Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __12/28/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 12/29/2022

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

Closure Approved by: Robert Hamlet Date: 4/4/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2222741514
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.10230 Longitude -103.86420

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 27 Brushy Draw 167H	Site Type Production Well
Date Release Discovered 08/02/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
H	27	25S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Produced Water w/FR	Volume/Weight Released (provide units) 45.00 BBLS	Volume/Weight Recovered (provide units) 0.00 BBLS
Cause of Release	A 4" low pressure suction hose separated during pumping operations, causing fluids to release onto pad. No fluids were recovered. A third-party contractor has been retained for remediation purposes.	

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222741514
District RP	
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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? A release greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Melanie Collins to ocd.enviro@state.nm.us, Mike Bratcher, and Robert Hamlet on 08/05/2022 via email.

Initial Response

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

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

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

NA

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: 
Date: 08/15/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 08/15/2022

Location:	PLU 27 Brushy Draw 167H	
Spill Date:	8/2/2022	
Area 1		
Approximate Area =	8983.00	sq. ft.
Average Saturation (or depth) of spill =	3.75	inches
Average Porosity Factor =	0.09	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	45.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**45.00**	**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: 133893
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	8/15/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222741514
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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.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222741514
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: _Environmental Coordinator_____

Signature: _____ Date: ____12/28/2022_____

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

OCD Only

Received by: ___Jocelyn Harimon_____ Date: __12/29/2022____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2214547737
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __12/28/2022_____

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

OCD Only

Received by: ___Jocelyn Harimon_____ Date: ___12/29/2022___

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

December 28, 2022

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

Re: Closure Request
PLU 27 Brushy Draw 167H
Incident Number NAPP2222741514
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment and soil sampling activities performed at the Poker Lake Unit (PLU) 27 Brushy Draw 167H (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water with friction reducer (FR) at the Site. Based on field observations, field screening activities, and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, describing site assessment and delineation activities that have occurred and requesting no further action for Incident Number NAPP2222741514.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located Unit H, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.10230°N, 103.86420°W) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management.

On August 2, 2022, a 4-inch low pressure suction hose separated, causing 45 barrels (bbls) of produced water with FR to release onto the well pad; no fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on August 15, 2022. The release was assigned Incident Number NAPP2222741514.

Produced water is recycled through filtering and separation, then mixed in a blender with FR and used as hydraulic fracturing (frac) fluid during the well completion process. The safety data sheet (SDS) for FR is provided as an attachment.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is a soil boring, C-4498, permitted by the New Mexico Office of the State Engineer (NMOSE), located approximately 7,278 feet east of the Site. No groundwater was encountered during drilling and the soil boring has a total depth of 109 feet bgs. Ground surface elevation at the groundwater well location is 3,344 feet above mean sea level (amsl), which is approximately 50 feet higher in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 588 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 I Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

Between August 22, 2022 and October 27, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141. Nine soil samples (SS01-SS09) were collected within and around the release extent from a depth of 0.5 feet bgs to assess the lateral extent of the impacted soil. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

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

Potholes PH01 through PH05 were advanced via hydro-vacuum (hydrovac) to a depth of 3 feet bgs within the release extent to assess the vertical extent of the release. Delineation soil samples were collected from each pothole at depths of 1-foot, 2 feet, and 3 feet bgs. Delineation samples were field

screened for VOCs and chloride. Field screening results and sample observations were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for all delineation soil samples indicated concentrations of all COCs were compliant with the Site Closure Criteria and in compliance with the reclamation requirement. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to address the August 2, 2022, release of produced water with FR. Laboratory analytical results for the delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria and the most stringent Table I Closure Criteria. Based on the soil sample laboratory analytical results, no remediation was required. As such, XTO respectfully requests closure for Incident Number NAPP2222741514.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Project Manager

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

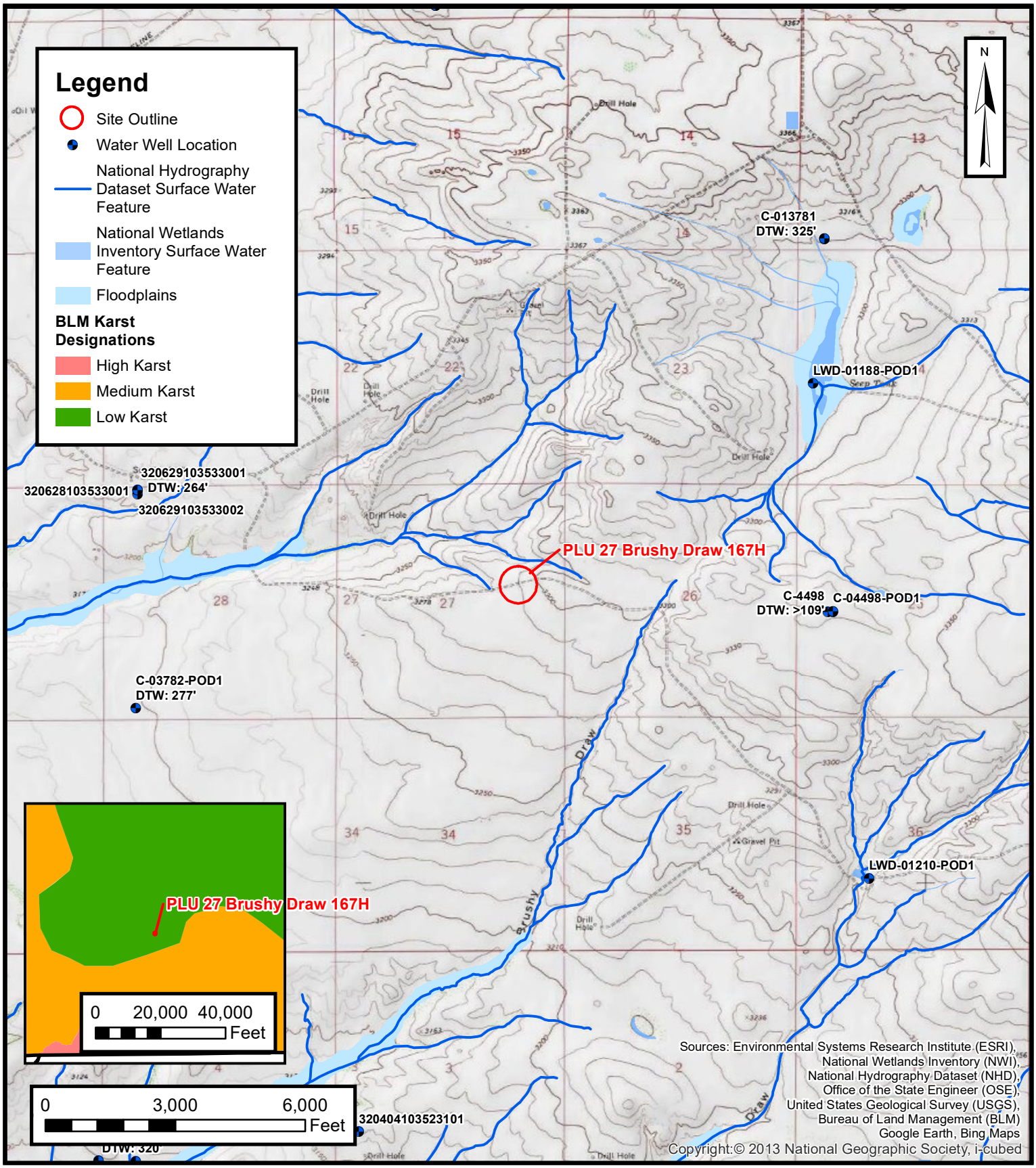
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

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

ENSOLUM

FIGURES

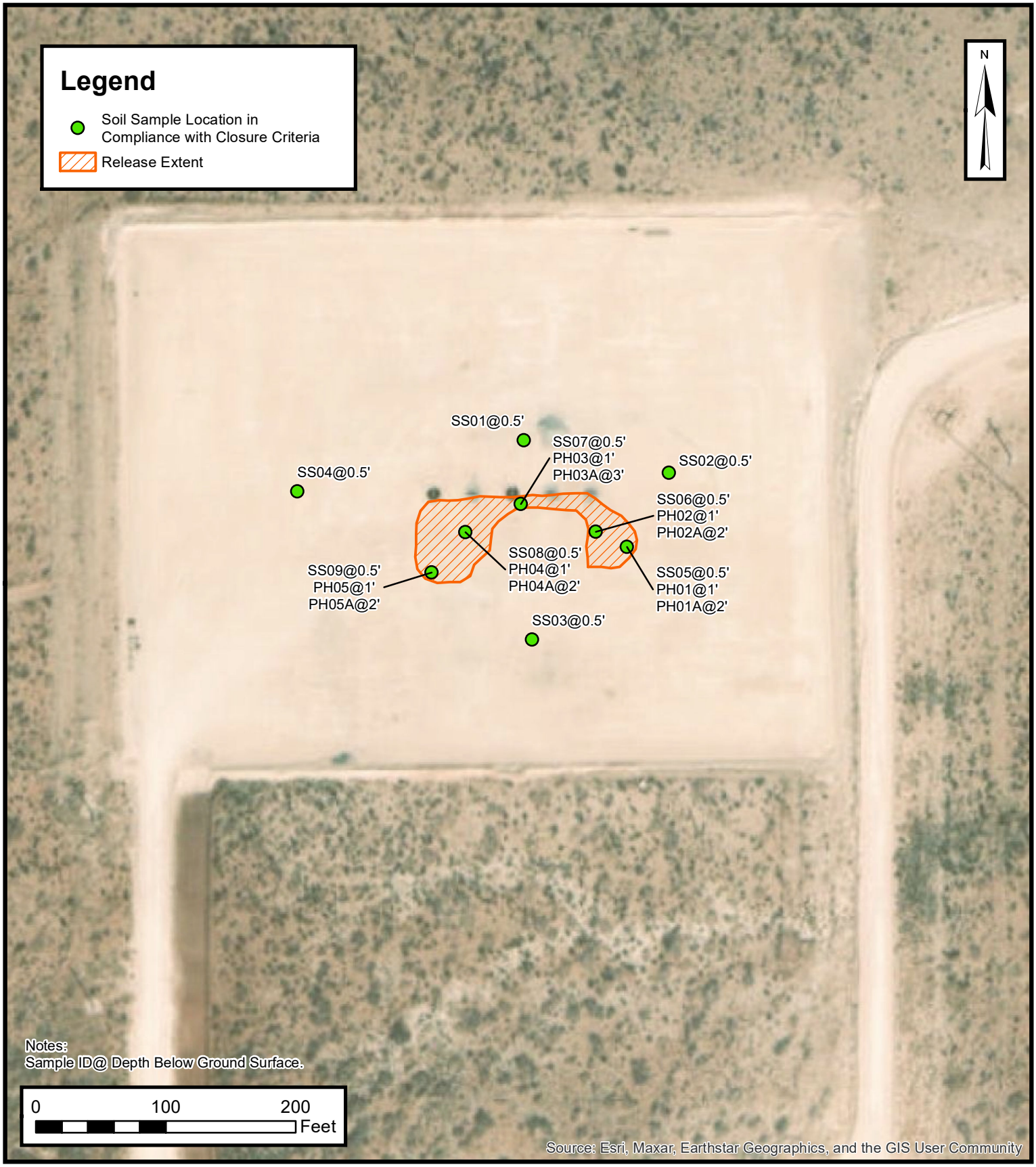


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 27 Brushy Draw 167H
NAPP2222741514
Unit H, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Locations Map

