solid	8021B	27169
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	8021B	27169
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27169
890-2381-1 MS	SS01	Total/NA	Solid	8021B	27169
890-2381-1 MSD	SS01	Total/NA	Solid	8021B	27169

## Analysis Batch: 27282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	Total BTEX	
890-2381-2	SS02	Total/NA	Solid	Total BTEX	
890-2381-3	SS03	Total/NA	Solid	Total BTEX	
890-2381-4	SS04	Total/NA	Solid	Total BTEX	
890-2381-5	SS05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 27116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	8015NM Prep	
890-2381-2	SS02	Total/NA	Solid	8015NM Prep	
890-2381-3	SS03	Total/NA	Solid	8015NM Prep	
890-2381-4	SS04	Total/NA	Solid	8015NM Prep	
890-2381-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-27116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-27116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-27116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2381-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-2381-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 27125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	8015B NM	27116
890-2381-2	SS02	Total/NA	Solid	8015B NM	27116

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

## GC Semi VOA (Continued)

## Analysis Batch: 27125 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-3	SS03	Total/NA	Solid	8015B NM	27116
890-2381-4	SS04	Total/NA	Solid	8015B NM	27116
890-2381-5	SS05	Total/NA	Solid	8015B NM	27116
MB 880-27116/1-A	Method Blank	Total/NA	Solid	8015B NM	27116
LCS 880-27116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	27116
LCSD 880-27116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	27116
890-2381-1 MS	SS01	Total/NA	Solid	8015B NM	27116
890-2381-1 MSD	SS01	Total/NA	Solid	8015B NM	27116

## Analysis Batch: 27251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Total/NA	Solid	8015 NM	
890-2381-2	SS02	Total/NA	Solid	8015 NM	
890-2381-3	SS03	Total/NA	Solid	8015 NM	
890-2381-4	SS04	Total/NA	Solid	8015 NM	
890-2381-5	SS05	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 27084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Soluble	Solid	DI Leach	
890-2381-2	SS02	Soluble	Solid	DI Leach	
890-2381-3	SS03	Soluble	Solid	DI Leach	
890-2381-4	SS04	Soluble	Solid	DI Leach	
890-2381-5	SS05	Soluble	Solid	DI Leach	
MB 880-27084/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27084/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27084/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2381-2 MS	SS02	Soluble	Solid	DI Leach	
890-2381-2 MSD	SS02	Soluble	Solid	DI Leach	

## Analysis Batch: 27100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2381-1	SS01	Soluble	Solid	300.0	27084
890-2381-2	SS02	Soluble	Solid	300.0	27084
890-2381-3	SS03	Soluble	Solid	300.0	27084
890-2381-4	SS04	Soluble	Solid	300.0	27084
890-2381-5	SS05	Soluble	Solid	300.0	27084
MB 880-27084/1-A	Method Blank	Soluble	Solid	300.0	27084
LCS 880-27084/2-A	Lab Control Sample	Soluble	Solid	300.0	27084
LCSD 880-27084/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27084
890-2381-2 MS	SS02	Soluble	Solid	300.0	27084
890-2381-2 MSD	SS02	Soluble	Solid	300.0	27084

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## Lab Chronicle

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Client Sample ID: SS01

Lab Sample ID: 890-2381-1

Date Collected: 06/06/22 11:25

Matrix: Solid

Date Received: 06/06/22 14:10

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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 16:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27282	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27251	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/09/22 21:40	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	27084	06/08/22 11:30	CH	XEN MID
Soluble	Analysis	300.0		1			27100	06/08/22 15:31	CH	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-2381-2

Date Collected: 06/06/22 11:45

Matrix: Solid

Date Received: 06/06/22 14:10

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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 17:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27282	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27251	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/09/22 22:46	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27084	06/08/22 11:30	CH	XEN MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	27100	06/08/22 15:39	CH	XEN MID

Client Sample ID: SS03

Lab Sample ID: 890-2381-3

Date Collected: 06/06/22 11:40

Matrix: Solid

Date Received: 06/06/22 14:10

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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 17:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27282	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27251	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/09/22 23:08	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27084	06/08/22 11:30	CH	XEN MID
Soluble	Analysis	300.0		1			27100	06/08/22 16:02	CH	XEN MID

Client Sample ID: SS04

Lab Sample ID: 890-2381-4

Date Collected: 06/06/22 11:35

Matrix: Solid

Date Received: 06/06/22 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 17:55	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27282	06/10/22 10:31	AJ	XEN MID

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## Lab Chronicle

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Client Sample ID: SS04

Lab Sample ID: 890-2381-4

Date Collected: 06/06/22 11:35

Matrix: Solid

Date Received: 06/06/22 14:10

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			27251	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/09/22 23:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27084	06/08/22 11:30	CH	XEN MID
Soluble	Analysis	300.0		1			27100	06/08/22 16:10	CH	XEN MID

Client Sample ID: SS05

Lab Sample ID: 890-2381-5

Date Collected: 06/06/22 11:30

Matrix: Solid

Date Received: 06/06/22 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 18:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27282	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27251	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/09/22 23:52	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	27084	06/08/22 11:30	CH	XEN MID
Soluble	Analysis	300.0		1			27100	06/08/22 16:34	CH	XEN MID

## Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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	T104704400-21-22	06-30-22

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

## Method Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

Sample Summary

Client: Ensolum  
Project/Site: PLU Brushy Draw Pad B

Job ID: 890-2381-1  
SDG: 03E1558054

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2381-1	SS01	Solid	06/06/22 11:25	06/06/22 14:10	0.5
890-2381-2	SS02	Solid	06/06/22 11:45	06/06/22 14:10	0.5
890-2381-3	SS03	Solid	06/06/22 11:40	06/06/22 14:10	0.5
890-2381-4	SS04	Solid	06/06/22 11:35	06/06/22 14:10	0.5
890-2381-5	SS05	Solid	06/06/22 11:30	06/06/22 14:10	0.5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



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 Bellill	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum LLC.	Company Name:	XTO Energy, Inc.
Address:		Address:	3104 E. Green Street
City, State ZIP:		City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbellill@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	PLU Brushy Draw Pad B	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558054	Due Date:			
Project Location:	Commer Shore	TAT starts the day received by the lab, if received by 4:30pm			
Sample Name:					
PO #:					
SAMPLE RECEIPT		Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Thermometer ID:	7N-M-003		
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Correction Factor:	-0.2		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Temperature Reading:	2-8		
Total Containers:		Corrected Temperature:	2-6		
Parameters					
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTEX (8021)					
ANALYSIS REQUEST					
Preservative Codes					
None: NO DI Water: H <sub>2</sub> O					
Cool: Cool MeOH: Me					
HCL: HC HNO <sub>3</sub> : HN					
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na					
H <sub>3</sub> PO <sub>4</sub> : HP					
NaHSO <sub>4</sub> : NABIS					
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: S APC					
Sample Comments					
Incident ID: NAPP2210553504					
Cost Center:					
AFE:					
DD.2017.02396.CAP.CMP.01					
DD.2017.02385.CAP.CMP.01					
DD.2017.02386.CAP.CMP.01					
DD.2017.02364.CAP.CMP.01					
DD.2017.02372.CAP.CMP.01					



890-2381 Chain of Custody

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti 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 Ti 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 \$46.00 will be applied to each project and a charge of \$3 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)
		6:28:20 1/10/2		
3			4	
5			6	

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2381-1

SDG Number: 03E1558054

Login Number: 2381

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	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: 890-2381-1

SDG Number: 03E1558054

Login Number: 2381

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 06/08/22 11:10 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	





Environment Testing  
America

## ANALYTICAL REPORT

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-2938-1

Laboratory Sample Delivery Group: 03E1558054

Client Project/Site: PLU BUSHY DRAW PAD B

For:

Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Attn: Ben Belill

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

9/26/2022 11:48:00 AM

Jessica Kramer, Project Manager  
(432)704-5440

[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)

### LINKS

Review your project  
results through



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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Laboratory Job ID: 890-2938-1  
SDG: 03E1558054

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## Definitions/Glossary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

## 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
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.
α	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 BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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**Job ID: 890-2938-1**

---

**Laboratory: Eurofins Carlsbad**

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**Narrative**

---

**Job Narrative  
890-2938-1****Receipt**

The sample was received on 9/13/2022 8:26 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

**GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2998-A-1-D MSD). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2998-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-35157/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH03 (890-2938-1). Evidence of matrix interferences is not obvious.

