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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

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~~28~~	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)

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

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ 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

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

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

NA

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

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

Printed Name: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date:

email: adrian.baker@exxonmobil.com Telephone: 432-236-3808

OCD Only

Received by: Jocelyn Harimon Date: 04/18/2022

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

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

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

CONDITIONS

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

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

Printed Name: _Garrett Green_____ Title: _SSHE Coordinator_____

Signature:_____ Date: ____09/28/2022_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: 09/28/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

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 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:

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210553504
District RP	
Facility ID	
Application ID	

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: Robert Hamlet Date: 12/16/2022

ENSOLUM

September 28, 2022

District II
New Mexico Oil Conservation Division
811 S. First Street
Artesia, New Mexico 88210

Re: Remediation Work Plan
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 the following Remediation Work Plan (RWP) to document the site assessment and soil sampling activities completed to date and propose a work plan to address the impacted soil identified at the PLU 21 Brushy Draw Pad B (Site). The purpose of the site assessment and delineation activities was to assess potential impacted soil resulting from a release of produced water containing friction reducer at the Site. The following RWP proposes to remove impacted soil and conduct final confirmation soil sampling activities.

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° N, -103.88261° W) and is associated with oil and gas exploration and production operations on private land owned by Ms. Janey Paschal. Please note the location of the release given on the original C-141 has been corrected on the Final Remediation Plan C-141.

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 friction reducer onto the caliche road and into the adjacent pasture. No free fluids were recovered. XTO reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on April 15, 2022. The release was assigned Incident Number NAPP2210553504. The Safety Data Sheet (SDS) for friction reducer is provided in Appendix A.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Site Assessment/Characterization, of Title 19, Chapter 15, Part 29, Section 11 (19.15.29.11) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest groundwater well with depth to groundwater data is United States Geological Suvery (USGS) well USGS 320628103533001 located approximately 0.47 miles

southwest of the Site. The groundwater well has a reported depth to groundwater of 264 feet bgs and a total depth of 288 feet bgs. Ground surface elevation at the groundwater well location is 3,207 feet above mean sea level (amsl), which is approximately 55 feet lower in elevation than the Site. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 1,350 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1, Closure Criteria for Soils Impacted by a Release (19.15.29.12 NMAC; Closure Criteria) apply:

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

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On June 6, 2022, Ensolum personnel evaluated the release extent for potential impacted soil based on information provided on the Form C-141, photographic evidence from XTO, and and visual observations. Preliminary soil samples SS01 through SS05 were collected within the release extent at a depth of 0.5 feet bgs. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix C.

The preliminary 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 at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-ORO following EPA Method 8015M/D; and chloride following EPA Method 300.0.

On September 12, 2022, boreholes BH01 through BH05 were advanced via hand auger within the release extent in the vicinity of the five preliminary soil sample locations, respectively, that were collected within the release extent to assess the vertical extent of the release; depths ranged from 1-foot to 2 feet bgs. Discrete delineation soil samples from each borehole were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the boreholes were logged on lithologic/soil

sampling logs, which are included in Appendix D. The delineation soil samples were handled and analyzed as described above. The delineation soil sample locations are depicted on Figure 2.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation boreholes SS01/BH01 through SS05/BH05, collected within the release extent, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Table 1 Site Closure Criteria. However, chloride concentrations in delineation soil samples SS03 and SS04 at 0.5 feet bgs, exceed the top 4 feet reclamation standard of 600 mg/kg. The laboratory analytical results are summarized on the attached Table 1, and the complete laboratory analytical reports are included in Appendix E.