XTO Energy, Inc
PLU 27 Brushy Draw 167H
NAPP2222741514
Unit G, Sec 19, T24S, R31E
Eddy County, New Mexico

FIGURE
2

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 27 Brushy Draw 167H
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
SS01	08/22/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	274
SS02	08/22/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	590
SS03	08/22/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	45.5
SS04	08/22/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	247
SS05	08/22/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	96.4
SS06	08/22/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	29.0
SS07	08/22/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	166
SS08	08/22/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	29.6
SS09	08/22/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	35.4
PH01	09/21/2022	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	108
PH01A	09/21/2022	2	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	230
PH02	10/27/2022	1	<0.00199	<0.00398	<50.0	60.5	<50.0	60.5	60.5	160
PH02A	10/27/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	262
PH03	10/27/2022	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	420
PH03A	10/27/2022	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	161
PH04	10/27/2022	1	<0.00198	<0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	33.2
PH04A	10/27/2022	2	<0.00201	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	23.1
PH05	09/21/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	29.9
PH05A	09/21/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	136

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

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4498

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	6'	1.96"	N
	LONGITUDE	-103°	50'	26.19"	W

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

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

NW SW NE Sec. 25 T25S R30E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
02/24/2021	02/24/2021	temporary well material	109	n/a

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	109	±6.5	Boring- HSA	--	--	--	--
					OSE DIV MAR 11 2021 PM4:26		

3. ANNULAR MATERIAL

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

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

FILE NO. C-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec 25		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC ~~LOG~~ OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	34	34	Caliche, tan, no odor, no stain, gravel, dry	Y ✓ N	
34	40	6	sand/ cacliche, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
40	56	16	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
56	72	16	sandstone, low consolidation, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
72	79	7	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
79	109	30	sandstone, low - medium consolidation, tan, no odor, m-f grained, well sorted, m	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

~~METHOD~~ USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

OSE DII MAR 11 2021 PM4:28

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 03/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec25		WELL TAG ID NO. NA	PAGE 2 OF 2

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 682528
File Nbr: C 04498
Well File Nbr: C 04498 POD1

Mar. 11, 2021

TACOMA MORRISEY
WSP USA
3300 NORTH A STREET
BLDG 1 #222
MIDLAND, TX 79705

Greetings:

The above numbered permit was issued in your name on 12/01/2020.

The Well Record was received in this office on 03/11/2021, stating that it had been completed on 02/24/2021, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 12/01/2021.

If you have any questions, please feel free to contact us.

Sincerely,

Andrew Dennis
(575)622-6521

drywell

ENSOLUM

APPENDIX B

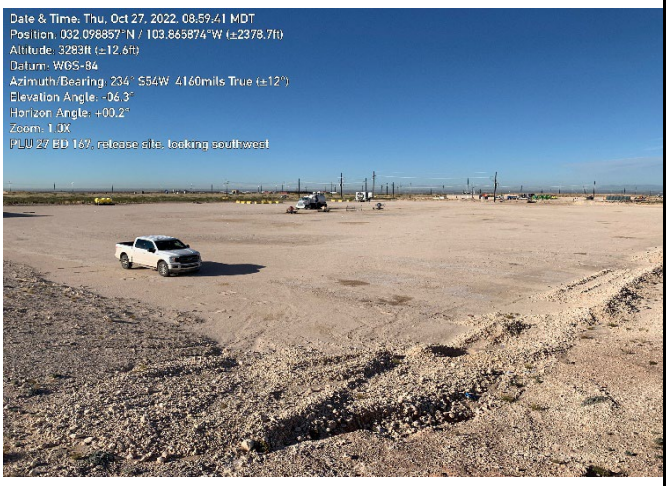
Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 27 Brushy Draw 167H
Incident Number NAPP2222741514

Photograph 1 Date: August 22, 2022
Description: Release extent, facing northeast.

Photograph 2 Date: August 22, 2022
Description: Release extent, facing east.



Photograph 3 Date: August 22, 2022
Description: Release extent, facing southwest.

Photograph 4 Date: August 22, 2022
Description: Pothole delineation via hydrovac.

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 9/21/22
	Site Name: PLU 27 Brushy Draw 167H	
	Incident Number: NAPP2222741514	
	Job Number: 03E1558100	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Hydrovac
Coordinates: 32.10230, -103.86420	Hole Diameter:	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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0'		
N	240	0	N	PH01	1'	1'	CCHE	CALICHE
N	ND	0	N	PH01A	2'	2'	CCHE	CALICHE

ENSOLUM

	Sample Name: PH02	Date: 10/27/2022
	Site Name: PLU 27 Brushy Draw 167H	
	Incident Number: NAPP2222741514	
	Job Number: 03E1558100	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hydrovac
Coordinates: 32.10230, -103.86420	Hole Diameter:	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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0'		
N	<168	15.1	N	PH02	1'	1'	CCHE	CALICHE
N	224	0	N	PH02A	2'	2'	CCHE	CALICHE

ENSOLUM

	Sample Name: PH03	Date: 10/27/2022
	Site Name: PLU 27 Brushy Draw 167H	
	Incident Number: NAPP2222741514	
	Job Number: 03E1558100	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hydrovac
Coordinates: 32.10230, -103.86420	Hole Diameter:	Total Depth: 3'

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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0'		
N	340	0	N	PH03	1'	1'	CCHE	CALICHE with sand
N	540	0	N			2'	CCHE	CALICHE
N	224	0	N	PH03A	3'	3'	CCHE	CALICHE

ENSOLUM

	Sample Name: PH04	Date: 10/27/2022
	Site Name: PLU 27 Brushy Draw 167H	
	Incident Number: NAPP2222741514	
	Job Number: 03E1558100	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hydrovac
Coordinates: 32.10230, -103.86420	Hole Diameter:	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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0'		
N	<168	0	N	PH04	1'	1'	SP	SAND, poorly sorted brown sand with silt and clay
N	<168	0	N	PH04A	2'	2'	SP	SAA

ENSOLUM

	Sample Name: PH05	Date: 9/21/22
	Site Name: PLU 27 Brushy Draw 167H	
	Incident Number: NAPP2222741514	
	Job Number: 03E1558100	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Hydrovac
Coordinates: 32.10230, -103.86420	Hole Diameter:	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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0'		
N	ND	0	N	PH05	1'	1'	SP	SAND, brown, fine sand
N	168	0	N	PH05A	2'	2'	CCHE	CALICHE

ENSOLUM

APPENDIX D

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: 890-2800-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 Brushy Draw 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/5/2022 8:03:09 AM

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

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 27 Brushy Draw 167

Laboratory Job ID: 890-2800-1
SDG: 03E1558100

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Job ID: 890-2800-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2800-1

Receipt
The samples were received on 8/23/2022 8:18 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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33517 and analytical batch 880-33694 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: (890-2799-A-1-B MS) and (890-2799-A-1-C MSD). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method 8015MOD_NM: The method blank for preparation batch 880-32866 and analytical batch 880-32894 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-32909 and 880-32909 and analytical batch 880-33251 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS01

Lab Sample ID: 890-2800-1
Matrix: Solid
Date Collected: 08/22/22 14:45
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 06:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 06:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 06:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 06:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 06:26	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 06:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:26*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:26*	*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			09/04/22 10:53	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			08/26/22 09:25	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	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 12:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 12:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*08/24/22 16:32*	*08/25/22 12:58*	*1*
o-Terphenyl	*82*		*70 - 130*	*08/24/22 16:32*	*08/25/22 12:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**274**		25.1		mg/Kg			08/30/22 16:10	5

Client Sample ID: SS03

Lab Sample ID: 890-2800-2
Matrix: Solid
Date Collected: 08/22/22 14:55
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 06:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 06:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 06:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/01/22 09:48	09/04/22 06:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 06:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/01/22 09:48	09/04/22 06:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS03

Lab Sample ID: 890-2800-2
Matrix: Solid
Date Collected: 08/22/22 14:55
Date Received: 08/23/22 08:18
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:46*	*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			09/04/22 10:53	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			08/26/22 09:25	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		08/24/22 16:32	08/25/22 13:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/24/22 16:32	08/25/22 13:19	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/24/22 16:32	08/25/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*08/24/22 16:32*	*08/25/22 13:19*	*1*
o-Terphenyl	*80*		*70 - 130*	*08/24/22 16:32*	*08/25/22 13:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**45.5**		4.97	mg/Kg			08/30/22 16:19	1

Client Sample ID: SS04

Lab Sample ID: 890-2800-3
Matrix: Solid
Date Collected: 08/22/22 15:00
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 07:06	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/01/22 09:48	09/04/22 07:06	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/01/22 09:48	09/04/22 07:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/01/22 09:48	09/04/22 07:06	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/01/22 09:48	09/04/22 07:06	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/01/22 09:48	09/04/22 07:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:06*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:06*	*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			09/04/22 10:53	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			08/26/22 09:25	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS04

Lab Sample ID: 890-2800-3
Matrix: Solid
Date Collected: 08/22/22 15:00
Date Received: 08/23/22 08:18
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 13:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 13:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*08/24/22 16:32*	*08/25/22 13:40*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/24/22 16:32*	*08/25/22 13:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**247**		25.2		mg/Kg			08/30/22 16:28	5

Client Sample ID: SS05

Lab Sample ID: 890-2800-4
Matrix: Solid
Date Collected: 08/22/22 15:05
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 07:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:27	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/01/22 09:48	09/04/22 07:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:27	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/01/22 09:48	09/04/22 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:27*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:27*	*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			09/04/22 10:53	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			08/26/22 09:25	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		08/24/22 16:32	08/25/22 14:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/24/22 16:32	08/25/22 14:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 16:32	08/25/22 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:01*	*1*
o-Terphenyl	*73*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:01*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS05

Lab Sample ID: 890-2800-4
Matrix: Solid
Date Collected: 08/22/22 15:05
Date Received: 08/23/22 08:18
Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	96.4		5.03		mg/Kg			08/30/22 16:56	1

Client Sample ID: SS06

Lab Sample ID: 890-2800-5
Matrix: Solid
Date Collected: 08/22/22 15:10
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 07:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 07:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 07:47	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 07:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:47*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/01/22 09:48*	*09/04/22 07:47*	*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			09/04/22 10:53	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			08/26/22 09:25	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	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:23*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.0		4.99		mg/Kg			08/31/22 15:50	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS07