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34506 and analytical batch 880-34544 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**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 BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

Client Sample ID: BH03

Lab Sample ID: 890-2938-1

Date Collected: 09/12/22 10:45

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/22 10:27	09/22/22 22:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/22 10:27	09/22/22 22:34	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/22 10:27	09/22/22 22:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/22 10:27	09/22/22 22:34	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/22 10:27	09/22/22 22:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/22 10:27	09/22/22 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130	09/22/22 10:27	09/22/22 22:34	1
1,4-Difluorobenzene (Surr)	124		70 - 130	09/22/22 10:27	09/22/22 22:34	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/26/22 12:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/16/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	09/14/22 13:28	09/16/22 02:37	1
o-Terphenyl	104		70 - 130	09/14/22 13:28	09/16/22 02:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	484		5.00	mg/Kg			09/19/22 09:25	1

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## Surrogate Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2938-1	BH03	189 S1+	124
890-2998-A-1-C MS	Matrix Spike	126	122
890-2998-A-1-D MSD	Matrix Spike Duplicate	138 S1+	121
LCS 880-35157/1-A	Lab Control Sample	136 S1+	117
LCSD 880-35157/2-A	Lab Control Sample Dup	127	114
MB 880-35157/5-A	Method Blank	110	108
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19118-A-81-E MS	Matrix Spike	102	96
880-19118-A-81-F MSD	Matrix Spike Duplicate	123	108
890-2938-1	BH03	99	104
LCS 880-34506/2-A	Lab Control Sample	129	143 S1+
LCSD 880-34506/3-A	Lab Control Sample Dup	137 S1+	147 S1+
MB 880-34506/1-A	Method Blank	118	130
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-35157/5-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 35157

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/22 10:27	09/22/22 15:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	09/22/22 10:27	09/22/22 15:59	1
1,4-Difluorobenzene (Surr)	108		70 - 130	09/22/22 10:27	09/22/22 15:59	1

Lab Sample ID: LCS 880-35157/1-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1010		mg/Kg		101	70 - 130
Toluene	0.100	0.09728		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1069		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2437		mg/Kg		122	70 - 130
o-Xylene	0.100	0.1191		mg/Kg		119	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Lab Sample ID: LCSD 880-35157/2-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09002		mg/Kg		90	70 - 130	11	35
Toluene	0.100	0.09451		mg/Kg		95	70 - 130	3	35
Ethylbenzene	0.100	0.1038		mg/Kg		104	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2295		mg/Kg		115	70 - 130	6	35
o-Xylene	0.100	0.1105		mg/Kg		111	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-2998-A-1-C MS

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.09601		mg/Kg		96	70 - 130
Toluene	<0.00200	U	0.0998	0.08061		mg/Kg		81	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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

Lab Sample ID: 890-2998-A-1-C MS

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.08856		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1986		mg/Kg		99	70 - 130
o-Xylene	<0.00200	U	0.0998	0.09612		mg/Kg		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 890-2998-A-1-D MSD

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09474		mg/Kg		94	70 - 130	1	35
Toluene	<0.00200	U	0.100	0.09384		mg/Kg		93	70 - 130	15	35
Ethylbenzene	<0.00200	U	0.100	0.1035		mg/Kg		103	70 - 130	16	35
m-Xylene & p-Xylene	<0.00401	U	0.201	0.2299		mg/Kg		114	70 - 130	15	35
o-Xylene	<0.00200	U	0.100	0.1098		mg/Kg		109	70 - 130	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

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

Lab Sample ID: MB 880-34506/1-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34506

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130	09/14/22 13:28	09/15/22 19:05	1
o-Terphenyl	130		70 - 130	09/14/22 13:28	09/15/22 19:05	1

Lab Sample ID: LCS 880-34506/2-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1009		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1012		mg/Kg		101	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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

Lab Sample ID: LCS 880-34506/2-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34506

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	129		70 - 130
o-Terphenyl	143	S1+	70 - 130

Lab Sample ID: LCSD 880-34506/3-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1044		mg/Kg		104	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1057		mg/Kg		106	70 - 130	4	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	137	S1+	70 - 130
o-Terphenyl	147	S1+	70 - 130

Lab Sample ID: 880-19118-A-81-E MS

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	609.1	F1	mg/Kg		59	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	969.6		mg/Kg		96	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 880-19118-A-81-F MSD

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	744.4		mg/Kg		73	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1138		mg/Kg		112	70 - 130	16	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	108		70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34507/1-A

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			09/19/22 08:46	1

Lab Sample ID: LCS 880-34507/2-A

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	246.3		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-34507/3-A

Matrix: Solid

Analysis Batch: 34836

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	247.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-2936-A-1-B MS

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	76.9		251	325.8		mg/Kg		99	90 - 110

Lab Sample ID: 890-2936-A-1-C MSD

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	76.9		251	325.7		mg/Kg		99	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

## GC VOA

## Analysis Batch: 35151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	8021B	35157
MB 880-35157/5-A	Method Blank	Total/NA	Solid	8021B	35157
LCS 880-35157/1-A	Lab Control Sample	Total/NA	Solid	8021B	35157
LCSD 880-35157/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35157
890-2998-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	35157
890-2998-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35157

## Prep Batch: 35157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	5035	
MB 880-35157/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35157/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35157/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2998-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2998-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 35406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 34506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	8015NM Prep	
MB 880-34506/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34506/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19118-A-81-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19118-A-81-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 34544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	8015B NM	34506
MB 880-34506/1-A	Method Blank	Total/NA	Solid	8015B NM	34506
LCS 880-34506/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34506
LCSD 880-34506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34506
880-19118-A-81-E MS	Matrix Spike	Total/NA	Solid	8015B NM	34506
880-19118-A-81-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34506

## Analysis Batch: 34657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 34507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Soluble	Solid	DI Leach	
MB 880-34507/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34507/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34507/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

## HPLC/IC (Continued)

## Leach Batch: 34507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2936-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2936-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 34836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2938-1	BH03	Soluble	Solid	300.0	34507
MB 880-34507/1-A	Method Blank	Soluble	Solid	300.0	34507
LCS 880-34507/2-A	Lab Control Sample	Soluble	Solid	300.0	34507
LCSD 880-34507/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34507
890-2936-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	34507
890-2936-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34507

Lab Chronicle

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

Client Sample ID: BH03

Lab Sample ID: 890-2938-1

Date Collected: 09/12/22 10:45

Matrix: Solid

Date Received: 09/13/22 08:26

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	35157	09/22/22 10:27	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35151	09/22/22 22:34	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35406	09/26/22 12:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			34657	09/16/22 10:25	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34506	09/14/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34544	09/16/22 02:37	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34507	09/14/22 13:32	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34836	09/19/22 09:25	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 BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

## Method Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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



Sample Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2938-1  
SDG: 03E1558054

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2938-1	BH03	Solid	09/12/22 10:45	09/13/22 08:26	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing  
Xenco

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) 794-1286  
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

## Chain of Custody

**Work Order No:**

www.xenco.com Page 1 of 1

Project Manager:	Ben Belli	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	GarrettGreen@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 Bushy Draw Pad B		Turn Around		Pres. Code	
Project Number:		03E1558054		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush			
Project Location:				Due Date:			
Sampler's Name:		Connor Whitman		TAT starts the day received by the lab. if received by 4:30pm			
PO #:							
SAMPLE RECEIPT		Temp Blank:		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>		Wet Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Samples Received Intact:		(Yes) <input checked="" type="checkbox"/> (No) <input type="checkbox"/>		Thermometer ID:		T-164-007	
Cooler Custody Seals:		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/>		Correction Factor:		-0.2	
Sample Custody Seals:		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/>		Temperature Reading:		1.8	
Total Containers:				Corrected Temperature:		1.4	
Parameters							
RIDES (EPA: 300.0)							
<div> <div>8021</div> <div>015)</div> </div>							
<div> <div>ANALYSIS REQUEST</div> <div>  <div>890-2938 Chain of Custody</div> </div> </div>							
Preservative Codes							
None: NO		DI Water: H <sub>2</sub> O		Cool: COOL		MeOH: Me	
HCL: HC		HNO <sub>3</sub> : HN		H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>		NaOH: Na	
H <sub>3</sub> PO <sub>4</sub> : HP		NaHSO <sub>4</sub> : NABIS		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NASO <sub>3</sub>		Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC							

[illegible]

<b>Total</b>	<b>200.7 / 6010</b>	<b>200.8 / 6020:</b>	
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 <sub>2</sub> Na Sr Ti Sn U V Zr
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 Ti 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 Xeno, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xeno 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 Xeno. A minimum charge of \$65.00 will be applied to each project and a charge of \$3 for each sample submitted to Eurofins Xeno, 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 <i>Carla L. Linton</i>	<i>[Signature]</i>	9-18-22	<i>[Signature]</i>		
2					
3					
4					
5					
6					

Printed Date: 08/25/2020 Rev: 2020

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2938-1

SDG Number: 03E1558054

Login Number: 2938

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	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: 890-2938-1

SDG Number: 03E1558054

Login Number: 2938

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/14/22 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	



## Environment Testing America

### ANALYTICAL REPORT

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-2939-1

Laboratory Sample Delivery Group: 03E1558054

Client Project/Site: PLU BUSHY DRAW PAD B

**For:**

Ensolum  
705 W. Wadley  
Suite 210  
Midland, Texas 79701

Attn: Ben Belill

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

9/26/2022 11:53:04 AM

Jessica Kramer, Project Manager  
(432)704-5440

[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)

#### LINKS

Review your project  
results through



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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Laboratory Job ID: 890-2939-1  
SDG: 03E1558054

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## Definitions/Glossary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## Qualifiers

## GC 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.

## 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
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 BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

**Job ID: 890-2939-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-2939-1****Receipt**

The samples were received on 9/13/2022 8:26 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

**GC VOA**

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH01 (890-2939-1), BH02 (890-2939-2) and BH04 (890-2939-3). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2998-A-1-D MSD). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2998-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-35157/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH05 (890-2939-4). Evidence of matrix interferences is not obvious.