PROPOSED REMEDIATION WORK PLAN

The results of site assessment and delineation activities conducted suggest soil containing elevated chloride concentrations exists in delineation boreholes SS03/PH03 and SS04/PH04 at an approximate depth of 0.5 feet bgs. Based on the presence of chloride impacted soil, XTO proposes to complete the following remediation activities below:

- Based on the chloride impacted soil present in delineation soil confirmation samples from boreholes SS03/PH03 and SS04/PH04, excavate chloride impacted soil to an approximate depth of 1-foot to 2 feet bgs. The excavation will proceed laterally until sidewall samples confirm chloride concentrations are compliant with the chloride reclamation standard of 600 mg/kg within the top four feet.
- Full horizontal delineation will be defined through 5-point composite sidewall samples following the removal of chloride impacted soil.
- Composite confirmation soil samples will be collected at a frequency of every 200 square feet from the floor and sidewalls of the excavated area. The sidewalls of the excavation will be included in the composite floor samples if the area within the excavation does not exceed 1-foot bgs. The excavation samples will be analyzed for chloride only since no TPH and BTEX were detected in any of the samples already collected within the release footprint.
- Surface scraping activities will be conducted in areas within the release extent, where visible staining is present on the surface.
- Based on an estimated excavation extent of 1,500 square feet at an approximate depth of 1-foot to 2 feet bgs, approximately 100 cubic yards of impacted soil will be removed. The excavated soil will be transferred to a NMOCD approved landfarm facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing conditions and reseeded with an approved BLM seed mixture by the first favorable growing season following closure of the site.

XTO believes the scope of work described above will meet the requirements set forth in the NMAC 19.15.29.12 and 19.15.29.13 and be protective of human health, the environment, and groundwater. As such, XTO respectfully requests approval of the RWP from NMOCD.

Based on the extent of corrective measures, planning and potential third-party operator oversight at the Site, XTO will complete the proposed remediation activities within 90 days of the date of approval of this RWP.

If you have any questions or comments, please contact Ms. Ashley Ager at (970) 946-1093 or aager@ensolum.com.

Sincerely,

Ensolum, LLC

Benjamin J. Belill
Project Geologist

Ashley L. Ager, M.S., PG
Program Director

cc: Garrett Green, XTO
Shelby Pennington, XTO

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Friction Reducer SDS
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Lithologic / Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation

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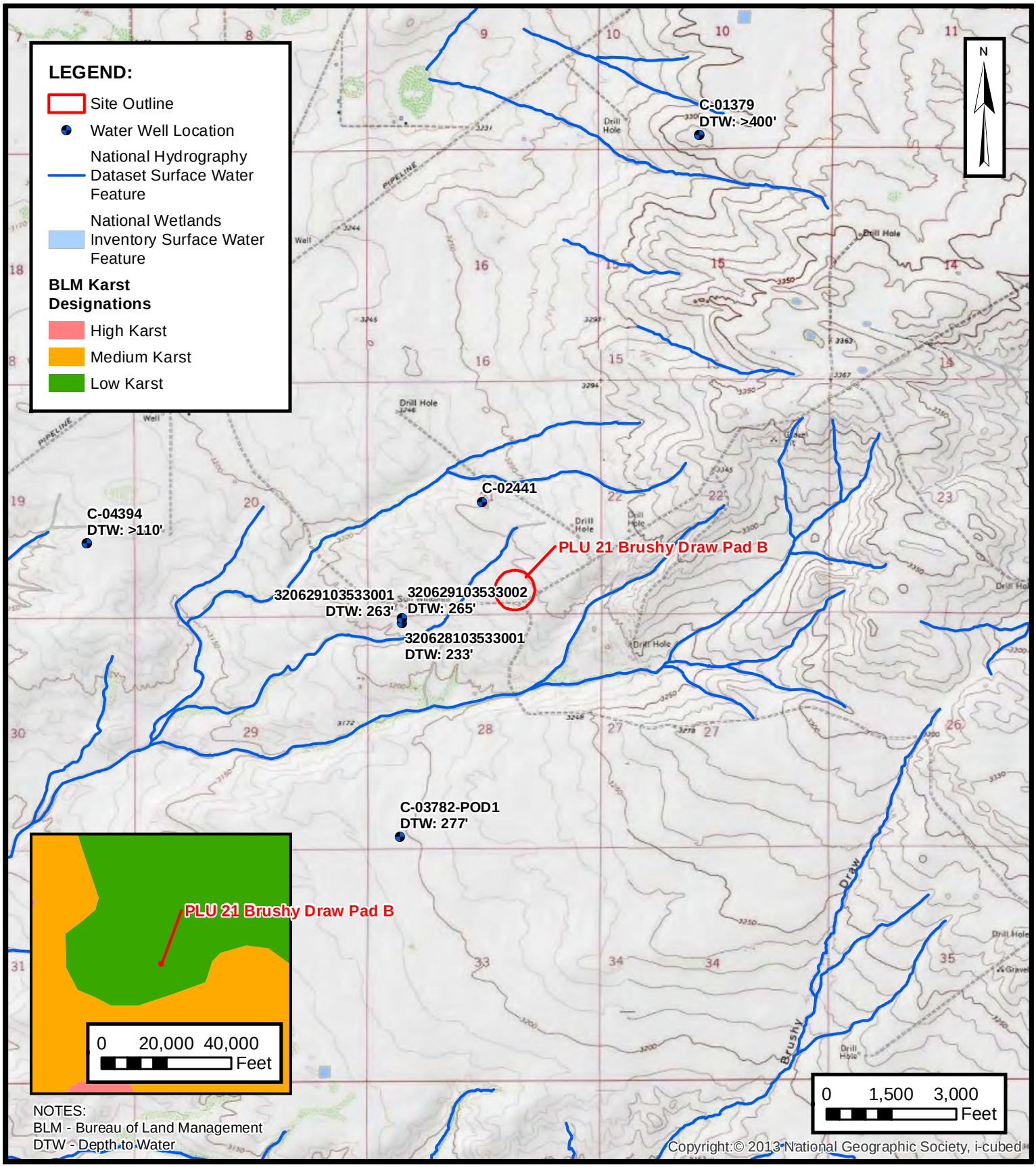
FIGURES