Lab Sample ID: 890-2800-6
Matrix: Solid
Date Collected: 08/22/22 15:15
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 08:08	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 08:08	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 08:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/01/22 09:48	09/04/22 08:08	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/01/22 09:48	09/04/22 08:08	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/01/22 09:48	09/04/22 08:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*09/01/22 09:48*	*09/04/22 08:08*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/01/22 09:48*	*09/04/22 08:08*	*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			09/04/22 10:53	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			08/26/22 09:25	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	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:44*	*1*
o-Terphenyl	*83*		*70 - 130*	*08/24/22 16:32*	*08/25/22 14:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**166**		24.8		mg/Kg			08/30/22 17:14	5

Client Sample ID: SS08

Lab Sample ID: 890-2800-7
Matrix: Solid
Date Collected: 08/22/22 15:20
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 10:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 10:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 10:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 10:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 10:18	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/01/22 09:48	09/04/22 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/01/22 09:48*	*09/04/22 10:18*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS08

Lab Sample ID: 890-2800-7
Matrix: Solid
Date Collected: 08/22/22 15:20
Date Received: 08/23/22 08:18
Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/01/22 09:48*	*09/04/22 10:18*	*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			09/04/22 10:53	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			08/26/22 09:25	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		08/24/22 16:32	08/25/22 15:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/24/22 16:32	08/25/22 15:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/24/22 16:32	08/25/22 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*89*		*70 - 130*	*08/24/22 16:32*	*08/25/22 15:06*	*1*
o-Terphenyl	*89*		*70 - 130*	*08/24/22 16:32*	*08/25/22 15:06*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.6**		5.02	mg/Kg			08/30/22 17:23	1

Client Sample ID: SS09

Lab Sample ID: 890-2800-8
Matrix: Solid
Date Collected: 08/22/22 15:25
Date Received: 08/23/22 08:18
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		09/01/22 09:48	09/04/22 10:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/01/22 09:48	09/04/22 10:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/01/22 09:48	09/04/22 10:38	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/01/22 09:48	09/04/22 10:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/01/22 09:48	09/04/22 10:38	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/01/22 09:48	09/04/22 10:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/01/22 09:48*	*09/04/22 10:38*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/01/22 09:48*	*09/04/22 10:38*	*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			09/04/22 10:53	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			08/26/22 09:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS09
Date Collected: 08/22/22 15:25
Date Received: 08/23/22 08:18
Sample Depth: 0.5

Lab Sample ID: 890-2800-8
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		08/24/22 16:32	08/25/22 15:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 15:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*08/24/22 16:32*	*08/25/22 15:27*	*1*
o-Terphenyl	*77*		*70 - 130*	*08/24/22 16:32*	*08/25/22 15:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.4**		4.95		mg/Kg			08/30/22 17:33	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-18420-A-1-B MS	Matrix Spike	92	102
880-18420-A-1-C MSD	Matrix Spike Duplicate	99	98
890-2800-1	SS01	93	99
890-2800-2	SS03	91	103
890-2800-3	SS04	96	101
890-2800-4	SS05	93	105
890-2800-5	SS06	91	101
890-2800-6	SS07	95	107
890-2800-7	SS08	87	109
890-2800-8	SS09	85	107
LCS 880-33517/1-A	Lab Control Sample	89	104
LCSD 880-33517/2-A	Lab Control Sample Dup	94	100
MB 880-33067/5-A	Method Blank	79	116
MB 880-33517/5-A	Method Blank	80	115

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)
890-2799-A-1-B MS	Matrix Spike	74	67 S1-
890-2799-A-1-C MSD	Matrix Spike Duplicate	78	69 S1-
890-2800-1	SS01	79	82
890-2800-2	SS03	78	80
890-2800-3	SS04	85	84
890-2800-4	SS05	74	73
890-2800-5	SS06	85	84
890-2800-6	SS07	84	83
890-2800-7	SS08	89	89
890-2800-8	SS09	77	77
LCS 880-32866/2-A	Lab Control Sample	81	93
LCSD 880-32866/3-A	Lab Control Sample Dup	92	108
MB 880-32866/1-A	Method Blank	88	95

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33067/5-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33067

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/26/22 13:58	09/03/22 16:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/26/22 13:58*	*09/03/22 16:29*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/26/22 13:58*	*09/03/22 16:29*	*1*

Lab Sample ID: MB 880-33517/5-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33517

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/22 09:48	09/04/22 04:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/01/22 09:48*	*09/04/22 04:56*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*09/01/22 09:48*	*09/04/22 04:56*	*1*

Lab Sample ID: LCS 880-33517/1-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1118		mg/Kg		112	70 - 130		
Toluene			0.100	0.1053		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1006		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.1826		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09566		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-33517/2-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1058		mg/Kg		106	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

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

Lab Sample ID: LCSD 880-33517/2-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1093		mg/Kg		109	70 - 130	4	35
Ethylbenzene			0.100	0.1088		mg/Kg		109	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2002		mg/Kg		100	70 - 130	9	35
o-Xylene			0.100	0.1054		mg/Kg		105	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-18420-A-1-B MS
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0998	0.08123		mg/Kg		81	70 - 130
Toluene	<0.00199	U F1	0.0998	0.06569	F1	mg/Kg		66	70 - 130
Ethylbenzene	<0.00199	U F1	0.0998	0.04828	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.08446	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00199	U F1	0.0998	0.04561	F1	mg/Kg		46	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-18420-A-1-C MSD
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.07476		mg/Kg		74	70 - 130	8	35
Toluene	<0.00199	U F1	0.100	0.06471	F1	mg/Kg		64	70 - 130	2	35
Ethylbenzene	<0.00199	U F1	0.100	0.04660	F1	mg/Kg		46	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.08240	F1	mg/Kg		41	70 - 130	2	35
o-Xylene	<0.00199	U F1	0.100	0.04473	F1	mg/Kg		45	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-32866/1-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

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

Lab Sample ID: MB 880-32866/1-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/24/22 16:32*	*08/25/22 10:52*	*1*
o-Terphenyl	*95*		*70 - 130*	*08/24/22 16:32*	*08/25/22 10:52*	*1*

Lab Sample ID: LCS 880-32866/2-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32866

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	858.4		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	863.3		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: LCSD 880-32866/3-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32866

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	926.7		mg/Kg		93	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	979.5		mg/Kg		98	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-2799-A-1-B MS
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32866

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	761.1		mg/Kg		72	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	717.7		mg/Kg		72	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*74*		*70 - 130*
o-Terphenyl	*67*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

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

Lab Sample ID: 890-2799-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32894 — **Prep Batch: 32866**

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	998	783.2		mg/Kg		74	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	734.2		mg/Kg		74	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*69*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32909/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/22 15:05	1

Lab Sample ID: LCS 880-32909/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.6		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-32909/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.1		mg/Kg		102	90 - 110	4	20

Lab Sample ID: 880-18461-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3570	F1	1250	4951	F1	mg/Kg		111	90 - 110		

Lab Sample ID: 880-18461-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3570	F1	1250	5079	F1	mg/Kg		121	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

GC VOA

Prep Batch: 33067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-33067/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 33517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	5035	
890-2800-2	SS03	Total/NA	Solid	5035	
890-2800-3	SS04	Total/NA	Solid	5035	
890-2800-4	SS05	Total/NA	Solid	5035	
890-2800-5	SS06	Total/NA	Solid	5035	
890-2800-6	SS07	Total/NA	Solid	5035	
890-2800-7	SS08	Total/NA	Solid	5035	
890-2800-8	SS09	Total/NA	Solid	5035	
MB 880-33517/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33517/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33517/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18420-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-18420-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 33694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	8021B	33517
890-2800-2	SS03	Total/NA	Solid	8021B	33517
890-2800-3	SS04	Total/NA	Solid	8021B	33517
890-2800-4	SS05	Total/NA	Solid	8021B	33517
890-2800-5	SS06	Total/NA	Solid	8021B	33517
890-2800-6	SS07	Total/NA	Solid	8021B	33517
890-2800-7	SS08	Total/NA	Solid	8021B	33517
890-2800-8	SS09	Total/NA	Solid	8021B	33517
MB 880-33067/5-A	Method Blank	Total/NA	Solid	8021B	33067
MB 880-33517/5-A	Method Blank	Total/NA	Solid	8021B	33517
LCS 880-33517/1-A	Lab Control Sample	Total/NA	Solid	8021B	33517
LCSD 880-33517/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33517
880-18420-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	33517
880-18420-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33517

Analysis Batch: 33706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	Total BTEX	
890-2800-2	SS03	Total/NA	Solid	Total BTEX	
890-2800-3	SS04	Total/NA	Solid	Total BTEX	
890-2800-4	SS05	Total/NA	Solid	Total BTEX	
890-2800-5	SS06	Total/NA	Solid	Total BTEX	
890-2800-6	SS07	Total/NA	Solid	Total BTEX	
890-2800-7	SS08	Total/NA	Solid	Total BTEX	
890-2800-8	SS09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 32866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

GC Semi VOA (Continued)

Prep Batch: 32866 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-2	SS03	Total/NA	Solid	8015NM Prep	
890-2800-3	SS04	Total/NA	Solid	8015NM Prep	
890-2800-4	SS05	Total/NA	Solid	8015NM Prep	
890-2800-5	SS06	Total/NA	Solid	8015NM Prep	
890-2800-6	SS07	Total/NA	Solid	8015NM Prep	
890-2800-7	SS08	Total/NA	Solid	8015NM Prep	
890-2800-8	SS09	Total/NA	Solid	8015NM Prep	
MB 880-32866/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32866/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32866/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2799-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2799-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 32894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	8015B NM	32866
890-2800-2	SS03	Total/NA	Solid	8015B NM	32866
890-2800-3	SS04	Total/NA	Solid	8015B NM	32866
890-2800-4	SS05	Total/NA	Solid	8015B NM	32866
890-2800-5	SS06	Total/NA	Solid	8015B NM	32866
890-2800-6	SS07	Total/NA	Solid	8015B NM	32866
890-2800-7	SS08	Total/NA	Solid	8015B NM	32866
890-2800-8	SS09	Total/NA	Solid	8015B NM	32866
MB 880-32866/1-A	Method Blank	Total/NA	Solid	8015B NM	32866
LCS 880-32866/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32866
LCSD 880-32866/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32866
890-2799-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	32866
890-2799-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	32866

Analysis Batch: 33028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Total/NA	Solid	8015 NM	
890-2800-2	SS03	Total/NA	Solid	8015 NM	
890-2800-3	SS04	Total/NA	Solid	8015 NM	
890-2800-4	SS05	Total/NA	Solid	8015 NM	
890-2800-5	SS06	Total/NA	Solid	8015 NM	
890-2800-6	SS07	Total/NA	Solid	8015 NM	
890-2800-7	SS08	Total/NA	Solid	8015 NM	
890-2800-8	SS09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 32909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Soluble	Solid	DI Leach	
890-2800-2	SS03	Soluble	Solid	DI Leach	
890-2800-3	SS04	Soluble	Solid	DI Leach	
890-2800-4	SS05	Soluble	Solid	DI Leach	
890-2800-5	SS06	Soluble	Solid	DI Leach	
890-2800-6	SS07	Soluble	Solid	DI Leach	
890-2800-7	SS08	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