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34506 and analytical batch 880-34544 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**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 BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

Client Sample ID: BH01

Lab Sample ID: 890-2939-1

Date Collected: 09/12/22 13:30

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 10:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 10:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 10:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/21/22 13:04	09/22/22 10:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 10:57	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/21/22 13:04	09/22/22 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	155	S1+	70 - 130	09/21/22 13:04	09/22/22 10:57	1
1,4-Difluorobenzene (Surr)	125		70 - 130	09/21/22 13:04	09/22/22 10:57	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			09/22/22 12:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/16/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 02:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	09/14/22 13:28	09/16/22 02:59	1
o-Terphenyl	91		70 - 130	09/14/22 13:28	09/16/22 02:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	196		4.99	mg/Kg			09/19/22 09:30	1

Client Sample ID: BH02

Lab Sample ID: 890-2939-2

Date Collected: 09/12/22 13:10

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/21/22 13:04	09/22/22 11:17	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/21/22 13:04	09/22/22 11:17	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/21/22 13:04	09/22/22 11:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/21/22 13:04	09/22/22 11:17	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/21/22 13:04	09/22/22 11:17	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/21/22 13:04	09/22/22 11:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	160	S1+	70 - 130	09/21/22 13:04	09/22/22 11:17	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## Client Sample ID: BH02

## Lab Sample ID: 890-2939-2

Date Collected: 09/12/22 13:10

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	120		70 - 130	09/21/22 13:04	09/22/22 11:17	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/22/22 12:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/16/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 03:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 03:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 03:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			09/14/22 13:28	09/16/22 03:20	1
o-Terphenyl	91		70 - 130			09/14/22 13:28	09/16/22 03:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.8		4.97	mg/Kg			09/19/22 09:45	1

## Client Sample ID: BH04

## Lab Sample ID: 890-2939-3

Date Collected: 09/12/22 11:30

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 11:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 11:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 11:38	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/21/22 13:04	09/22/22 11:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 11:38	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/21/22 13:04	09/22/22 11:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	164	S1+	70 - 130	09/21/22 13:04	09/22/22 11:38	1
1,4-Difluorobenzene (Surr)	123		70 - 130	09/21/22 13:04	09/22/22 11:38	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			09/22/22 12:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			09/16/22 10:25	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## Client Sample ID: BH04

Lab Sample ID: 890-2939-3

Date Collected: 09/12/22 11:30

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/16/22 03:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/16/22 03:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/16/22 03:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			09/14/22 13:28	09/16/22 03:42	1
o-Terphenyl	108		70 - 130			09/14/22 13:28	09/16/22 03:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.6		5.03	mg/Kg			09/19/22 09:50	1

## Client Sample ID: BH05

Lab Sample ID: 890-2939-4

Date Collected: 09/12/22 12:55

Matrix: Solid

Date Received: 09/13/22 08:26

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/22 10:27	09/22/22 22:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	158	S1+	70 - 130			09/22/22 10:27	09/22/22 22:55	1
1,4-Difluorobenzene (Surr)	115		70 - 130			09/22/22 10:27	09/22/22 22:55	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/22/22 12:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/16/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 04:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 04:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/14/22 13:28	09/16/22 04:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			09/14/22 13:28	09/16/22 04:03	1
o-Terphenyl	96		70 - 130			09/14/22 13:28	09/16/22 04:03	1

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Client Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

Client Sample ID: BH05  
Date Collected: 09/12/22 12:55  
Date Received: 09/13/22 08:26  
Sample Depth: 1

Lab Sample ID: 890-2939-4  
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	22.7		5.02	mg/Kg			09/19/22 09:55	1	

## Surrogate Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-19485-A-21-A MS	Matrix Spike	140 S1+	109
880-19485-A-21-B MSD	Matrix Spike Duplicate	135 S1+	108
890-2939-1	BH01	155 S1+	125
890-2939-2	BH02	160 S1+	120
890-2939-3	BH04	164 S1+	123
890-2939-4	BH05	158 S1+	115
890-2998-A-1-C MS	Matrix Spike	126	122
890-2998-A-1-D MSD	Matrix Spike Duplicate	138 S1+	121
LCS 880-35061/1-A	Lab Control Sample	130	117
LCS 880-35157/1-A	Lab Control Sample	136 S1+	117
LCSD 880-35061/2-A	Lab Control Sample Dup	154 S1+	121
LCSD 880-35157/2-A	Lab Control Sample Dup	127	114
MB 880-35060/5-A	Method Blank	86	106
MB 880-35061/5-A	Method Blank	112	106
MB 880-35157/5-A	Method Blank	110	108
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19118-A-81-E MS	Matrix Spike	102	96
880-19118-A-81-F MSD	Matrix Spike Duplicate	123	108
890-2939-1	BH01	87	91
890-2939-2	BH02	88	91
890-2939-3	BH04	104	108
890-2939-4	BH05	91	96
LCS 880-34506/2-A	Lab Control Sample	129	143 S1+
LCSD 880-34506/3-A	Lab Control Sample Dup	137 S1+	147 S1+
MB 880-34506/1-A	Method Blank	118	130
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-35060/5-A

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 35060

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/22 12:57	09/21/22 16:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/21/22 12:57	09/21/22 16:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/22 12:57	09/21/22 16:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	09/21/22 12:57	09/21/22 16:55	1
1,4-Difluorobenzene (Surr)	106		70 - 130	09/21/22 12:57	09/21/22 16:55	1

Lab Sample ID: MB 880-35061/5-A

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 35061

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 03:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/21/22 13:04	09/22/22 03:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/22 13:04	09/22/22 03:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	09/21/22 13:04	09/22/22 03:37	1
1,4-Difluorobenzene (Surr)	106		70 - 130	09/21/22 13:04	09/22/22 03:37	1

Lab Sample ID: LCS 880-35061/1-A

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 35061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07370		mg/Kg		74	70 - 130
Toluene	0.100	0.07810		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.08578		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1910		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09680		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	130		70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Lab Sample ID: LCSD 880-35061/2-A

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 35061

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08829		mg/Kg		88	70 - 130	18	35

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: LCSD 880-35061/2-A

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 35061

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.09815		mg/Kg		98	70 - 130	23	35
Ethylbenzene	0.100	0.1069		mg/Kg		107	70 - 130	22	35
m-Xylene & p-Xylene	0.200	0.2382		mg/Kg		119	70 - 130	22	35
o-Xylene	0.100	0.1184		mg/Kg		118	70 - 130	20	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	154	S1+	70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

Lab Sample ID: 880-19485-A-21-A MS

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 35061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0998	0.06937		mg/Kg		70	70 - 130
Toluene	<0.00200	U	0.0998	0.07597		mg/Kg		76	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.07868		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1789		mg/Kg		90	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08893		mg/Kg		89	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-19485-A-21-B MSD

Matrix: Solid

Analysis Batch: 35073

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 35061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.100	0.06824	F1	mg/Kg		68	70 - 130	2	35
Toluene	<0.00200	U	0.100	0.08287		mg/Kg		83	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.100	0.07688		mg/Kg		77	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U	0.201	0.1785		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00200	U	0.100	0.08825		mg/Kg		88	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: MB 880-35157/5-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 35157

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/22 10:27	09/22/22 15:59	1

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-35157/5-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 35157

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/22 10:27	09/22/22 15:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130			09/22/22 10:27	09/22/22 15:59	1
1,4-Difluorobenzene (Surr)	108		70 - 130			09/22/22 10:27	09/22/22 15:59	1

Lab Sample ID: LCS 880-35157/1-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1010		mg/Kg		101	70 - 130
Toluene	0.100	0.09728		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1069		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2437		mg/Kg		122	70 - 130
o-Xylene	0.100	0.1191		mg/Kg		119	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130				
1,4-Difluorobenzene (Surr)	117		70 - 130				

Lab Sample ID: LCSD 880-35157/2-A

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09002		mg/Kg		90	70 - 130	11	35
Toluene	0.100	0.09451		mg/Kg		95	70 - 130	3	35
Ethylbenzene	0.100	0.1038		mg/Kg		104	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2295		mg/Kg		115	70 - 130	6	35
o-Xylene	0.100	0.1105		mg/Kg		111	70 - 130	7	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	127		70 - 130						
1,4-Difluorobenzene (Surr)	114		70 - 130						

Lab Sample ID: 890-2998-A-1-C MS

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.09601		mg/Kg		96	70 - 130
Toluene	<0.00200	U	0.0998	0.08061		mg/Kg		81	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.08856		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1986		mg/Kg		99	70 - 130
o-Xylene	<0.00200	U	0.0998	0.09612		mg/Kg		96	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: 890-2998-A-1-C MS

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 35157

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 890-2998-A-1-D MSD

Matrix: Solid

Analysis Batch: 35151

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 35157

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09474		mg/Kg		94	70 - 130	1	35
Toluene	<0.00200	U	0.100	0.09384		mg/Kg		93	70 - 130	15	35
Ethylbenzene	<0.00200	U	0.100	0.1035		mg/Kg		103	70 - 130	16	35
m-Xylene & p-Xylene	<0.00401	U	0.201	0.2299		mg/Kg		114	70 - 130	15	35
o-Xylene	<0.00200	U	0.100	0.1098		mg/Kg		109	70 - 130	13	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

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

Lab Sample ID: MB 880-34506/1-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34506

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/14/22 13:28	09/15/22 19:05	1

	MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	118		70 - 130	09/14/22 13:28	09/15/22 19:05	1		
o-Terphenyl	130		70 - 130	09/14/22 13:28	09/15/22 19:05	1		

Lab Sample ID: LCS 880-34506/2-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	1009		mg/Kg		101	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1012		mg/Kg		101	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	129		70 - 130
o-Terphenyl	143	S1+	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: LCSD 880-34506/3-A

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1044		mg/Kg		104	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1057		mg/Kg		106	70 - 130	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	137	S1+	70 - 130						
o-Terphenyl	147	S1+	70 - 130						

Lab Sample ID: 880-19118-A-81-E MS

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	609.1	F1	mg/Kg		59	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	969.6		mg/Kg		96	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	102		70 - 130								
o-Terphenyl	96		70 - 130								

Lab Sample ID: 880-19118-A-81-F MSD

Matrix: Solid

Analysis Batch: 34544

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34506

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	744.4		mg/Kg		73	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1138		mg/Kg		112	70 - 130	16	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	123		70 - 130								
o-Terphenyl	108		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34507/1-A

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			09/19/22 08:46	1

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

Lab Sample ID: LCS 880-34507/2-A

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-34507/3-A

Matrix: Solid

Analysis Batch: 34836

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	247.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-2936-A-1-B MS

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	76.9		251	325.8		mg/Kg		99	90 - 110		

Lab Sample ID: 890-2936-A-1-C MSD

Matrix: Solid

Analysis Batch: 34836

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	76.9		251	325.7		mg/Kg		99	90 - 110	0	20