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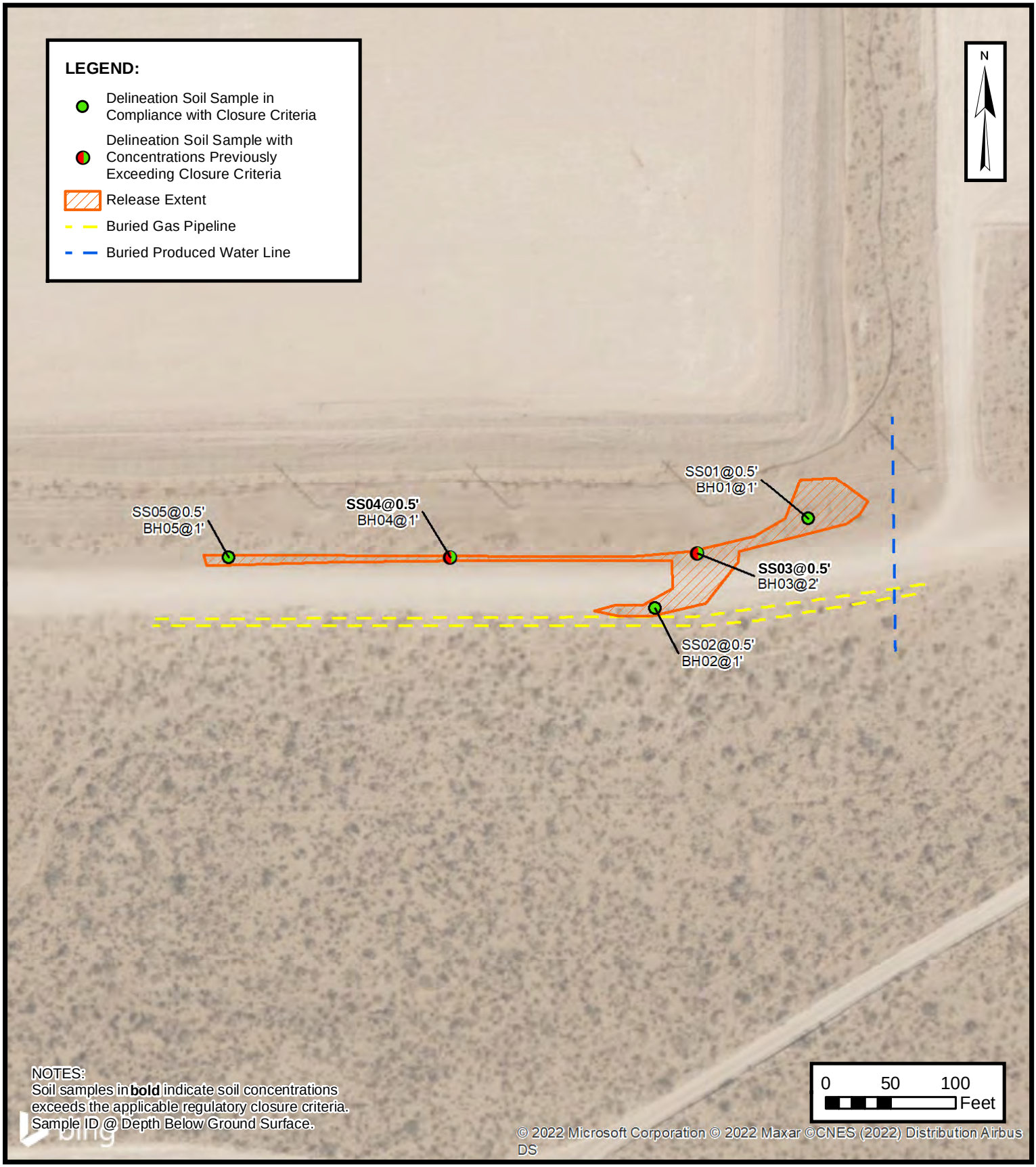
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
PLU 21 BRUSHY DRAW PAD B
NAPP2210553504
Unit O, Sec 28, T25S, R30E
Eddy County, New Mexico