HPLC/IC (Continued)

Leach Batch: 32909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-8	SS09	Soluble	Solid	DI Leach	
MB 880-32909/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32909/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32909/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18461-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18461-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 33251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2800-1	SS01	Soluble	Solid	300.0	32909
890-2800-2	SS03	Soluble	Solid	300.0	32909
890-2800-3	SS04	Soluble	Solid	300.0	32909
890-2800-4	SS05	Soluble	Solid	300.0	32909
890-2800-5	SS06	Soluble	Solid	300.0	32909
890-2800-6	SS07	Soluble	Solid	300.0	32909
890-2800-7	SS08	Soluble	Solid	300.0	32909
890-2800-8	SS09	Soluble	Solid	300.0	32909
MB 880-32909/1-A	Method Blank	Soluble	Solid	300.0	32909
LCS 880-32909/2-A	Lab Control Sample	Soluble	Solid	300.0	32909
LCSD 880-32909/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32909
880-18461-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	32909
880-18461-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	32909

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS01
Date Collected: 08/22/22 14:45
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-1
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	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 06:26	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 12:58	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33251	08/30/22 16:10	CH	EET MID

Client Sample ID: SS03
Date Collected: 08/22/22 14:55
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-2
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	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 06:46	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 13:19	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33251	08/30/22 16:19	CH	EET MID

Client Sample ID: SS04
Date Collected: 08/22/22 15:00
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 07:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 13:40	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33251	08/30/22 16:28	CH	EET MID

Client Sample ID: SS05
Date Collected: 08/22/22 15:05
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-4
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			4.99 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 07:27	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS05

Date Collected: 08/22/22 15:05
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-4
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			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 14:01	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33251	08/30/22 16:56	CH	EET MID

Client Sample ID: SS06

Date Collected: 08/22/22 15:10
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 07:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 14:23	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33251	08/31/22 15:50	CH	EET MID

Client Sample ID: SS07

Date Collected: 08/22/22 15:15
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 08:08	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 14:44	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33251	08/30/22 17:14	CH	EET MID

Client Sample ID: SS08

Date Collected: 08/22/22 15:20
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2800-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 10:18	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 15:06	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Client Sample ID: SS08

Lab Sample ID: 890-2800-7

Date Collected: 08/22/22 15:20
Matrix: Solid
Date Received: 08/23/22 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33251	08/30/22 17:23	CH	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-2800-8

Date Collected: 08/22/22 15:25
Matrix: Solid
Date Received: 08/23/22 08:18

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	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 10:38	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33706	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33028	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 15:27	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33251	08/30/22 17:33	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 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-2800-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2800-1	SS01	Solid	08/22/22 14:45	08/23/22 08:18	0.5
890-2800-2	SS03	Solid	08/22/22 14:55	08/23/22 08:18	0.5
890-2800-3	SS04	Solid	08/22/22 15:00	08/23/22 08:18	0.5
890-2800-4	SS05	Solid	08/22/22 15:05	08/23/22 08:18	0.5
890-2800-5	SS06	Solid	08/22/22 15:10	08/23/22 08:18	0.5
890-2800-6	SS07	Solid	08/22/22 15:15	08/23/22 08:18	0.5
890-2800-7	SS08	Solid	08/22/22 15:20	08/23/22 08:18	0.5
890-2800-8	SS09	Solid	08/22/22 15:25	08/23/22 08:18	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:	Kalei Jennings	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558100	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT

Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	NM-007
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

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	08.22.22	1445	0.5'	G	1		x	x	x	Incident ID: NAPP2222741514
SS03	S	08.22.22	1455	0.5'	G	1		x	x	x	
SS04	S	08.22.22	1500	0.5'	G	1		x	x	x	Cost Center:
SS05	S	08.22.22	1505	0.5'	G	1		x	x	x	
SS06	S	08.22.22	1510	0.5'	G	1		x	x	x	AFE:
SS07	S	08.22.22	1515	0.5'	G	1		x	x	x	
SS08	S	08.22.22	1520	0.5'	G	1		x	x	x	
SS09	S	08.22.22	1525	0.5'	G	1		x	x	x	

890-2800 Chain of Custody

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8.23.22 8:30	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2800-1
SDG Number: 03E1558100

Login Number: 2800
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: 890-2800-1
SDG Number: 03E1558100

Login Number: 2800
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/24/22 10:58 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: 890-2799-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 Brushy Draw 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/5/2022 8:03:06 AM

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

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 27 Brushy Draw 167

Laboratory Job ID: 890-2799-1
SDG: 03E1558100

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Job ID: 890-2799-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2799-1

Receipt
The sample was received on 8/23/2022 8:18 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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33517 and analytical batch 880-33694 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: (890-2799-A-1-B MS) and (890-2799-A-1-C MSD). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method 8015MOD_NM: The method blank for preparation batch 880-32866 and analytical batch 880-32894 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-32909 and analytical batch 880-33251 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Client Sample ID: SS02

Date Collected: 08/22/22 14:50
Date Received: 08/23/22 08:18
Sample Depth: 0.5

Lab Sample ID: 890-2799-1

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		09/01/22 09:48	09/04/22 06:05	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/01/22 09:48	09/04/22 06:05	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/01/22 09:48	09/04/22 06:05	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/01/22 09:48	09/04/22 06:05	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/01/22 09:48	09/04/22 06:05	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/01/22 09:48	09/04/22 06:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:05*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/01/22 09:48*	*09/04/22 06:05*	*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			09/04/22 10:53	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			08/26/22 09:25	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		08/24/22 16:32	08/25/22 11:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/24/22 16:32	08/25/22 11:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 16:32	08/25/22 11:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/24/22 16:32*	*08/25/22 11:55*	*1*
o-Terphenyl	*87*		*70 - 130*	*08/24/22 16:32*	*08/25/22 11:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**590**		25.3		mg/Kg			08/30/22 16:00	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-18420-A-1-B MS	Matrix Spike	92	102										
880-18420-A-1-C MSD	Matrix Spike Duplicate	99	98										
890-2799-1	SS02	90	101										
LCS 880-33517/1-A	Lab Control Sample	89	104										
LCSD 880-33517/2-A	Lab Control Sample Dup	94	100										
MB 880-33067/5-A	Method Blank	79	116										
MB 880-33517/5-A	Method Blank	80	115										

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)										
890-2799-1	SS02	83	87										
890-2799-1 MS	SS02	74	67 S1-										
890-2799-1 MSD	SS02	78	69 S1-										
LCS 880-32866/2-A	Lab Control Sample	81	93										
LCSD 880-32866/3-A	Lab Control Sample Dup	92	108										
MB 880-32866/1-A	Method Blank	88	95										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33067/5-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33067

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/26/22 13:58	09/03/22 16:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/26/22 13:58	09/03/22 16:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/26/22 13:58*	*09/03/22 16:29*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/26/22 13:58*	*09/03/22 16:29*	*1*

Lab Sample ID: MB 880-33517/5-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33517

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/22 09:48	09/04/22 04:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/22 09:48	09/04/22 04:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/01/22 09:48*	*09/04/22 04:56*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*09/01/22 09:48*	*09/04/22 04:56*	*1*

Lab Sample ID: LCS 880-33517/1-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1118		mg/Kg		112	70 - 130		
Toluene			0.100	0.1053		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1006		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.1826		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09566		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-33517/2-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1058		mg/Kg		106	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

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

Lab Sample ID: LCSD 880-33517/2-A
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1093		mg/Kg		109	70 - 130	4	35
Ethylbenzene			0.100	0.1088		mg/Kg		109	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2002		mg/Kg		100	70 - 130	9	35
o-Xylene			0.100	0.1054		mg/Kg		105	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-18420-A-1-B MS
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0998	0.08123		mg/Kg		81	70 - 130
Toluene	<0.00199	U F1	0.0998	0.06569	F1	mg/Kg		66	70 - 130
Ethylbenzene	<0.00199	U F1	0.0998	0.04828	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.08446	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00199	U F1	0.0998	0.04561	F1	mg/Kg		46	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-18420-A-1-C MSD
Matrix: Solid
Analysis Batch: 33694

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.07476		mg/Kg		74	70 - 130	8	35
Toluene	<0.00199	U F1	0.100	0.06471	F1	mg/Kg		64	70 - 130	2	35
Ethylbenzene	<0.00199	U F1	0.100	0.04660	F1	mg/Kg		46	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.08240	F1	mg/Kg		41	70 - 130	2	35
o-Xylene	<0.00199	U F1	0.100	0.04473	F1	mg/Kg		45	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-32866/1-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

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

Lab Sample ID: MB 880-32866/1-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32866

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 16:32	08/25/22 10:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/24/22 16:32*	*08/25/22 10:52*	*1*
o-Terphenyl	*95*		*70 - 130*	*08/24/22 16:32*	*08/25/22 10:52*	*1*

Lab Sample ID: LCS 880-32866/2-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32866

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	858.4		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	863.3		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: LCSD 880-32866/3-A
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32866

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	926.7		mg/Kg		93	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	979.5		mg/Kg		98	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-2799-1 MS
Matrix: Solid
Analysis Batch: 32894

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 32866

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	761.1		mg/Kg		72	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	717.7		mg/Kg		72	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*74*		*70 - 130*
o-Terphenyl	*67*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

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

Lab Sample ID: 890-2799-1 MSD — **Client Sample ID: SS02**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32894 — **Prep Batch: 32866**

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	998	783.2		mg/Kg		74	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	734.2		mg/Kg		74	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*69*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32909/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/22 15:05	1

Lab Sample ID: LCS 880-32909/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.6		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-32909/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.1		mg/Kg		102	90 - 110	4	20

Lab Sample ID: 880-18461-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3570	F1	1250	4951	F1	mg/Kg		111	90 - 110		

Lab Sample ID: 880-18461-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3570	F1	1250	5079	F1	mg/Kg		121	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

GC VOA

Prep Batch: 33067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-33067/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 33517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	5035	
MB 880-33517/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33517/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33517/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18420-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-18420-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 33694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	8021B	33517
MB 880-33067/5-A	Method Blank	Total/NA	Solid	8021B	33067
MB 880-33517/5-A	Method Blank	Total/NA	Solid	8021B	33517
LCS 880-33517/1-A	Lab Control Sample	Total/NA	Solid	8021B	33517
LCSD 880-33517/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33517
880-18420-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	33517
880-18420-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33517

Analysis Batch: 33705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 32866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-32866/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32866/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32866/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2799-1 MS	SS02	Total/NA	Solid	8015NM Prep	
890-2799-1 MSD	SS02	Total/NA	Solid	8015NM Prep	

Analysis Batch: 32894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	8015B NM	32866
MB 880-32866/1-A	Method Blank	Total/NA	Solid	8015B NM	32866
LCS 880-32866/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32866
LCSD 880-32866/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32866
890-2799-1 MS	SS02	Total/NA	Solid	8015B NM	32866
890-2799-1 MSD	SS02	Total/NA	Solid	8015B NM	32866

Analysis Batch: 33027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

HPLC/IC

Leach Batch: 32909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Soluble	Solid	DI Leach	
MB 880-32909/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32909/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32909/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18461-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18461-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 33251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2799-1	SS02	Soluble	Solid	300.0	32909
MB 880-32909/1-A	Method Blank	Soluble	Solid	300.0	32909
LCS 880-32909/2-A	Lab Control Sample	Soluble	Solid	300.0	32909
LCSD 880-32909/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32909
880-18461-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	32909
880-18461-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	32909

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Client Sample ID: SS02
Date Collected: 08/22/22 14:50
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2799-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	33517	09/01/22 09:48	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33694	09/04/22 06:05	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33705	09/04/22 10:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33027	08/26/22 09:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32866	08/24/22 16:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	32894	08/25/22 11:55	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	32909	08/25/22 09:40	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33251	08/30/22 16:00	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 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-2799-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2799-1	SS02	Solid	08/22/22 14:50	08/23/22 08:18	0.5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	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:	Garret.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	
Project Number:	03E1558100	☑ 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:	Thm.002
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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Parameters
SS02	S	08.22.22	1450	0.5'	G	1		x	x	x	

890-2799 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID: NAPP2222741514

Cost Center:

AFE:

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8-23-22 8:15			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2799-1
SDG Number: 03E1558100

Login Number: 2799
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: 890-2799-1
SDG Number: 03E1558100

Login Number: 2799
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/24/22 10:58 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: 890-3026-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 BRUSHY DRAW 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/4/2022 10:33:34 AM

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

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.