## QC Association Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## GC VOA

## Prep Batch: 35060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-35060/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 35061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	5035	
890-2939-2	BH02	Total/NA	Solid	5035	
890-2939-3	BH04	Total/NA	Solid	5035	
MB 880-35061/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35061/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35061/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19485-A-21-A MS	Matrix Spike	Total/NA	Solid	5035	
880-19485-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 35073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	8021B	35061
890-2939-2	BH02	Total/NA	Solid	8021B	35061
890-2939-3	BH04	Total/NA	Solid	8021B	35061
MB 880-35060/5-A	Method Blank	Total/NA	Solid	8021B	35060
MB 880-35061/5-A	Method Blank	Total/NA	Solid	8021B	35061
LCS 880-35061/1-A	Lab Control Sample	Total/NA	Solid	8021B	35061
LCSD 880-35061/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35061
880-19485-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	35061
880-19485-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35061

## Analysis Batch: 35151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-4	BH05	Total/NA	Solid	8021B	35157
MB 880-35157/5-A	Method Blank	Total/NA	Solid	8021B	35157
LCS 880-35157/1-A	Lab Control Sample	Total/NA	Solid	8021B	35157
LCSD 880-35157/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35157
890-2998-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	35157
890-2998-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35157

## Prep Batch: 35157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-4	BH05	Total/NA	Solid	5035	
MB 880-35157/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35157/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35157/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2998-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2998-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 35178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	Total BTEX	
890-2939-2	BH02	Total/NA	Solid	Total BTEX	
890-2939-3	BH04	Total/NA	Solid	Total BTEX	
890-2939-4	BH05	Total/NA	Solid	Total BTEX	

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## GC Semi VOA

## Prep Batch: 34506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	8015NM Prep	
890-2939-2	BH02	Total/NA	Solid	8015NM Prep	
890-2939-3	BH04	Total/NA	Solid	8015NM Prep	
890-2939-4	BH05	Total/NA	Solid	8015NM Prep	
MB 880-34506/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34506/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19118-A-81-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19118-A-81-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 34544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	8015B NM	34506
890-2939-2	BH02	Total/NA	Solid	8015B NM	34506
890-2939-3	BH04	Total/NA	Solid	8015B NM	34506
890-2939-4	BH05	Total/NA	Solid	8015B NM	34506
MB 880-34506/1-A	Method Blank	Total/NA	Solid	8015B NM	34506
LCS 880-34506/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34506
LCSD 880-34506/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34506
880-19118-A-81-E MS	Matrix Spike	Total/NA	Solid	8015B NM	34506
880-19118-A-81-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34506

## Analysis Batch: 34658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Total/NA	Solid	8015 NM	
890-2939-2	BH02	Total/NA	Solid	8015 NM	
890-2939-3	BH04	Total/NA	Solid	8015 NM	
890-2939-4	BH05	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 34507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Soluble	Solid	DI Leach	
890-2939-2	BH02	Soluble	Solid	DI Leach	
890-2939-3	BH04	Soluble	Solid	DI Leach	
890-2939-4	BH05	Soluble	Solid	DI Leach	
MB 880-34507/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34507/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34507/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2936-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2936-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 34836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2939-1	BH01	Soluble	Solid	300.0	34507
890-2939-2	BH02	Soluble	Solid	300.0	34507
890-2939-3	BH04	Soluble	Solid	300.0	34507
890-2939-4	BH05	Soluble	Solid	300.0	34507
MB 880-34507/1-A	Method Blank	Soluble	Solid	300.0	34507
LCS 880-34507/2-A	Lab Control Sample	Soluble	Solid	300.0	34507

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QC Association Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

HPLC/IC (Continued)

Analysis Batch: 34836 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-34507/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34507
890-2936-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	34507
890-2936-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34507

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## Lab Chronicle

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

## Client Sample ID: BH01

## Lab Sample ID: 890-2939-1

Date Collected: 09/12/22 13:30

Matrix: Solid

Date Received: 09/13/22 08:26

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	35061	09/21/22 13:04	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35073	09/22/22 10:57	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35178	09/22/22 12:43	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34658	09/16/22 10:25	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34506	09/14/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34544	09/16/22 02:59	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34507	09/14/22 13:32	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34836	09/19/22 09:30	CH	EET MID

## Client Sample ID: BH02

## Lab Sample ID: 890-2939-2

Date Collected: 09/12/22 13:10

Matrix: Solid

Date Received: 09/13/22 08:26

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	35061	09/21/22 13:04	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35073	09/22/22 11:17	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35178	09/22/22 12:43	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34658	09/16/22 10:25	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34506	09/14/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34544	09/16/22 03:20	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34507	09/14/22 13:32	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34836	09/19/22 09:45	CH	EET MID

## Client Sample ID: BH04

## Lab Sample ID: 890-2939-3

Date Collected: 09/12/22 11:30

Matrix: Solid

Date Received: 09/13/22 08:26

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	35061	09/21/22 13:04	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35073	09/22/22 11:38	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35178	09/22/22 12:43	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34658	09/16/22 10:25	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34506	09/14/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34544	09/16/22 03:42	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	34507	09/14/22 13:32	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34836	09/19/22 09:50	CH	EET MID

## Client Sample ID: BH05

## Lab Sample ID: 890-2939-4

Date Collected: 09/12/22 12:55

Matrix: Solid

Date Received: 09/13/22 08:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	35157	09/22/22 10:27	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35151	09/22/22 22:55	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35178	09/22/22 12:43	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

Client Sample ID: BH05

Lab Sample ID: 890-2939-4

Date Collected: 09/12/22 12:55

Matrix: Solid

Date Received: 09/13/22 08:26

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			34658	09/16/22 10:25	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34506	09/14/22 13:28	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34544	09/16/22 04:03	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	34507	09/14/22 13:32	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34836	09/19/22 09:55	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 BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
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## Method Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

## Sample Summary

Client: Ensolum  
Project/Site: PLU BUSHY DRAW PAD B

Job ID: 890-2939-1  
SDG: 03E1558054

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2939-1	BH01	Solid	09/12/22 13:30	09/13/22 08:26	1
890-2939-2	BH02	Solid	09/12/22 13:10	09/13/22 08:26	1
890-2939-3	BH04	Solid	09/12/22 11:30	09/13/22 08:26	1
890-2939-4	BH05	Solid	09/12/22 12:55	09/13/22 08:26	1



Environment Testing  
Xenco

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

Chain of Custody

Work Order No: \_\_\_\_\_

www.xenco.com Page \_\_\_\_\_ of \_\_\_\_\_

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

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	PLU Bushy Draw Pad B	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558054	Due Date:			
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:					
PO #:					
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Parameters		
Samples Received Inact:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Thermometer ID:	7444 003		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Correction Factor:	-0.0		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Temperature Reading:	1.8		
Total Containers:		Corrected Temperature:	1.6		
Sample Identification	Matrix	Date Sampled	Time	Depth	Grab/Comp
BH01	S	9/12/2022	13:30	1'	G
BH02	S	9/12/2022	13:10	1'	G
BH04	S	9/12/2022	11:30	1'	G
BH05	S	9/12/2022	12:55	1'	G
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTEX (8021)					
ANALYSIS REQUEST					
PRESERVATIVE CODES					
None: NO DI Water: H <sub>2</sub> O					
Cool: Cool MeOH: Me					
HCL: HC HNO <sub>3</sub> : HN					
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na					
H <sub>3</sub> PO <sub>4</sub> : HP					
NaHSO <sub>4</sub> : NABIS					
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SAPC					
Sample Comments					
Incident ID:					
NAPE2210553504					
Cost Center:					
AFE:					
DD 2017 02396 CAP CMP 01					
DD 2017 02385 CAP CMP 01					
DD 2017 02386 CAP CMP 01					
DD 2017 02364 CAP CMP 01					
DD 2017 02372 CAP CMP 01					



890-2939 Chain of Custody

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti 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 Ti 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 <i>Carlin</i>	<i>Joe Ely</i>	9-13-22 8:24			
3					
5					

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2939-1

SDG Number: 03E1558054

Login Number: 2939

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	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: 890-2939-1

SDG Number: 03E1558054

Login Number: 2939

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/14/22 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	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 1/4/2023 11:57:53 AM

## JOB DESCRIPTION

PLU 21 Brushy Draw Pad B

SDG NUMBER 03E1558054

## JOB NUMBER

890-3729-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

Generated  
1/4/2023 11:57:53 AM

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

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Laboratory Job ID: 890-3729-1  
SDG: 03E1558054

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## Definitions/Glossary

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

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

## HPLC/IC

Qualifier	Qualifier Description
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.
α	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 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

**Job ID: 890-3729-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3729-1****Receipt**

The samples were received on 12/30/2022 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3729-1), FS02 (890-3729-2), SW01 (890-3729-3) and SW02 (890-3729-4).

**GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-43081 and analytical batch 880-43042 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.