FIGURE

1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU 21 BRUSHY DRAW PAD B
NAPP2210553504
Unit O, Sec 28, T25S, R30E
Eddy County, New Mexico

FIGURE

2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
XTO Energy, Inc. - PLU 21 Brushy Draw Pad B
Eddy County, New Mexico
Incident No. NAPP2210553504
Ensolum Project No. 03E1558054

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Delineation Soil 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

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 1 Closure Criteria for Soils Impacted by a Release

Grey text indicate soil sample removed during excavation activities

* indicates soil in the top 4 feet of pasture to be reclaimed

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APPENDIX A

Friction Reducer Safety Data Sheet

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque	**Physical state** Liquid	**Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards**	2	**Flammability**	2	**Instability** 0	**Physical and chemical properties**	-
HMIS	**Health hazards**	2	**Flammability**	2	**Physical hazards** 0	**Personal protection**	X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PfP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

End of Safety Data Sheet

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

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SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
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U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards**	2	**Flammability**	2	**Instability** 0	**Physical and chemical properties**	-
HMIS	**Health hazards**	2	**Flammability**	2	**Physical hazards** 0	**Personal protection**	X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

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End of Safety Data Sheet

ENSOLUM

APPENDIX B

Referenced Well Records

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320628103533001

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

USGS 320628103533001 25S.30E.21.333424

Eddy County, New Mexico
Latitude 32°06'28", Longitude 103°53'30" NAD27
Land-surface elevation 3,207 feet above NAVD88
The depth of the well is 288 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1958-08-21		D	62610		2972.36	NGVD29	1	Z		
1958-08-21		D	62611		2974.00	NAVD88	1	Z		
1958-08-21		D	72019	233.00			1	Z		
1959-02-05		D	62610		2939.26	NGVD29	P	Z		
1959-02-05		D	62611		2940.90	NAVD88	P	Z		
1959-02-05		D	72019	266.10			P	Z		
1983-02-01		D	62610		2945.48	NGVD29	1	Z		
1983-02-01		D	62611		2947.12	NAVD88	1	Z		
1983-02-01		D	72019	259.88			1	Z		
1998-01-28		D	62610		2940.76	NGVD29	1	S		
1998-01-28		D	62611		2942.40	NAVD88	1	S		
1998-01-28		D	72019	264.60			1	S		