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3026-1
Project/Site: PLU 27 BRUSHY DRAW 167 SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Job ID: 890-3026-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3026-1

Receipt
The samples were received on 9/21/2022 1:16 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°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
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-35172 and analytical batch 880-35220 was outside the upper control limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH01

Date Collected: 09/21/22 09:15
Date Received: 09/21/22 13:16
Sample Depth: 1

Lab Sample ID: 890-3026-1
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		10/03/22 13:34	10/03/22 22:21	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/03/22 13:34	10/03/22 22:21	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/03/22 13:34	10/03/22 22:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/03/22 13:34	10/03/22 22:21	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/03/22 13:34	10/03/22 22:21	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/03/22 13:34	10/03/22 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:21*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:21*	*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			10/04/22 08:33	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			09/26/22 13:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/22/22 11:27	09/24/22 01:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/22/22 11:27	09/24/22 01:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/22/22 11:27	09/24/22 01:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*09/22/22 11:27*	*09/24/22 01:38*	*1*
o-Terphenyl	*100*		*70 - 130*	*09/22/22 11:27*	*09/24/22 01:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**108**		5.02		mg/Kg			09/23/22 21:50	1

Client Sample ID: PH01A

Date Collected: 09/21/22 09:20
Date Received: 09/21/22 13:16
Sample Depth: 2

Lab Sample ID: 890-3026-2
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		10/03/22 13:34	10/03/22 22:42	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/03/22 13:34	10/03/22 22:42	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/03/22 13:34	10/03/22 22:42	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/03/22 13:34	10/03/22 22:42	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/03/22 13:34	10/03/22 22:42	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/03/22 13:34	10/03/22 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:42*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH01A

Lab Sample ID: 890-3026-2

Date Collected: 09/21/22 09:20
Date Received: 09/21/22 13:16
Sample Depth: 2

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:42*	*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			10/04/22 08:33	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			09/26/22 13:20	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		09/22/22 11:27	09/24/22 02:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/22/22 11:27	09/24/22 02:21	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/22/22 11:27	09/24/22 02:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*101*		*70 - 130*	*09/22/22 11:27*	*09/24/22 02:21*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/22/22 11:27*	*09/24/22 02:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**230**		4.97		mg/Kg			09/23/22 21:55	1

Client Sample ID: PH05

Lab Sample ID: 890-3026-3

Date Collected: 09/21/22 09:25
Date Received: 09/21/22 13:16
Sample Depth: 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		10/03/22 13:34	10/03/22 23:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/03/22 13:34	10/03/22 23:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/03/22 13:34	10/03/22 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*10/03/22 13:34*	*10/03/22 23:03*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/03/22 13:34*	*10/03/22 23:03*	*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			10/04/22 08:33	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			09/26/22 13:20	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH05

Date Collected: 09/21/22 09:25
Date Received: 09/21/22 13:16
Sample Depth: 1

Lab Sample ID: 890-3026-3
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		09/22/22 11:27	09/24/22 02:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/22/22 11:27	09/24/22 02:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/22/22 11:27	09/24/22 02:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*09/22/22 11:27*	*09/24/22 02:43*	*1*
o-Terphenyl	*104*		*70 - 130*	*09/22/22 11:27*	*09/24/22 02:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.9**		4.95		mg/Kg			09/23/22 22:00	1

Client Sample ID: PH05A

Date Collected: 09/21/22 09:30
Date Received: 09/21/22 13:16
Sample Depth: 2

Lab Sample ID: 890-3026-4
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		10/03/22 13:34	10/03/22 23:24	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:24	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/03/22 13:34	10/03/22 23:24	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/03/22 13:34	10/03/22 23:24	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/03/22 13:34	10/03/22 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*10/03/22 13:34*	*10/03/22 23:24*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/03/22 13:34*	*10/03/22 23:24*	*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			10/04/22 08:33	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			09/26/22 13:20	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		09/22/22 11:27	09/24/22 03:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/22/22 11:27	09/24/22 03:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/22/22 11:27	09/24/22 03:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*09/22/22 11:27*	*09/24/22 03:04*	*1*
o-Terphenyl	*115*		*70 - 130*	*09/22/22 11:27*	*09/24/22 03:04*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH05A
Date Collected: 09/21/22 09:30
Date Received: 09/21/22 13:16
Sample Depth: 2

Lab Sample ID: 890-3026-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	136		4.99		mg/Kg			09/23/22 22:05	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3026-1	PH01	118	95
890-3026-1 MS	PH01	93	96
890-3026-1 MSD	PH01	95	97
890-3026-2	PH01A	121	107
890-3026-3	PH05	116	103
890-3026-4	PH05A	117	104
LCS 880-35997/1-A	Lab Control Sample	88	96
LCSD 880-35997/2-A	Lab Control Sample Dup	89	97
MB 880-35997/5-A	Method Blank	94	85

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3010-A-2-C MS	Matrix Spike	90	88
890-3010-A-2-D MSD	Matrix Spike Duplicate	103	99
890-3026-1	PH01	92	100
890-3026-2	PH01A	101	109
890-3026-3	PH05	98	104
890-3026-4	PH05A	107	115
LCS 880-35172/2-A	Lab Control Sample	99	105
LCSD 880-35172/3-A	Lab Control Sample Dup	106	108
MB 880-35172/1-A	Method Blank	120	139 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35997/5-A
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35997

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/03/22 13:34	10/03/22 22:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/03/22 13:34	10/03/22 22:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/03/22 13:34	10/03/22 22:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/03/22 13:34	10/03/22 22:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/03/22 13:34	10/03/22 22:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/03/22 13:34	10/03/22 22:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:00*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*10/03/22 13:34*	*10/03/22 22:00*	*1*

Lab Sample ID: LCS 880-35997/1-A
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35997

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1071		mg/Kg		107	70 - 130		
Toluene			0.100	0.1071		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.09944		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2049		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.1039		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-35997/2-A
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35997

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1072		mg/Kg		107	70 - 130	0	35
Toluene			0.100	0.1073		mg/Kg		107	70 - 130	0	35
Ethylbenzene			0.100	0.09953		mg/Kg		100	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2078		mg/Kg		104	70 - 130	1	35
o-Xylene			0.100	0.1051		mg/Kg		105	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3026-1 MS
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 35997

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.09738		mg/Kg		98	70 - 130		
Toluene	<0.00201	U	0.0998	0.1003		mg/Kg		100	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

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

Lab Sample ID: 890-3026-1 MS
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 35997

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.09562		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1967		mg/Kg		99	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1000		mg/Kg		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-3026-1 MSD
Matrix: Solid
Analysis Batch: 35920

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 35997

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.09537		mg/Kg		95	70 - 130	2	35
Toluene	<0.00201	U	0.100	0.09776		mg/Kg		98	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.100	0.09210		mg/Kg		92	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1922		mg/Kg		96	70 - 130	2	35
o-Xylene	<0.00201	U	0.100	0.09755		mg/Kg		97	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-35172/1-A
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35172

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		09/22/22 11:26	09/23/22 20:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/22/22 11:26	09/23/22 20:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/22/22 11:26	09/23/22 20:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*09/22/22 11:26*	*09/23/22 20:35*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*09/22/22 11:26*	*09/23/22 20:35*	*1*

Lab Sample ID: LCS 880-35172/2-A
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35172

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	960.3		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)			1000	891.9		mg/Kg		89	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

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

Lab Sample ID: LCS 880-35172/2-A
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35172

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-35172/3-A
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	960.5		mg/Kg		96	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	951.2		mg/Kg		95	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 890-3010-A-2-C MS
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35172

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	996	887.9		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	998.1		mg/Kg		100	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-3010-A-2-D MSD
Matrix: Solid
Analysis Batch: 35220

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35172

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1050		mg/Kg		103	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1135		mg/Kg		114	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	99		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-35024/1-A
Matrix: Solid
Analysis Batch: 35313

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			09/23/22 19:42	1

Lab Sample ID: LCS 880-35024/2-A
Matrix: Solid
Analysis Batch: 35313

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 880-35024/3-A
Matrix: Solid
Analysis Batch: 35313

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	247.9		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3011-A-27-B MS
Matrix: Solid
Analysis Batch: 35313

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	394		252	632.7		mg/Kg		95	90 - 110		

Lab Sample ID: 890-3011-A-27-C MSD
Matrix: Solid
Analysis Batch: 35313

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	394		252	632.9		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

GC VOA

Analysis Batch: 35920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	8021B	35997
890-3026-2	PH01A	Total/NA	Solid	8021B	35997
890-3026-3	PH05	Total/NA	Solid	8021B	35997
890-3026-4	PH05A	Total/NA	Solid	8021B	35997
MB 880-35997/5-A	Method Blank	Total/NA	Solid	8021B	35997
LCS 880-35997/1-A	Lab Control Sample	Total/NA	Solid	8021B	35997
LCSD 880-35997/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35997
890-3026-1 MS	PH01	Total/NA	Solid	8021B	35997
890-3026-1 MSD	PH01	Total/NA	Solid	8021B	35997