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (880-23145-A-1-C MS) and (880-23145-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SW01 (890-3729-3). 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**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43076 and analytical batch 880-43096 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 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Client Sample ID: FS01

Lab Sample ID: 890-3729-1

Date Collected: 12/28/22 12:30

Matrix: Solid

Date Received: 12/30/22 09:30

Sample Depth: 1

## 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		01/03/23 13:31	01/04/23 07:23	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/03/23 13:31	01/04/23 07:23	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/03/23 13:31	01/04/23 07:23	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/03/23 13:31	01/04/23 07:23	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/03/23 13:31	01/04/23 07:23	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/03/23 13:31	01/04/23 07:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	01/03/23 13:31	01/04/23 07:23	1
1,4-Difluorobenzene (Surr)	108		70 - 130	01/03/23 13:31	01/04/23 07:23	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			01/04/23 09:17	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			01/04/23 11:34	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		01/03/23 13:38	01/04/23 02:06	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		01/03/23 13:38	01/04/23 02:06	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		01/03/23 13:38	01/04/23 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	01/03/23 13:38	01/04/23 02:06	1
o-Terphenyl	106		70 - 130	01/03/23 13:38	01/04/23 02:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	167		5.01	mg/Kg			01/04/23 08:14	1

Client Sample ID: FS02

Lab Sample ID: 890-3729-2

Date Collected: 12/28/22 13:00

Matrix: Solid

Date Received: 12/30/22 09:30

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		01/03/23 13:31	01/04/23 07:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 07:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 07:44	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/03/23 13:31	01/04/23 07:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 07:44	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/03/23 13:31	01/04/23 07:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	01/03/23 13:31	01/04/23 07:44	1

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## Client Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

## Client Sample ID: FS02

## Lab Sample ID: 890-3729-2

Date Collected: 12/28/22 13:00

Matrix: Solid

Date Received: 12/30/22 09:30

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	107		70 - 130	01/03/23 13:31	01/04/23 07:44	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			01/04/23 09:17	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			01/04/23 11:34	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		01/03/23 13:38	01/04/23 02:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/03/23 13:38	01/04/23 02:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/03/23 13:38	01/04/23 02:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			01/03/23 13:38	01/04/23 02:49	1
o-Terphenyl	109		70 - 130			01/03/23 13:38	01/04/23 02:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		5.02	mg/Kg			01/04/23 08:19	1

## Client Sample ID: SW01

## Lab Sample ID: 890-3729-3

Date Collected: 12/28/22 13:10

Matrix: Solid

Date Received: 12/30/22 09:30

Sample Depth: 0 - 1

## 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		01/03/23 13:31	01/04/23 08:04	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/03/23 13:31	01/04/23 08:04	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/03/23 13:31	01/04/23 08:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/03/23 13:31	01/04/23 08:04	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/03/23 13:31	01/04/23 08:04	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/03/23 13:31	01/04/23 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	01/03/23 13:31	01/04/23 08:04	1
1,4-Difluorobenzene (Surr)	111		70 - 130	01/03/23 13:31	01/04/23 08:04	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			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/04/23 11:34	1

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## Client Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

## Client Sample ID: SW01

## Lab Sample ID: 890-3729-3

Date Collected: 12/28/22 13:10

Matrix: Solid

Date Received: 12/30/22 09:30

Sample Depth: 0 - 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		01/03/23 13:38	01/04/23 03:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/03/23 13:38	01/04/23 03:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/03/23 13:38	01/04/23 03:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130			01/03/23 13:38	01/04/23 03:10	1
o-Terphenyl	126		70 - 130			01/03/23 13:38	01/04/23 03:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	96.3		5.00	mg/Kg			01/04/23 08:24	1

## Client Sample ID: SW02

## Lab Sample ID: 890-3729-4

Date Collected: 12/28/22 13:15

Matrix: Solid

Date Received: 12/30/22 09:30

Sample Depth: 0 - 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		01/03/23 13:31	01/04/23 08:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 08:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 08:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/03/23 13:31	01/04/23 08:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/04/23 08:25	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/03/23 13:31	01/04/23 08:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			01/03/23 13:31	01/04/23 08:25	1
1,4-Difluorobenzene (Surr)	110		70 - 130			01/03/23 13:31	01/04/23 08:25	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			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/04/23 11:34	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		01/03/23 13:38	01/04/23 03:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/03/23 13:38	01/04/23 03:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/03/23 13:38	01/04/23 03:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			01/03/23 13:38	01/04/23 03:32	1
o-Terphenyl	108		70 - 130			01/03/23 13:38	01/04/23 03:32	1

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Client Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Client Sample ID: SW02  
Date Collected: 12/28/22 13:15  
Date Received: 12/30/22 09:30  
Sample Depth: 0 - 1

Lab Sample ID: 890-3729-4  
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	138		4.97	mg/Kg			01/04/23 08:28	1	

## Surrogate Summary

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23218-A-1-A MS	Matrix Spike	108	105
880-23218-A-1-B MSD	Matrix Spike Duplicate	104	105
890-3729-1	FS01	105	108
890-3729-2	FS02	106	107
890-3729-3	SW01	107	111
890-3729-4	SW02	105	110
LCS 880-43081/1-A	Lab Control Sample	98	108
LCSD 880-43081/2-A	Lab Control Sample Dup	97	106
MB 880-42941/5-A	Method Blank	97	107
MB 880-43081/5-A	Method Blank	99	106
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-23145-A-1-C MS	Matrix Spike	13 S1-	11 S1-
880-23145-A-1-D MSD	Matrix Spike Duplicate	14 S1-	11 S1-
890-3729-1	FS01	110	106
890-3729-2	FS02	112	109
890-3729-3	SW01	133 S1+	126
890-3729-4	SW02	112	108
LCS 880-43083/2-A	Lab Control Sample	111	94
LCSD 880-43083/3-A	Lab Control Sample Dup	114	95
MB 880-43083/1-A	Method Blank	109	111
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-42941/5-A

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42941

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/30/22 11:33	01/03/23 12:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/30/22 11:33	01/03/23 12:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/30/22 11:33	01/03/23 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/30/22 11:33	01/03/23 12:23	1
1,4-Difluorobenzene (Surr)	107		70 - 130	12/30/22 11:33	01/03/23 12:23	1

Lab Sample ID: MB 880-43081/5-A

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43081

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/03/23 23:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/03/23 13:31	01/03/23 23:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/03/23 13:31	01/03/23 23:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	01/03/23 13:31	01/03/23 23:58	1
1,4-Difluorobenzene (Surr)	106		70 - 130	01/03/23 13:31	01/03/23 23:58	1

Lab Sample ID: LCS 880-43081/1-A

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08719		mg/Kg		87	70 - 130
Toluene	0.100	0.08354		mg/Kg		84	70 - 130
Ethylbenzene	0.100	0.08171		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	0.200	0.1684		mg/Kg		84	70 - 130
o-Xylene	0.100	0.08268		mg/Kg		83	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-43081/2-A

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43081

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09080		mg/Kg		91	70 - 130	4	35

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

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

Lab Sample ID: LCSD 880-43081/2-A

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43081

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.08713		mg/Kg		87	70 - 130	4	35
Ethylbenzene	0.100	0.08626		mg/Kg		86	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1780		mg/Kg		89	70 - 130	6	35
o-Xylene	0.100	0.08662		mg/Kg		87	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-23218-A-1-A MS

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 43081

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.101	<0.00202	U F1	mg/Kg		0.4	70 - 130
Toluene	<0.00199	U F2 F1	0.101	<0.00202	U F1	mg/Kg		0.3	70 - 130
Ethylbenzene	0.00570	F1	0.101	0.01008	F1	mg/Kg		4	70 - 130
m-Xylene & p-Xylene	0.0163	F1	0.202	0.02834	F1	mg/Kg		6	70 - 130
o-Xylene	0.0114	F1	0.101	0.01973	F1	mg/Kg		8	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-23218-A-1-B MSD

Matrix: Solid

Analysis Batch: 43042

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 43081

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00199	U F2 F1	0.0996	0.006192	F2 F1	mg/Kg		5	70 - 130	105	35
Ethylbenzene	0.00570	F1	0.0996	0.01127	F1	mg/Kg		6	70 - 130	11	35
m-Xylene & p-Xylene	0.0163	F1	0.199	0.02364	F1	mg/Kg		4	70 - 130	18	35
o-Xylene	0.0114	F1	0.0996	0.01768	F1	mg/Kg		6	70 - 130	11	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

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

Lab Sample ID: MB 880-43083/1-A

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43083

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		01/03/23 13:38	01/03/23 21:01	1

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

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

Lab Sample ID: MB 880-43083/1-A

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43083

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		01/03/23 13:38	01/03/23 21:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/03/23 13:38	01/03/23 21:01	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130			01/03/23 13:38	01/03/23 21:01	1
o-Terphenyl	111		70 - 130			01/03/23 13:38	01/03/23 21:01	1

Lab Sample ID: LCS 880-43083/2-A

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43083

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1005		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	966.4		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	111		70 - 130				
o-Terphenyl	94		70 - 130				

Lab Sample ID: LCSD 880-43083/3-A

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43083

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1026		mg/Kg		103	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	993.4		mg/Kg		99	70 - 130	3	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	114		70 - 130						
o-Terphenyl	95		70 - 130						

Lab Sample ID: 880-23145-A-1-C MS

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 43083

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1036		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	897.6		mg/Kg		90	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	13	S1-	70 - 130						
o-Terphenyl	11	S1-	70 - 130						

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

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

Lab Sample ID: 880-23145-A-1-D MSD

Matrix: Solid

Analysis Batch: 43035

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 43083

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1040		mg/Kg		101	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	918.8		mg/Kg		92	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	14	S1-	70 - 130								
o-Terphenyl	11	S1-	70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43076/1-A

Matrix: Solid

Analysis Batch: 43096

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			01/04/23 05:18	1

Lab Sample ID: LCS 880-43076/2-A

Matrix: Solid

Analysis Batch: 43096

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	262.3		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-43076/3-A

Matrix: Solid

Analysis Batch: 43096

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	264.0		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3727-A-2-E MS

Matrix: Solid

Analysis Batch: 43096

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	477	F1	248	763.7	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-3727-A-2-F MSD

Matrix: Solid

Analysis Batch: 43096

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	477	F1	248	766.4	F1	mg/Kg		117	90 - 110	0	20

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

## GC VOA

## Prep Batch: 42941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42941/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 43042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	8021B	43081
890-3729-2	FS02	Total/NA	Solid	8021B	43081
890-3729-3	SW01	Total/NA	Solid	8021B	43081
890-3729-4	SW02	Total/NA	Solid	8021B	43081
MB 880-42941/5-A	Method Blank	Total/NA	Solid	8021B	42941
MB 880-43081/5-A	Method Blank	Total/NA	Solid	8021B	43081
LCS 880-43081/1-A	Lab Control Sample	Total/NA	Solid	8021B	43081
LCSD 880-43081/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43081
880-23218-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	43081
880-23218-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43081