Explanation

Section	Code	Description

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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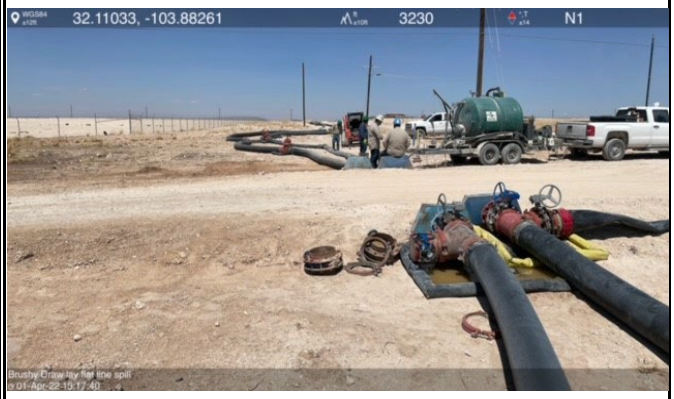
APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
Site Name PLU Brushy Draw Pad B
Incident Number NAPP2210553504



Photograph 1 Date: April 22, 2022
Description: Steel road crossing facing northward

Photograph 2 Date: June 6, 2022
Description: Site Assessment Activities: relese extent facing eastward

Photograph 3 Date: Septemeber 12, 2022
Description: Delineation Activities: PH03

Photograph 4 Date: Septemeber 12, 2022
Description: Delineation Activities: PH04

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APPENDIX D

Lithologic Soil Sampling Logs

ENSOLUM
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	
LITHOLOGIC / SOIL SAMPLING LOG	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
						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			
								@1', Auger refusal
M	168	0.0	N	BH01	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM
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	
LITHOLOGIC / SOIL SAMPLING LOG	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
						0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	400	0.1	N	SS02	0.5			
								@1', Auger refusal
M	<168	0.0	N	BH02	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM
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	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hand Auger
Coordinates: 32.110405, -103.883076	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.

ENSOLUM
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	
LITHOLOGIC / SOIL SAMPLING LOG	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
						0	SP-SM	0-1', SILTY SAND, moist, tan-light brown, poorly graded very fine grain, no stain, no odor.
M	1,512	0.0	N	SS04	0.5			
								@1', Auger refusal
M	<168	0.1	N	BH04	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM
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	
LITHOLOGIC / SOIL SAMPLING LOG	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
						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	SS05	0.5			
								@1', Auger refusal
M	<168	0.0	N	BH05	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | 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

JKramer

Authorized for release by:
6/10/2022 12:28:04 PM

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

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: 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

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2381-1
Project/Site: PLU Brushy Draw Pad B 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

Date Collected: 06/06/22 11:25
Date Received: 06/06/22 14:10
Sample Depth: 0.5

Lab Sample ID: 890-2381-1
Matrix: Solid

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

Date Collected: 06/06/22 11:45
Date Received: 06/06/22 14:10
Sample Depth: 0.5

Lab Sample ID: 890-2381-2
Matrix: Solid

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*

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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: SS02

Lab Sample ID: 890-2381-2
Matrix: Solid
Date Collected: 06/06/22 11:45
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
OII 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
Matrix: Solid
Date Collected: 06/06/22 11:40
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

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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: SS03

Date Collected: 06/06/22 11:40
Date Received: 06/06/22 14:10
Sample Depth: 0.5

Lab Sample ID: 890-2381-3
Matrix: Solid

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

Date Collected: 06/06/22 11:35
Date Received: 06/06/22 14:10
Sample Depth: 0.5

Lab Sample ID: 890-2381-4
Matrix: Solid

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*

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
Matrix: Solid
Date Collected: 06/06/22 11:35
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
Matrix: Solid
Date Collected: 06/06/22 11:30
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

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)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(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										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2381-1	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										

Surrogate Legend

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		

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
OII 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

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

Surrogate	LCS %Recovery	LCS 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

Surrogate	LCSD %Recovery	LCSD 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

Surrogate	MS %Recovery	MS 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

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

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

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

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

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
Matrix: Solid
Date Collected: 06/06/22 11:25
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
Matrix: Solid
Date Collected: 06/06/22 11:45
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
Matrix: Solid
Date Collected: 06/06/22 11:40
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
Matrix: Solid
Date Collected: 06/06/22 11:35
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

Eurofins Carlsbad

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
Matrix: Solid
Date Collected: 06/06/22 11:35
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
Matrix: Solid
Date Collected: 06/06/22 11:30
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