Prep Batch: 35997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	5035	
890-3026-2	PH01A	Total/NA	Solid	5035	
890-3026-3	PH05	Total/NA	Solid	5035	
890-3026-4	PH05A	Total/NA	Solid	5035	
MB 880-35997/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35997/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35997/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3026-1 MS	PH01	Total/NA	Solid	5035	
890-3026-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 36029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	Total BTEX	
890-3026-2	PH01A	Total/NA	Solid	Total BTEX	
890-3026-3	PH05	Total/NA	Solid	Total BTEX	
890-3026-4	PH05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 35172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	8015NM Prep	
890-3026-2	PH01A	Total/NA	Solid	8015NM Prep	
890-3026-3	PH05	Total/NA	Solid	8015NM Prep	
890-3026-4	PH05A	Total/NA	Solid	8015NM Prep	
MB 880-35172/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-35172/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-35172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3010-A-2-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3010-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 35220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	8015B NM	35172
890-3026-2	PH01A	Total/NA	Solid	8015B NM	35172
890-3026-3	PH05	Total/NA	Solid	8015B NM	35172
890-3026-4	PH05A	Total/NA	Solid	8015B NM	35172
MB 880-35172/1-A	Method Blank	Total/NA	Solid	8015B NM	35172
LCS 880-35172/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	35172

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

GC Semi VOA (Continued)

Analysis Batch: 35220 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-35172/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	35172
890-3010-A-2-C MS	Matrix Spike	Total/NA	Solid	8015B NM	35172
890-3010-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	35172

Analysis Batch: 35414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Total/NA	Solid	8015 NM	
890-3026-2	PH01A	Total/NA	Solid	8015 NM	
890-3026-3	PH05	Total/NA	Solid	8015 NM	
890-3026-4	PH05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 35024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Soluble	Solid	DI Leach	
890-3026-2	PH01A	Soluble	Solid	DI Leach	
890-3026-3	PH05	Soluble	Solid	DI Leach	
890-3026-4	PH05A	Soluble	Solid	DI Leach	
MB 880-35024/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-35024/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-35024/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3011-A-27-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3011-A-27-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 35313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3026-1	PH01	Soluble	Solid	300.0	35024
890-3026-2	PH01A	Soluble	Solid	300.0	35024
890-3026-3	PH05	Soluble	Solid	300.0	35024
890-3026-4	PH05A	Soluble	Solid	300.0	35024
MB 880-35024/1-A	Method Blank	Soluble	Solid	300.0	35024
LCS 880-35024/2-A	Lab Control Sample	Soluble	Solid	300.0	35024
LCSD 880-35024/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	35024
890-3011-A-27-B MS	Matrix Spike	Soluble	Solid	300.0	35024
890-3011-A-27-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	35024

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH01

Date Collected: 09/21/22 09:15
Date Received: 09/21/22 13:16

Lab Sample ID: 890-3026-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	35997	10/03/22 13:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35920	10/03/22 22:21	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36029	10/04/22 08:33	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35414	09/26/22 13:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35172	09/22/22 11:27	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35220	09/24/22 01:38	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	35024	09/22/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			35313	09/23/22 21:50	CH	EET MID

Client Sample ID: PH01A

Date Collected: 09/21/22 09:20
Date Received: 09/21/22 13:16

Lab Sample ID: 890-3026-2
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			5.05 g	5 mL	35997	10/03/22 13:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35920	10/03/22 22:42	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36029	10/04/22 08:33	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35414	09/26/22 13:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35172	09/22/22 11:27	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35220	09/24/22 02:21	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	35024	09/22/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			35313	09/23/22 21:55	CH	EET MID

Client Sample ID: PH05

Date Collected: 09/21/22 09:25
Date Received: 09/21/22 13:16

Lab Sample ID: 890-3026-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	35997	10/03/22 13:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35920	10/03/22 23:03	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36029	10/04/22 08:33	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35414	09/26/22 13:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	35172	09/22/22 11:27	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35220	09/24/22 02:43	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	35024	09/22/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			35313	09/23/22 22:00	CH	EET MID

Client Sample ID: PH05A

Date Collected: 09/21/22 09:30
Date Received: 09/21/22 13:16

Lab Sample ID: 890-3026-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	35997	10/03/22 13:34	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35920	10/03/22 23:24	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36029	10/04/22 08:33	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Client Sample ID: PH05A
Date Collected: 09/21/22 09:30
Date Received: 09/21/22 13:16

Lab Sample ID: 890-3026-4
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			35414	09/26/22 13:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	35172	09/22/22 11:27	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35220	09/24/22 03:04	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	35024	09/22/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			35313	09/23/22 22:05	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 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

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 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

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 27 BRUSHY DRAW 167

Job ID: 890-3026-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3026-1	PH01	Solid	09/21/22 09:15	09/21/22 13:16	1
890-3026-2	PH01A	Solid	09/21/22 09:20	09/21/22 13:16	2
890-3026-3	PH05	Solid	09/21/22 09:25	09/21/22 13:16	1
890-3026-4	PH05A	Solid	09/21/22 09:30	09/21/22 13:16	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:	Kalei Jennings	Bill to: (if different)	Garret 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:	Garret.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558100	Due Date:	
Project Location:	32.10230, -103.86420	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Kase Parker		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#052
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH01	S	9/21/2022	9:15	1'			x	x	x
PH01A	S	9/21/2022	9:20	2'			x	x	x
PH05	S	9/21/2022	9:25	1'			x	x	x
PH05A	S	9/21/2022	9:30	2'			x	x	x

890-3026 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: NAPP2222741514
Cost Center: 1667051001
AFE:

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			9.21.22 1617	4		
3				6		
5						

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3026-1
SDG Number: 03E1558100

Login Number: 3026
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: 890-3026-1
SDG Number: 03E1558100

Login Number: 3026
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/22/22 11:12 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3322-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 Brushy Draw 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/2/2022 3:59:12 PM

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

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 27 Brushy Draw 167

Laboratory Job ID: 890-3322-1
SDG: 03E1558100

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

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

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 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Job ID: 890-3322-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3322-1

Receipt
The samples were received on 10/28/2022 12:18 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 5.0°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
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-38261 and analytical batch 880-38217 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3322-A-2-D MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-38325 and analytical batch 880-38323 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

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 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Client Sample ID: PH02

Lab Sample ID: 890-3322-1
Matrix: Solid
Date Collected: 10/27/22 09:50
Date Received: 10/28/22 12:18
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/31/22 14:07	11/02/22 00:08	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/31/22 14:07	11/02/22 00:08	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/31/22 14:07	11/02/22 00:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/31/22 14:07	11/02/22 00:08	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/31/22 14:07	11/02/22 00:08	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/31/22 14:07	11/02/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/31/22 14:07*	*11/02/22 00:08*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/31/22 14:07*	*11/02/22 00:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**60.5**		50.0		mg/Kg			11/01/22 13:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 19:15	1
Diesel Range Organics (Over C10-C28)	**60.5**	***+**	50.0		mg/Kg		10/31/22 10:25	10/31/22 19:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*10/31/22 10:25*	*10/31/22 19:15*	*1*
o-Terphenyl	*113*		*70 - 130*	*10/31/22 10:25*	*10/31/22 19:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		5.02		mg/Kg			11/01/22 23:34	1

Client Sample ID: PH02A

Lab Sample ID: 890-3322-2
Matrix: Solid
Date Collected: 10/27/22 10:00
Date Received: 10/28/22 12:18
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/02/22 00:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/02/22 00:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/02/22 00:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/31/22 14:07	11/02/22 00:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/02/22 00:28	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/31/22 14:07	11/02/22 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*10/31/22 14:07*	*11/02/22 00:28*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Client Sample ID: PH02A
Date Collected: 10/27/22 10:00
Date Received: 10/28/22 12:18
Sample Depth: 2

Lab Sample ID: 890-3322-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/31/22 14:07*	*11/02/22 00:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/02/22 10:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	50.0		mg/Kg		11/01/22 08:49	11/01/22 12:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U F1 F2	50.0		mg/Kg		11/01/22 08:49	11/01/22 12:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/01/22 08:49	11/01/22 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*11/01/22 08:49*	*11/01/22 12:27*	*1*
o-Terphenyl	*106*		*70 - 130*	*11/01/22 08:49*	*11/01/22 12:27*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**262**		4.98		mg/Kg			11/01/22 23:39	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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)
890-3320-A-1-C MS	Matrix Spike	99	109
890-3320-A-1-D MSD	Matrix Spike Duplicate	102	105
890-3322-1	PH02	102	102
890-3322-2	PH02A	108	94
LCS 880-38293/1-A	Lab Control Sample	90	96
LCSD 880-38293/2-A	Lab Control Sample Dup	94	95
MB 880-38293/5-A	Method Blank	79	94
MB 880-38298/5-A	Method Blank	79	91

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)
890-3322-1	PH02	100	113
890-3322-2	PH02A	101	106
890-3322-2 MS	PH02A	73	69 S1-
890-3322-2 MSD	PH02A	90	85
890-3333-A-1-D MS	Matrix Spike	102	103
890-3333-A-1-E MSD	Matrix Spike Duplicate	102	104
LCS 880-38261/2-A	Lab Control Sample	131 S1+	146 S1+
LCS 880-38325/2-A	Lab Control Sample	112	120
LCSD 880-38261/3-A	Lab Control Sample Dup	133 S1+	148 S1+
LCSD 880-38325/3-A	Lab Control Sample Dup	121	128
MB 880-38261/1-A	Method Blank	87	99
MB 880-38325/1-A	Method Blank	77	83

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38293/5-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38293

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*

Lab Sample ID: LCS 880-38293/1-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1154		mg/Kg		115	70 - 130		
Toluene			0.100	0.1012		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09494		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1880		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09249		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-38293/2-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1117		mg/Kg		112	70 - 130	3	35
Toluene			0.100	0.09823		mg/Kg		98	70 - 130	3	35
Ethylbenzene			0.100	0.09439		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1882		mg/Kg		94	70 - 130	0	35
o-Xylene			0.100	0.09282		mg/Kg		93	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3320-A-1-C MS
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0998	0.09361		mg/Kg		94	70 - 130		
Toluene	<0.00202	U	0.0998	0.08271		mg/Kg		83	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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

Lab Sample ID: 890-3320-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0998	0.07970		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1614		mg/Kg		81	70 - 130
o-Xylene	<0.00202	U	0.0998	0.07990		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-3320-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.08103		mg/Kg		82	70 - 130	14	35
Toluene	<0.00202	U	0.0990	0.07148		mg/Kg		72	70 - 130	15	35
Ethylbenzene	<0.00202	U	0.0990	0.07120		mg/Kg		72	70 - 130	11	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1437		mg/Kg		73	70 - 130	12	35
o-Xylene	<0.00202	U	0.0990	0.07128		mg/Kg		72	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: MB 880-38298/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38298**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*

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

Lab Sample ID: MB 880-38261/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38217 — **Prep Batch: 38261**

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		10/31/22 10:25	10/31/22 09:53	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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

Lab Sample ID: MB 880-38261/1-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38261

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*

Lab Sample ID: LCS 880-38261/2-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	903.3		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1384	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-38261/3-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	944.8		mg/Kg		94	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1439	*+	mg/Kg		144	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*133*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: 890-3333-A-1-D MS
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	863.1		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U *+	997	1014		mg/Kg		100	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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