## Prep Batch: 43081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	5035	
890-3729-2	FS02	Total/NA	Solid	5035	
890-3729-3	SW01	Total/NA	Solid	5035	
890-3729-4	SW02	Total/NA	Solid	5035	
MB 880-43081/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43081/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43081/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23218-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-23218-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 43129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	Total BTEX	
890-3729-2	FS02	Total/NA	Solid	Total BTEX	
890-3729-3	SW01	Total/NA	Solid	Total BTEX	
890-3729-4	SW02	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 43035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	8015B NM	43083
890-3729-2	FS02	Total/NA	Solid	8015B NM	43083
890-3729-3	SW01	Total/NA	Solid	8015B NM	43083
890-3729-4	SW02	Total/NA	Solid	8015B NM	43083
MB 880-43083/1-A	Method Blank	Total/NA	Solid	8015B NM	43083
LCS 880-43083/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43083
LCSD 880-43083/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43083
880-23145-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	43083
880-23145-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43083

## Prep Batch: 43083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

## GC Semi VOA (Continued)

## Prep Batch: 43083 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-2	FS02	Total/NA	Solid	8015NM Prep	
890-3729-3	SW01	Total/NA	Solid	8015NM Prep	
890-3729-4	SW02	Total/NA	Solid	8015NM Prep	
MB 880-43083/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43083/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43083/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23145-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23145-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 43140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Total/NA	Solid	8015 NM	
890-3729-2	FS02	Total/NA	Solid	8015 NM	
890-3729-3	SW01	Total/NA	Solid	8015 NM	
890-3729-4	SW02	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 43076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Soluble	Solid	DI Leach	
890-3729-2	FS02	Soluble	Solid	DI Leach	
890-3729-3	SW01	Soluble	Solid	DI Leach	
890-3729-4	SW02	Soluble	Solid	DI Leach	
MB 880-43076/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3727-A-2-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3727-A-2-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 43096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3729-1	FS01	Soluble	Solid	300.0	43076
890-3729-2	FS02	Soluble	Solid	300.0	43076
890-3729-3	SW01	Soluble	Solid	300.0	43076
890-3729-4	SW02	Soluble	Solid	300.0	43076
MB 880-43076/1-A	Method Blank	Soluble	Solid	300.0	43076
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	300.0	43076
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43076
890-3727-A-2-E MS	Matrix Spike	Soluble	Solid	300.0	43076
890-3727-A-2-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43076

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Lab Chronicle

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Client Sample ID: FS01  
Date Collected: 12/28/22 12:30  
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3729-1  
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			4.98 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 07:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43129	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43140	01/04/23 11:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43083	01/03/23 13:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43035	01/04/23 02:06	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		1			43096	01/04/23 08:14	CH	EET MID

Client Sample ID: FS02  
Date Collected: 12/28/22 13:00  
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3729-2  
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	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 07:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43129	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43140	01/04/23 11:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43083	01/03/23 13:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43035	01/04/23 02:49	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		1			43096	01/04/23 08:19	CH	EET MID

Client Sample ID: SW01  
Date Collected: 12/28/22 13:10  
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3729-3  
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	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 08:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43129	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43140	01/04/23 11:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43083	01/03/23 13:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43035	01/04/23 03:10	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		1			43096	01/04/23 08:24	CH	EET MID

Client Sample ID: SW02  
Date Collected: 12/28/22 13:15  
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3729-4  
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			5.01 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 08:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43129	01/04/23 09:17	AJ	EET MID

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Lab Chronicle

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Client Sample ID: SW02

Date Collected: 12/28/22 13:15

Date Received: 12/30/22 09:30

Lab Sample ID: 890-3729-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43140	01/04/23 11:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43083	01/03/23 13:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43035	01/04/23 03:32	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		1			43096	01/04/23 08:28	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 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Laboratory: Eurofins Midland

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

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

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

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

## Method Summary

Client: Ensolum

Job ID: 890-3729-1

Project/Site: PLU 21 Brushy Draw Pad B

SDG: 03E1558054

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

## Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

## Laboratory References:

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

Sample Summary

Client: Ensolum  
Project/Site: PLU 21 Brushy Draw Pad B

Job ID: 890-3729-1  
SDG: 03E1558054

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3729-1	FS01	Solid	12/28/22 12:30	12/30/22 09:30	1
890-3729-2	FS02	Solid	12/28/22 13:00	12/30/22 09:30	1
890-3729-3	SW01	Solid	12/28/22 13:10	12/30/22 09:30	0 - 1
890-3729-4	SW02	Solid	12/28/22 13:15	12/30/22 09:30	0 - 1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing  
Xenco

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

Chain of Custody


Work Order No: \_\_\_\_\_

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

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project: _____	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	PLU 21 Brushy Draw Pad B	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558054	Due Date:			
Project Location:		TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Connor Whitman				
PO #:					
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Thermometer ID:	Wet Ice: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Parameters	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Correction Factor:			
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Temperature Reading:			
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corrected Temperature:			
Total Containers:					



890-3729 Chain of Custody

None: NO	DI Water: H <sub>2</sub> O
Cool: Cool	MeOH: Me
HCL: HC	HNO <sub>3</sub> : HN
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
H <sub>3</sub> PO <sub>4</sub> : HP	
NaHSO <sub>4</sub> : NABIS	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FSO1	S	12/28/22	12:30	1'	C	1	/	/	/	Incident ID: NAPP2210553504
FSO2	S		1:00	1'	C	1	/	/	/	Cost Center:
SV01	S		1:10	0-1'	C	1	/	/	/	
SV02	S		1:15	0-1'	C	1	/	/	/	AEE:
										DD 2017 02396, CAP, CMP 01
										DD 2017 02385, CAP, CMP 01
										DD 2017 02386, CAP, CMP 01
										DD 2017 02364, CAP, CMP 01
										DD 2017 02372, CAP, CMP 01

Total 200.7 / 6010    200.8 / 6020:    8RCRA 13PFM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti 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 Ti 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
<i>CWH</i>	<i>Core CF</i>	12:30:22			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3729-1

SDG Number: 03E1558054

Login Number: 3729

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: 890-3729-1

SDG Number: 03E1558054

Login Number: 3729

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/03/23 09:51 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	



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 1/12/2023 10:18:01 AM

## JOB DESCRIPTION

PLU BRUSHY DRAW PAD B

SDG NUMBER 03C1558054

## JOB NUMBER

890-3771-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

Generated  
1/12/2023 10:18:01 AM

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

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Laboratory Job ID: 890-3771-1  
SDG: 03C1558054

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## Definitions/Glossary

Client: Ensolum

Job ID: 890-3771-1

Project/Site: PLU BRUSHY DRAW PAD B

SDG: 03C1558054

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
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.
α	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

Eurofins Carlsbad

## Case Narrative

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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**Job ID: 890-3771-1**

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**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3771-1****Receipt**

The samples were received on 1/5/2023 1:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS03 (890-3771-1), FS04 (890-3771-2), SW03 (890-3771-3) and SW04 (890-3771-4).

**GC VOA**

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-43609 and analytical batch 880-43597 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike (MS) recoveries for preparation batch 880-43383 and analytical batch 880-43449 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-43674 and analytical batch 880-43606 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 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43674/1-A). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43540 and analytical batch 880-43613 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 BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## Client Sample ID: FS03

## Lab Sample ID: 890-3771-1

Date Collected: 01/05/23 09:45

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 1

## 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		01/10/23 08:48	01/10/23 11:14	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:14	1
Ethylbenzene	<0.00199	U F1	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:14	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398	mg/Kg		01/10/23 08:48	01/10/23 11:14	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:14	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/10/23 08:48	01/10/23 11:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	01/10/23 08:48	01/10/23 11:14	1
1,4-Difluorobenzene (Surr)	89		70 - 130	01/10/23 08:48	01/10/23 11:14	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			01/10/23 13:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/09/23 09:38	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		01/06/23 13:02	01/07/23 23:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/06/23 13:02	01/07/23 23:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/06/23 13:02	01/07/23 23:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	01/06/23 13:02	01/07/23 23:16	1
o-Terphenyl	89		70 - 130	01/06/23 13:02	01/07/23 23:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	293	F1	5.03	mg/Kg			01/11/23 13:57	1

## Client Sample ID: FS04

## Lab Sample ID: 890-3771-2

Date Collected: 01/05/23 10:05

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 1

## 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		01/10/23 08:48	01/10/23 11:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/10/23 08:48	01/10/23 11:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 11:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/10/23 08:48	01/10/23 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	01/10/23 08:48	01/10/23 11:35	1

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## Client Sample ID: FS04

## Lab Sample ID: 890-3771-2

Date Collected: 01/05/23 10:05

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	91		70 - 130	01/10/23 08:48	01/10/23 11:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/10/23 13:53	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			01/09/23 09:38	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		01/06/23 13:02	01/07/23 23:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/06/23 13:02	01/07/23 23:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/06/23 13:02	01/07/23 23:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130			01/06/23 13:02	01/07/23 23:38	1
o-Terphenyl	85		70 - 130			01/06/23 13:02	01/07/23 23:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	355		5.00	mg/Kg			01/11/23 14:15	1

## Client Sample ID: SW03

## Lab Sample ID: 890-3771-3

Date Collected: 01/05/23 09:40

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 0 - 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		01/10/23 08:48	01/10/23 15:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 15:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 15:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/10/23 08:48	01/10/23 15:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 15:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/10/23 08:48	01/10/23 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	01/10/23 08:48	01/10/23 15:42	1
1,4-Difluorobenzene (Surr)	97		70 - 130	01/10/23 08:48	01/10/23 15:42	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			01/11/23 14:03	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			01/09/23 09:38	1

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## Client Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## Client Sample ID: SW03

## Lab Sample ID: 890-3771-3

Date Collected: 01/05/23 09:40

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 0 - 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		01/06/23 13:02	01/07/23 23:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/06/23 13:02	01/07/23 23:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/06/23 13:02	01/07/23 23:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130			01/06/23 13:02	01/07/23 23:57	1
o-Terphenyl	81		70 - 130			01/06/23 13:02	01/07/23 23:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.8		4.97	mg/Kg			01/11/23 14:41	1