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

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	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:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU Brushy Draw Pad B	**Turn Around**	
Project Number:	03E1558054	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.8	
Total Containers:		Corrected Temperature:	2.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS01	s	06.06.2022	1125	0.5'	G	1		x	x	x	Incident ID: NAPP2210553504
SS02	s	06.06.2022	1145	0.5'	G	1		x	x	x	
SS03	s	06.06.2022	1140	0.5'	G	1		x	x	x	Cost Center:
SS04	s	06.06.2022	1135	0.5'	G	1		x	x	x	
SS05	s	06.06.2022	1130	0.5'	G	1		x	x	x	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

ANALYSIS REQUEST

Parameters

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Cloe Cruz	6.6.22 1410	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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	

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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

JKramer

Authorized for release by:
9/26/2022 11:48:00 AM

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

LINKS

Review your project results through my EOL

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Visit us at: 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

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2938-1
Project/Site: PLU BUSHY DRAW PAD B 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.
¤	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

Job ID: 890-2938-1

Laboratory: Eurofins Carlsbad

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

Date Collected: 09/12/22 10:45
Date Received: 09/13/22 08:26
Sample Depth: 2

Lab Sample ID: 890-2938-1

Matrix: Solid

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

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)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(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										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-19118-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										

Surrogate Legend

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		

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 — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35151 — **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 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35151 — **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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34544 — **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
OII 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 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34544 — **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

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

Surrogate	LCS %Recovery	LCS 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

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
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

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

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	

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
Date Collected: 09/12/22 10:45
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2938-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	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

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

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	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	☑ Routine ☐ Rush
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:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TW4007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
BH03	S	9/12/2022	10:45	2'	G	1		x	x	x

Parameters

890-2938 Chain of Custody

Preservative Codes

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

Sample Comments

Incident 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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Connor Whitman	Cleo Cruz	9-13-22 8:24	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

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	

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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

JKramer

Authorized for release by:
9/26/2022 11:53:04 AM

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

LINKS

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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

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2939-1
Project/Site: PLU BUSHY DRAW PAD B 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
Matrix: Solid
Date Collected: 09/12/22 13:30
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
Matrix: Solid
Date Collected: 09/12/22 13:10
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*

Client Sample Results

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

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

Client Sample ID: BH02

Date Collected: 09/12/22 13:10
Date Received: 09/13/22 08:26
Sample Depth: 1

Lab Sample ID: 890-2939-2
Matrix: Solid

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

Date Collected: 09/12/22 11:30
Date Received: 09/13/22 08:26
Sample Depth: 1

Lab Sample ID: 890-2939-3
Matrix: Solid

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

Client Sample Results

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

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

Client Sample ID: BH04

Date Collected: 09/12/22 11:30
Date Received: 09/13/22 08:26
Sample Depth: 1

Lab Sample ID: 890-2939-3
Matrix: Solid

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

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: 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*

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

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19118-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

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35073 — **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 — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35073 — **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 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35073 — **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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35151 — **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		

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

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
OII 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		

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

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 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34544 — **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 — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34544 — **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

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 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34544 — **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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34836

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

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	

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

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

Lab Chronicle

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

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

Client Sample ID: BH01

Date Collected: 09/12/22 13:30
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2939-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	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

Date Collected: 09/12/22 13:10
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2939-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	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

Date Collected: 09/12/22 11:30
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2939-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	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

Date Collected: 09/12/22 12:55
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2939-4
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			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
Date Collected: 09/12/22 12:55
Date Received: 09/13/22 08:26

Lab Sample ID: 890-2939-4
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			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

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

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	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	☑ Routine ☐ Rush
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:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	Tmm005
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8
Total Containers:		Corrected Temperature:	1.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
BH01	S	9/12/2022	13:30	1'	G	1	x	x	x
BH02	S	9/12/2022	13:10	1'	G	1	x	x	x
BH04	S	9/12/2022	11:30	1'	G	1	x	x	x
BH05	S	9/12/2022	12:55	1'	G	1	x	x	x

890-2939 Chain of Custody

Preservative Codes

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

Sample Comments

Incident 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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9.13.22 0826	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

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	

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 146895

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 146895
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	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 ft2. 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.	12/16/2022