Lab Sample ID: 890-3333-A-1-E MSD
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38261

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	861.4		mg/Kg		84	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U *+	999	1025		mg/Kg		101	70 - 130	1	20

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

Lab Sample ID: MB 880-38325/1-A
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38325

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		11/01/22 08:49	11/01/22 09:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/01/22 08:49	11/01/22 09:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/01/22 08:49	11/01/22 09:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*11/01/22 08:49*	*11/01/22 09:56*	*1*
o-Terphenyl	*83*		*70 - 130*	*11/01/22 08:49*	*11/01/22 09:56*	*1*

Lab Sample ID: LCS 880-38325/2-A
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1179		mg/Kg		118	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1120		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Lab Sample ID: LCSD 880-38325/3-A
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1081		mg/Kg		108	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	1234		mg/Kg		123	70 - 130	10	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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

Lab Sample ID: LCSD 880-38325/3-A
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38325

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	128		70 - 130

Lab Sample ID: 890-3322-2 MS
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: PH02A
Prep Type: Total/NA
Prep Batch: 38325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1043		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F1 F2	997	809.2		mg/Kg		77	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	73		70 - 130
o-Terphenyl	69	S1-	70 - 130

Lab Sample ID: 890-3322-2 MSD
Matrix: Solid
Analysis Batch: 38323

Client Sample ID: PH02A
Prep Type: Total/NA
Prep Batch: 38325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	999	899.6		mg/Kg		88	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1 F2	999	1022	F2	mg/Kg		98	70 - 130	23	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	85		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38262/1-A
Matrix: Solid
Analysis Batch: 38428

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			11/01/22 22:29	1

Lab Sample ID: LCS 880-38262/2-A
Matrix: Solid
Analysis Batch: 38428

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.5		mg/Kg		105	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-38262/3-A
Matrix: Solid
Analysis Batch: 38428

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	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3319-A-1-B MS
Matrix: Solid
Analysis Batch: 38428

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	151		251	401.6		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3319-A-1-C MSD
Matrix: Solid
Analysis Batch: 38428

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	151		251	394.5		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

GC VOA

Prep Batch: 38293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	5035	
890-3322-2	PH02A	Total/NA	Solid	5035	
MB 880-38293/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3320-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3320-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38298/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	8021B	38293
890-3322-2	PH02A	Total/NA	Solid	8021B	38293
MB 880-38293/5-A	Method Blank	Total/NA	Solid	8021B	38293
MB 880-38298/5-A	Method Blank	Total/NA	Solid	8021B	38298
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	8021B	38293
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38293
890-3320-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	38293
890-3320-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38293

Analysis Batch: 38476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	Total BTEX	
890-3322-2	PH02A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	8015B NM	38261
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015B NM	38261
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38261
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38261
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	38261
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38261

Prep Batch: 38261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	8015NM Prep	
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-2	PH02A	Total/NA	Solid	8015B NM	38325

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

GC Semi VOA (Continued)

Analysis Batch: 38323 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38325/1-A	Method Blank	Total/NA	Solid	8015B NM	38325
LCS 880-38325/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38325
LCSD 880-38325/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38325
890-3322-2 MS	PH02A	Total/NA	Solid	8015B NM	38325
890-3322-2 MSD	PH02A	Total/NA	Solid	8015B NM	38325

Prep Batch: 38325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-2	PH02A	Total/NA	Solid	8015NM Prep	
MB 880-38325/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38325/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38325/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3322-2 MS	PH02A	Total/NA	Solid	8015NM Prep	
890-3322-2 MSD	PH02A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Total/NA	Solid	8015 NM	
890-3322-2	PH02A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Soluble	Solid	DI Leach	
890-3322-2	PH02A	Soluble	Solid	DI Leach	
MB 880-38262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3322-1	PH02	Soluble	Solid	300.0	38262
890-3322-2	PH02A	Soluble	Solid	300.0	38262
MB 880-38262/1-A	Method Blank	Soluble	Solid	300.0	38262
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	300.0	38262
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38262
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	38262
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38262

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Client Sample ID: PH02

Date Collected: 10/27/22 09:50
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3322-1

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	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/02/22 00:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38476	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38393	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 19:15	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:34	CH	EET MID

Client Sample ID: PH02A

Date Collected: 10/27/22 10:00
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3322-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/02/22 00:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38476	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38393	11/02/22 10:14	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38325	11/01/22 08:49	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38323	11/01/22 12:27	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:39	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 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3322-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3322-1	PH02	Solid	10/27/22 09:50	10/28/22 12:18	1
890-3322-2	PH02A	Solid	10/27/22 10:00	10/28/22 12:18	2

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Environment Testing
Xenco

Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	
Project Number:	03E1558100	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes 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:	5.2
Total Containers:		Corrected Temperature:	5.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	Parameters: TPH (8015)	Parameters: BTEX (8021)
PH02	S	10/27/2022	9:50	1'	Grab	1		x	x	x
PH02A	S	10/27/2022	10:00	2'	Grab	1		x	x	x

890-3322 Chain of Custody

Sample Comments

Incident ID:
NAPP2222741514
Cost Center:
1667051001
AFE:

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.28.22 1018			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3322-1
SDG Number: 03E1558100

Login Number: 3322
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3322-1
SDG Number: 03E1558100

Login Number: 3322
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/31/22 09:20 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: 890-3320-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 Brushy Draw 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/2/2022 3:58:21 PM

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

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 27 Brushy Draw 167

Laboratory Job ID: 890-3320-1
SDG: 03E1558100

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3320-1
Project/Site: PLU 27 Brushy Draw 167 SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Job ID: 890-3320-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3320-1

Receipt
The samples were received on 10/28/2022 12:18 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 5.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH03 (890-3320-1) and PH03A (890-3320-2).

GC VOA
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 laboratory control sample (LCS) associated with preparation batch 880-38261 and analytical batch 880-38217 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Client Sample ID: PH03

Date Collected: 10/27/22 09:40
Date Received: 10/28/22 12:18
Sample Depth: 1

Lab Sample ID: 890-3320-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/31/22 14:07	11/01/22 22:46	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/31/22 14:07	11/01/22 22:46	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/31/22 14:07	11/01/22 22:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/31/22 14:07	11/01/22 22:46	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/31/22 14:07	11/01/22 22:46	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/31/22 14:07	11/01/22 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:46*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/01/22 13:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U *+	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:49	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*10/31/22 10:25*	*10/31/22 17:49*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/31/22 10:25*	*10/31/22 17:49*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**420**		4.96		mg/Kg			11/01/22 23:05	1

Client Sample ID: PH03A

Date Collected: 10/27/22 10:20
Date Received: 10/28/22 12:18
Sample Depth: 3

Lab Sample ID: 890-3320-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 23:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 23:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 23:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/31/22 14:07	11/01/22 23:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 23:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/31/22 14:07	11/01/22 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:06*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Client Sample ID: PH03A
Date Collected: 10/27/22 10:20
Date Received: 10/28/22 12:18
Sample Depth: 3

Lab Sample ID: 890-3320-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/01/22 13:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/31/22 10:25	10/31/22 18:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		10/31/22 10:25	10/31/22 18:10	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/31/22 10:25	10/31/22 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:10*	*1*
o-Terphenyl	*107*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:10*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**161**		5.04		mg/Kg			11/01/22 23:10	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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)										
890-3320-1	PH03	93	78										
890-3320-1 MS	PH03	99	109										
890-3320-1 MSD	PH03	102	105										
890-3320-2	PH03A	93	89										
LCS 880-38293/1-A	Lab Control Sample	90	96										
LCSD 880-38293/2-A	Lab Control Sample Dup	94	95										
MB 880-38293/5-A	Method Blank	79	94										
MB 880-38298/5-A	Method Blank	79	91										

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)										
890-3320-1	PH03	83	95										
890-3320-2	PH03A	96	107										
890-3333-A-1-D MS	Matrix Spike	102	103										
890-3333-A-1-E MSD	Matrix Spike Duplicate	102	104										
LCS 880-38261/2-A	Lab Control Sample	131 S1+	146 S1+										
LCSD 880-38261/3-A	Lab Control Sample Dup	133 S1+	148 S1+										
MB 880-38261/1-A	Method Blank	87	99										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38293/5-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38293

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*

Lab Sample ID: LCS 880-38293/1-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1154		mg/Kg		115	70 - 130		
Toluene			0.100	0.1012		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09494		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1880		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09249		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-38293/2-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1117		mg/Kg		112	70 - 130	3	35
Toluene			0.100	0.09823		mg/Kg		98	70 - 130	3	35
Ethylbenzene			0.100	0.09439		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1882		mg/Kg		94	70 - 130	0	35
o-Xylene			0.100	0.09282		mg/Kg		93	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3320-1 MS
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 38293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0998	0.09361		mg/Kg		94	70 - 130		
Toluene	<0.00202	U	0.0998	0.08271		mg/Kg		83	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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

Lab Sample ID: 890-3320-1 MS
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 38293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0998	0.07970		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1614		mg/Kg		81	70 - 130
o-Xylene	<0.00202	U	0.0998	0.07990		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-3320-1 MSD
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 38293

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.08103		mg/Kg		82	70 - 130	14	35
Toluene	<0.00202	U	0.0990	0.07148		mg/Kg		72	70 - 130	15	35
Ethylbenzene	<0.00202	U	0.0990	0.07120		mg/Kg		72	70 - 130	11	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1437		mg/Kg		73	70 - 130	12	35
o-Xylene	<0.00202	U	0.0990	0.07128		mg/Kg		72	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: MB 880-38298/5-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38298

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*

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

Lab Sample ID: MB 880-38261/1-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38261

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		10/31/22 10:25	10/31/22 09:53	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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

Lab Sample ID: MB 880-38261/1-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38261

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*

Lab Sample ID: LCS 880-38261/2-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	903.3		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1384	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-38261/3-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	944.8		mg/Kg		94	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1439	*+	mg/Kg		144	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*133*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: 890-3333-A-1-D MS
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	863.1		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U *+	997	1014		mg/Kg		100	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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

Lab Sample ID: 890-3333-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38217 — **Prep Batch: 38261**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	861.4		mg/Kg		84	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U *+	999	1025		mg/Kg		101	70 - 130	1	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38262/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/01/22 22:29	1

Lab Sample ID: LCS 880-38262/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.5		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-38262/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3319-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	151		251	401.6		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3319-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	151		251	394.5		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

GC VOA

Prep Batch: 38293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	5035	
890-3320-2	PH03A	Total/NA	Solid	5035	
MB 880-38293/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3320-1 MS	PH03	Total/NA	Solid	5035	
890-3320-1 MSD	PH03	Total/NA	Solid	5035	

Prep Batch: 38298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38298/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	8021B	38293
890-3320-2	PH03A	Total/NA	Solid	8021B	38293
MB 880-38293/5-A	Method Blank	Total/NA	Solid	8021B	38293
MB 880-38298/5-A	Method Blank	Total/NA	Solid	8021B	38298
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	8021B	38293
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38293
890-3320-1 MS	PH03	Total/NA	Solid	8021B	38293
890-3320-1 MSD	PH03	Total/NA	Solid	8021B	38293