## Client Sample ID: SW04

## Lab Sample ID: 890-3771-4

Date Collected: 01/05/23 10:00

Matrix: Solid

Date Received: 01/05/23 13:10

Sample Depth: 0 - 1

## 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		01/10/23 08:48	01/10/23 16:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 16:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 16:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/10/23 08:48	01/10/23 16:02	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/10/23 08:48	01/10/23 16:02	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/10/23 08:48	01/10/23 16:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130			01/10/23 08:48	01/10/23 16:02	1
1,4-Difluorobenzene (Surr)	95		70 - 130			01/10/23 08:48	01/10/23 16:02	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			01/11/23 14:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/11/23 10:12	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		01/10/23 15:15	01/11/23 00:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/11/23 00:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/11/23 00:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			01/10/23 15:15	01/11/23 00:42	1
o-Terphenyl	99		70 - 130			01/10/23 15:15	01/11/23 00:42	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

Client Sample ID: SW04  
Date Collected: 01/05/23 10:00  
Date Received: 01/05/23 13:10  
Sample Depth: 0 - 1

Lab Sample ID: 890-3771-4  
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	153		5.05	mg/Kg			01/11/23 14:35	1	

## Surrogate Summary

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3771-1	FS03	108	89
890-3771-1 MS	FS03	89	104
890-3771-1 MSD	FS03	94	101
890-3771-2	FS04	93	91
890-3771-3	SW03	90	97
890-3771-4	SW04	92	95
LCS 880-43609/1-A	Lab Control Sample	90	101
LCSD 880-43609/2-A	Lab Control Sample Dup	89	101
MB 880-43609/5-A	Method Blank	77	86
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-23419-A-1-D MS	Matrix Spike	81	78
880-23419-A-1-E MSD	Matrix Spike Duplicate	80	77
890-3763-A-21-C MS	Matrix Spike	84	73
890-3763-A-21-D MSD	Matrix Spike Duplicate	93	82
890-3771-1	FS03	85	89
890-3771-2	FS04	82	85
890-3771-3	SW03	76	81
890-3771-4	SW04	91	99
LCS 880-43383/2-A	Lab Control Sample	116	103
LCS 880-43674/2-A	Lab Control Sample	81	82
LCSD 880-43383/3-A	Lab Control Sample Dup	112	102
LCSD 880-43674/3-A	Lab Control Sample Dup	80	82
MB 880-43383/1-A	Method Blank	112	111
MB 880-43674/1-A	Method Blank	128	131 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Lab Sample ID: MB 880-43609/5-A

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43609

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 10:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 10:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/10/23 08:48	01/10/23 10:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/10/23 08:48	01/10/23 10:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/10/23 08:48	01/10/23 10:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	01/10/23 08:48	01/10/23 10:53	1
1,4-Difluorobenzene (Surr)	86		70 - 130	01/10/23 08:48	01/10/23 10:53	1

Lab Sample ID: LCS 880-43609/1-A

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43609

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09948		mg/Kg		99	70 - 130
Toluene	0.100	0.09973		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.08606		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1780		mg/Kg		89	70 - 130
o-Xylene	0.100	0.1067		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: LCSD 880-43609/2-A

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43609

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08725		mg/Kg		87	70 - 130	13	35
Toluene	0.100	0.08667		mg/Kg		87	70 - 130	14	35
Ethylbenzene	0.100	0.07549		mg/Kg		75	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1568		mg/Kg		78	70 - 130	13	35
o-Xylene	0.100	0.09109		mg/Kg		91	70 - 130	16	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3771-1 MS

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 43609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.101	0.09030		mg/Kg		90	70 - 130
Toluene	<0.00199	U	0.101	0.08812		mg/Kg		87	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Lab Sample ID: 890-3771-1 MS

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 43609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.101	0.07597		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1552		mg/Kg		77	70 - 130
o-Xylene	<0.00199	U	0.101	0.08740		mg/Kg		87	70 - 130
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	89		70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: 890-3771-1 MSD

Matrix: Solid

Analysis Batch: 43597

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 43609

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.07583		mg/Kg		77	70 - 130	17	35
Toluene	<0.00199	U	0.0990	0.07456		mg/Kg		75	70 - 130	17	35
Ethylbenzene	<0.00199	U F1	0.0990	0.06538	F1	mg/Kg		66	70 - 130	15	35
m-Xylene & p-Xylene	<0.00398	U F1	0.198	0.1348	F1	mg/Kg		68	70 - 130	14	35
o-Xylene	<0.00199	U	0.0990	0.07548		mg/Kg		76	70 - 130	15	35
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	94		70 - 130								
1,4-Difluorobenzene (Surr)	101		70 - 130								

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

Lab Sample ID: MB 880-43383/1-A

Matrix: Solid

Analysis Batch: 43449

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43383

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		01/06/23 13:02	01/07/23 20:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/06/23 13:02	01/07/23 20:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/06/23 13:02	01/07/23 20:30	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			01/06/23 13:02	01/07/23 20:30	1
o-Terphenyl	111		70 - 130			01/06/23 13:02	01/07/23 20:30	1

Lab Sample ID: LCS 880-43383/2-A

Matrix: Solid

Analysis Batch: 43449

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	924.2		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	895.4		mg/Kg		90	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Lab Sample ID: LCS 880-43383/2-A  
Matrix: Solid  
Analysis Batch: 43449

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 43383

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-43383/3-A  
Matrix: Solid  
Analysis Batch: 43449

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 43383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	879.8		mg/Kg		88	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	874.8		mg/Kg		87	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-3763-A-21-C MS  
Matrix: Solid  
Analysis Batch: 43449

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 43383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	794.6		mg/Kg		77	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	673.6	F1	mg/Kg		67	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-3763-A-21-D MSD  
Matrix: Solid  
Analysis Batch: 43449

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 43383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	879.5		mg/Kg		85	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	755.9		mg/Kg		76	70 - 130	12	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	82		70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Lab Sample ID: MB 880-43674/1-A

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 43674

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		01/10/23 15:15	01/10/23 19:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/10/23 19:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/10/23 19:56	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130			01/10/23 15:15	01/10/23 19:56	1
o-Terphenyl	131	S1+	70 - 130			01/10/23 15:15	01/10/23 19:56	1

Lab Sample ID: LCS 880-43674/2-A

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43674

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	617.8	*-	mg/Kg		62	70 - 130
Diesel Range Organics (Over C10-C28)	1000	842.6		mg/Kg		84	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	81		70 - 130				
o-Terphenyl	82		70 - 130				

Lab Sample ID: LCSD 880-43674/3-A

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43674

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	577.3	*-	mg/Kg		58	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	805.5		mg/Kg		81	70 - 130	5	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	80		70 - 130						
o-Terphenyl	82		70 - 130						

Lab Sample ID: 880-23419-A-1-D MS

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 43674

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *-	998	832.0		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	951.0		mg/Kg		92	70 - 130

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## QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

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

Lab Sample ID: 880-23419-A-1-D MS

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 43674

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 880-23419-A-1-E MSD

Matrix: Solid

Analysis Batch: 43606

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 43674

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *	997	799.9		mg/Kg		78	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	997	949.0		mg/Kg		92	70 - 130	0	20	

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	77		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43540/1-A

Matrix: Solid

Analysis Batch: 43613

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00	mg/Kg			01/11/23 13:38	1		

Lab Sample ID: LCS 880-43540/2-A

Matrix: Solid

Analysis Batch: 43613

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	250	264.0		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-43540/3-A

Matrix: Solid

Analysis Batch: 43613

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	263.6		mg/Kg		105	90 - 110	0	20	

Lab Sample ID: 890-3771-1 MS

Matrix: Solid

Analysis Batch: 43613

Client Sample ID: FS03

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	293	F1	252	656.8	F1	mg/Kg		145	90 - 110		

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QC Sample Results

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3771-1 MSD							Client Sample ID: FS03					
Matrix: Solid							Prep Type: Soluble					
Analysis Batch: 43613												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	293	F1	252	705.3	F1	mg/Kg		164	90 - 110	7	20	

## QC Association Summary

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## GC VOA

## Analysis Batch: 43597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	8021B	43609
890-3771-2	FS04	Total/NA	Solid	8021B	43609
890-3771-3	SW03	Total/NA	Solid	8021B	43609
890-3771-4	SW04	Total/NA	Solid	8021B	43609
MB 880-43609/5-A	Method Blank	Total/NA	Solid	8021B	43609
LCS 880-43609/1-A	Lab Control Sample	Total/NA	Solid	8021B	43609
LCSD 880-43609/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43609
890-3771-1 MS	FS03	Total/NA	Solid	8021B	43609
890-3771-1 MSD	FS03	Total/NA	Solid	8021B	43609

## Prep Batch: 43609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	5035	
890-3771-2	FS04	Total/NA	Solid	5035	
890-3771-3	SW03	Total/NA	Solid	5035	
890-3771-4	SW04	Total/NA	Solid	5035	
MB 880-43609/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43609/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43609/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3771-1 MS	FS03	Total/NA	Solid	5035	
890-3771-1 MSD	FS03	Total/NA	Solid	5035	

## Analysis Batch: 43663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	Total BTEX	
890-3771-2	FS04	Total/NA	Solid	Total BTEX	
890-3771-3	SW03	Total/NA	Solid	Total BTEX	
890-3771-4	SW04	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 43383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	8015NM Prep	
890-3771-2	FS04	Total/NA	Solid	8015NM Prep	
890-3771-3	SW03	Total/NA	Solid	8015NM Prep	
MB 880-43383/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43383/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3763-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3763-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 43449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	8015B NM	43383
890-3771-2	FS04	Total/NA	Solid	8015B NM	43383
890-3771-3	SW03	Total/NA	Solid	8015B NM	43383
MB 880-43383/1-A	Method Blank	Total/NA	Solid	8015B NM	43383
LCS 880-43383/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43383
LCSD 880-43383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43383
890-3763-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	43383

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## QC Association Summary

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## GC Semi VOA (Continued)

## Analysis Batch: 43449 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3763-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43383

## Analysis Batch: 43493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Total/NA	Solid	8015 NM	
890-3771-2	FS04	Total/NA	Solid	8015 NM	
890-3771-3	SW03	Total/NA	Solid	8015 NM	
890-3771-4	SW04	Total/NA	Solid	8015 NM	

## Analysis Batch: 43606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-4	SW04	Total/NA	Solid	8015B NM	43674
MB 880-43674/1-A	Method Blank	Total/NA	Solid	8015B NM	43674
LCS 880-43674/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43674
LCSD 880-43674/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43674
880-23419-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	43674
880-23419-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43674

## Prep Batch: 43674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-4	SW04	Total/NA	Solid	8015NM Prep	
MB 880-43674/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43674/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43674/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23419-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23419-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## HPLC/IC

## Leach Batch: 43540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Soluble	Solid	DI Leach	
890-3771-2	FS04	Soluble	Solid	DI Leach	
890-3771-3	SW03	Soluble	Solid	DI Leach	
890-3771-4	SW04	Soluble	Solid	DI Leach	
MB 880-43540/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43540/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43540/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3771-1 MS	FS03	Soluble	Solid	DI Leach	
890-3771-1 MSD	FS03	Soluble	Solid	DI Leach	

## Analysis Batch: 43613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1	FS03	Soluble	Solid	300.0	43540
890-3771-2	FS04	Soluble	Solid	300.0	43540
890-3771-3	SW03	Soluble	Solid	300.0	43540
890-3771-4	SW04	Soluble	Solid	300.0	43540
MB 880-43540/1-A	Method Blank	Soluble	Solid	300.0	43540
LCS 880-43540/2-A	Lab Control Sample	Soluble	Solid	300.0	43540
LCSD 880-43540/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43540
890-3771-1 MS	FS03	Soluble	Solid	300.0	43540

Eurofins Carlsbad

QC Association Summary

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

HPLC/IC (Continued)

Analysis Batch: 43613 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3771-1 MSD	FS03	Soluble	Solid	300.0	43540

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 10
- 11
- 12
- 13
- 14

## Lab Chronicle

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

## Client Sample ID: FS03

## Lab Sample ID: 890-3771-1

Date Collected: 01/05/23 09:45

Matrix: Solid

Date Received: 01/05/23 13:10

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	43609	01/10/23 08:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43597	01/10/23 11:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43663	01/10/23 13:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43493	01/09/23 09:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43383	01/06/23 13:02	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43449	01/07/23 23:16	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	43540	01/09/23 12:51	KS	EET MID
Soluble	Analysis	300.0		1			43613	01/11/23 13:57	CH	EET MID

## Client Sample ID: FS04

## Lab Sample ID: 890-3771-2

Date Collected: 01/05/23 10:05

Matrix: Solid

Date Received: 01/05/23 13:10

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	43609	01/10/23 08:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43597	01/10/23 11:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43663	01/10/23 13:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43493	01/09/23 09:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43383	01/06/23 13:02	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43449	01/07/23 23:38	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43540	01/09/23 12:51	KS	EET MID
Soluble	Analysis	300.0		1			43613	01/11/23 14:15	CH	EET MID

## Client Sample ID: SW03

## Lab Sample ID: 890-3771-3

Date Collected: 01/05/23 09:40

Matrix: Solid

Date Received: 01/05/23 13:10

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	43609	01/10/23 08:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43597	01/10/23 15:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43663	01/11/23 14:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43493	01/09/23 09:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43383	01/06/23 13:02	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43449	01/07/23 23:57	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	43540	01/09/23 12:51	KS	EET MID
Soluble	Analysis	300.0		1			43613	01/11/23 14:41	CH	EET MID

## Client Sample ID: SW04

## Lab Sample ID: 890-3771-4

Date Collected: 01/05/23 10:00

Matrix: Solid

Date Received: 01/05/23 13:10

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	43609	01/10/23 08:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43597	01/10/23 16:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43663	01/11/23 14:03	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

Client Sample ID: SW04

Date Collected: 01/05/23 10:00

Date Received: 01/05/23 13:10

Lab Sample ID: 890-3771-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43493	01/11/23 10:12	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43674	01/10/23 15:15	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43606	01/11/23 00:42	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	43540	01/09/23 12:51	KS	EET MID
Soluble	Analysis	300.0		1			43613	01/11/23 14:35	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 BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

Laboratory: Eurofins Midland

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

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

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

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

1
2
3
4
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## Method Summary

Client: Ensolum

Job ID: 890-3771-1

Project/Site: PLU BRUSHY DRAW PAD B

SDG: 03C1558054

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

## Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

## Laboratory References:

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



Sample Summary

Client: Ensolum  
Project/Site: PLU BRUSHY DRAW PAD B

Job ID: 890-3771-1  
SDG: 03C1558054

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3771-1	FS03	Solid	01/05/23 09:45	01/05/23 13:10	1
890-3771-2	FS04	Solid	01/05/23 10:05	01/05/23 13:10	1
890-3771-3	SW03	Solid	01/05/23 09:40	01/05/23 13:10	0 - 1
890-3771-4	SW04	Solid	01/05/23 10:00	01/05/23 13:10	0 - 1

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- 7
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- 12
- 13
- 14



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) 986-3199

Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 1

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

Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	PLU Brushy Draw Pad B	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03C1558054	Due Date:	5 day		
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sample's Name:					
PO #:					
SAMPLE RECEIPT		Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Samples Received Inact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Thermometer ID:	TUNCO7		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2		
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temperature Reading:	1.4		
Total Containers:		Corrected Temperature:	1.8		
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grav/Comp
FS03	S	1/12/23	9:45	1'	C 1
FS04	S		10:35	1'	C 1
SV03	S		9:40	0-1'	C 1
SV04	S		10:30	0-1'	C 1
890-3771 Chain of Custody					
ANALYSIS REQUEST					
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTX (8021)					
PRESERVATIVE CODES					
None: NO DI Water: H2O					
Cool: Cool MeOH: Me					
HCL: HC HNO3: HN					
H2SO4: H2 NaOH: Na					
H3PO4: HP					
NaHSO4: NABIS					
Na2S2O8: NASO3					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SACP					
Sample Comments					
Incident ID:					
NAPPP210553504					
Cost Center:					
AFE:					
DD 2017 02396 CAP CMP 01					
DD 2017 02385 CAP CMP 01					
DD 2017 02386 CAP CMP 01					
DD 2017 02364 CAP CMP 01					
DD 2017 02372 CAP CMP 01					

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 SiO2 Na Sr Ti 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 Ti 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)
1. Carlsbad	2. [Signature]	1.5.8.3 1810	2. [Signature]
3. [Signature]			
5. [Signature]			

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3771-1

SDG Number: 03C1558054

Login Number: 3771

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: 890-3771-1

SDG Number: 03C1558054

Login Number: 3771

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/06/23 11:27 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	



## APPENDIX D

### NMOCD Notifications

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**From:** [Green, Garrett J](#)  
**To:** [ocd.enviro@emnrd.nm.gov](mailto:ocd.enviro@emnrd.nm.gov); [Bratcher, Michael, EMNRD](#); [Billings, Bradford, EMNRD](#); [Harimon, Jocelyn, EMNRD](#); [Hamlet, Robert, EMNRD](#)  
**Cc:** [DelawareSpills /SM](#); [Ben Belill](#); [Tacoma Morrissey](#)  
**Subject:** XTO - Sampling Notification (Week of 12/27/22 - 12/30/22)  
**Date:** Thursday, December 22, 2022 2:01:29 PM

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[ \*\*EXTERNAL EMAIL\*\* ]

All,

XTO plans to complete final sampling activities at the following sites the week of Dec 27, 2022.

- PLU 21 BD 125H / nAPP2229145683
- PLU 21 Brushy Draw Pad B / NAPP2210553504
- Pickett Draw Federal #001 / NAB1919955454
- PLU 428 CTB

Thank you,

**Garrett Green**

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

[Garrett.Green@ExxonMobil.com](mailto:Garrett.Green@ExxonMobil.com)

XTO Energy, Inc.

3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

**From:** [Collins, Melanie](#)  
**To:** [Ashley Ager](#); [Tacoma Morrissey](#); [Ben Belill](#); [Kalei Jennings](#); [Stuart Hyde](#)  
**Cc:** [Green, Garrett J](#); [Pennington, Shelby G](#)  
**Subject:** FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 146895  
**Date:** Friday, December 16, 2022 10:10:31 AM  
**Attachments:** [image001.png](#)

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[\*\*EXTERNAL EMAIL\*\*]

Remediation plan approved with conditions for PLU Brushy Draw Pad B, released 4/1/22; work plan submitted 9/28/22.

*Melanie Collins*



Environmental Technician

[melanie.collins@exxonmobil.com](mailto:melanie.collins@exxonmobil.com)

432-556-3756

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**From:** OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]  
**Sent:** Friday, December 16, 2022 9:33 AM  
**To:** Collins, Melanie <[melanie.collins@exxonmobil.com](mailto:melanie.collins@exxonmobil.com)>  
**Subject:** The Oil Conservation Division (OCD) has approved the application, Application ID: 146895

**External Email - Think Before You Click**

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2210553504, with the following conditions:

- **The Remediation Plan is Conditionally Approved. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft<sup>2</sup>. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. The work will need to occur in 90 days after the work plan has been approved.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,  
Robert Hamlet  
575-748-1283  
[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)

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



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

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

CONDITIONS

Action 198430

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 198430
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2210553504 PLU 21 BRUSHY DRAW PAD B, thank you. This closure is approved.	7/28/2023