Analysis Batch: 38474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	Total BTEX	
890-3320-2	PH03A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	8015B NM	38261
890-3320-2	PH03A	Total/NA	Solid	8015B NM	38261
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015B NM	38261
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38261
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38261
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	38261
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38261

Prep Batch: 38261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	8015NM Prep	
890-3320-2	PH03A	Total/NA	Solid	8015NM Prep	
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

GC Semi VOA

Analysis Batch: 38391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Total/NA	Solid	8015 NM	
890-3320-2	PH03A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Soluble	Solid	DI Leach	
890-3320-2	PH03A	Soluble	Solid	DI Leach	
MB 880-38262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3320-1	PH03	Soluble	Solid	300.0	38262
890-3320-2	PH03A	Soluble	Solid	300.0	38262
MB 880-38262/1-A	Method Blank	Soluble	Solid	300.0	38262
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	300.0	38262
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38262
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	38262
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38262

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Client Sample ID: PH03

Date Collected: 10/27/22 09:40
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3320-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/01/22 22:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38474	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38391	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 17:49	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:05	CH	EET MID

Client Sample ID: PH03A

Date Collected: 10/27/22 10:20
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3320-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/01/22 23:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38474	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38391	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 18:10	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:10	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 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3320-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3320-1	PH03	Solid	10/27/22 09:40	10/28/22 12:18	1
890-3320-2	PH03A	Solid	10/27/22 10:20	10/28/22 12:18	3

Chain of Custody

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

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	
Project Number:	03E1558100	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TWN007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.8	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.2	
Total Containers:		Corrected Temperature:	5.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH03	S	10/27/2022	9:40	1'	Grab	1		x	x	x
PH03A	S	10/27/2022	10:20	3'	Grab	1		x	x	x

890-3320 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
NAPP2222741514
Cost Center:
1667051001
AFE:

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10.28.22 1218			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3320-1
SDG Number: 03E1558100

Login Number: 3320
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3320-1
SDG Number: 03E1558100

Login Number: 3320
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/31/22 09:20 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: 890-3321-1
Laboratory Sample Delivery Group: 03E1558100
Client Project/Site: PLU 27 Brushy Draw 167

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/2/2022 3:58:41 PM

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

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 27 Brushy Draw 167

Laboratory Job ID: 890-3321-1
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Definitions/Glossary

Client: Ensolum Job ID: 890-3321-1
Project/Site: PLU 27 Brushy Draw 167 SDG: 03E1558100

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

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Job ID: 890-3321-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3321-1

Receipt
The samples were received on 10/28/2022 12:18 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 5.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH04 (890-3321-1) and PH04A (890-3321-2).

GC VOA
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 laboratory control sample (LCS) associated with preparation batch 880-38261 and analytical batch 880-38217 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

Client Sample ID: PH04

Date Collected: 10/27/22 09:15
Date Received: 10/28/22 12:18
Sample Depth: 1

Lab Sample ID: 890-3321-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/31/22 14:07	11/01/22 23:27	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/31/22 14:07	11/01/22 23:27	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/31/22 14:07	11/01/22 23:27	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/31/22 14:07	11/01/22 23:27	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/31/22 14:07	11/01/22 23:27	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/31/22 14:07	11/01/22 23:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:27*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/01/22 13:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 18:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U *+	49.8		mg/Kg		10/31/22 10:25	10/31/22 18:32	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/31/22 10:25	10/31/22 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:32*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.2**		5.00		mg/Kg			11/01/22 23:15	1

Client Sample ID: PH04A

Date Collected: 10/27/22 09:20
Date Received: 10/28/22 12:18
Sample Depth: 2

Lab Sample ID: 890-3321-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/31/22 14:07	11/01/22 23:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/31/22 14:07	11/01/22 23:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/31/22 14:07	11/01/22 23:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/31/22 14:07	11/01/22 23:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/31/22 14:07	11/01/22 23:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/31/22 14:07	11/01/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:47*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

Client Sample ID: PH04A
Date Collected: 10/27/22 09:20
Date Received: 10/28/22 12:18
Sample Depth: 2

Lab Sample ID: 890-3321-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/31/22 14:07*	*11/01/22 23:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/02/22 10:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/01/22 13:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 18:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		10/31/22 10:25	10/31/22 18:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:53*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/31/22 10:25*	*10/31/22 18:53*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23.1**		4.95		mg/Kg			11/01/22 23:29	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

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)										
890-3320-A-1-C MS	Matrix Spike	99	109										
890-3320-A-1-D MSD	Matrix Spike Duplicate	102	105										
890-3321-1	PH04	82	85										
890-3321-2	PH04A	99	95										
LCS 880-38293/1-A	Lab Control Sample	90	96										
LCSD 880-38293/2-A	Lab Control Sample Dup	94	95										
MB 880-38293/5-A	Method Blank	79	94										
MB 880-38298/5-A	Method Blank	79	91										

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)										
890-3321-1	PH04	84	98										
890-3321-2	PH04A	87	99										
890-3333-A-1-D MS	Matrix Spike	102	103										
890-3333-A-1-E MSD	Matrix Spike Duplicate	102	104										
LCS 880-38261/2-A	Lab Control Sample	131 S1+	146 S1+										
LCSD 880-38261/3-A	Lab Control Sample Dup	133 S1+	148 S1+										
MB 880-38261/1-A	Method Blank	87	99										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38293/5-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38293

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 14:07	11/01/22 22:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/31/22 14:07	11/01/22 22:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/31/22 14:07*	*11/01/22 22:24*	*1*

Lab Sample ID: LCS 880-38293/1-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1154		mg/Kg		115	70 - 130		
Toluene			0.100	0.1012		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09494		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1880		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09249		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-38293/2-A
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1117		mg/Kg		112	70 - 130	3	35
Toluene			0.100	0.09823		mg/Kg		98	70 - 130	3	35
Ethylbenzene			0.100	0.09439		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1882		mg/Kg		94	70 - 130	0	35
o-Xylene			0.100	0.09282		mg/Kg		93	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3320-A-1-C MS
Matrix: Solid
Analysis Batch: 38318

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38293

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0998	0.09361		mg/Kg		94	70 - 130		
Toluene	<0.00202	U	0.0998	0.08271		mg/Kg		83	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

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

Lab Sample ID: 890-3320-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0998	0.07970		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1614		mg/Kg		81	70 - 130
o-Xylene	<0.00202	U	0.0998	0.07990		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-3320-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.08103		mg/Kg		82	70 - 130	14	35
Toluene	<0.00202	U	0.0990	0.07148		mg/Kg		72	70 - 130	15	35
Ethylbenzene	<0.00202	U	0.0990	0.07120		mg/Kg		72	70 - 130	11	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1437		mg/Kg		73	70 - 130	12	35
o-Xylene	<0.00202	U	0.0990	0.07128		mg/Kg		72	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: MB 880-38298/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38318 — **Prep Batch: 38298**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/31/22 17:00	11/01/22 11:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/31/22 17:00	11/01/22 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/31/22 17:00*	*11/01/22 11:40*	*1*

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

Lab Sample ID: MB 880-38261/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38217 — **Prep Batch: 38261**

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		10/31/22 10:25	10/31/22 09:53	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-38261/1-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38261

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/31/22 10:25	10/31/22 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/31/22 10:25*	*10/31/22 09:53*	*1*

Lab Sample ID: LCS 880-38261/2-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	903.3		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1384	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-38261/3-A
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38261

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	944.8		mg/Kg		94	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1439	*+	mg/Kg		144	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*133*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: 890-3333-A-1-D MS
Matrix: Solid
Analysis Batch: 38217

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	863.1		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U *+	997	1014		mg/Kg		100	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

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

Lab Sample ID: 890-3333-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38217 — **Prep Batch: 38261**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	861.4		mg/Kg		84	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U *+	999	1025		mg/Kg		101	70 - 130	1	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38262/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/01/22 22:29	1

Lab Sample ID: LCS 880-38262/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.5		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-38262/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3319-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	151		251	401.6		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3319-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	151		251	394.5		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

GC VOA

Prep Batch: 38293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	5035	
890-3321-2	PH04A	Total/NA	Solid	5035	
MB 880-38293/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3320-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3320-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38298/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	8021B	38293
890-3321-2	PH04A	Total/NA	Solid	8021B	38293
MB 880-38293/5-A	Method Blank	Total/NA	Solid	8021B	38293
MB 880-38298/5-A	Method Blank	Total/NA	Solid	8021B	38298
LCS 880-38293/1-A	Lab Control Sample	Total/NA	Solid	8021B	38293
LCSD 880-38293/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38293
890-3320-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	38293
890-3320-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38293

Analysis Batch: 38475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	Total BTEX	
890-3321-2	PH04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	8015B NM	38261
890-3321-2	PH04A	Total/NA	Solid	8015B NM	38261
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015B NM	38261
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38261
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38261
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	38261
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38261

Prep Batch: 38261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	8015NM Prep	
890-3321-2	PH04A	Total/NA	Solid	8015NM Prep	
MB 880-38261/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38261/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38261/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3333-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3333-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

GC Semi VOA

Analysis Batch: 38392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Total/NA	Solid	8015 NM	
890-3321-2	PH04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Soluble	Solid	DI Leach	
890-3321-2	PH04A	Soluble	Solid	DI Leach	
MB 880-38262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3321-1	PH04	Soluble	Solid	300.0	38262
890-3321-2	PH04A	Soluble	Solid	300.0	38262
MB 880-38262/1-A	Method Blank	Soluble	Solid	300.0	38262
LCS 880-38262/2-A	Lab Control Sample	Soluble	Solid	300.0	38262
LCSD 880-38262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38262
890-3319-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	38262
890-3319-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38262

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

Client Sample ID: PH04

Date Collected: 10/27/22 09:15
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3321-1

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			5.05 g	5 mL	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/01/22 23:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38475	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38392	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 18:32	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:15	CH	EET MID

Client Sample ID: PH04A

Date Collected: 10/27/22 09:20
Date Received: 10/28/22 12:18

Lab Sample ID: 890-3321-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	38293	10/31/22 14:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38318	11/01/22 23:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38475	11/02/22 10:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38392	11/01/22 13:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38261	10/31/22 10:25	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38217	10/31/22 18:53	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	38262	10/31/22 10:26	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38428	11/01/22 23:29	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 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

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 27 Brushy Draw 167

Job ID: 890-3321-1
SDG: 03E1558100

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3321-1	PH04	Solid	10/27/22 09:15	10/28/22 12:18	1
890-3321-2	PH04A	Solid	10/27/22 09:20	10/28/22 12:18	2

Chain of Custody

eurofins | Environment Testing | Xenco

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 167	Turn Around	Pres. Code
Project Number:	03E1558100	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR#mcc07	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.2	
Total Containers:		Corrected Temperature:	5.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH04	S	10/27/2022	9:15	1'	Grab	1	x	x	x
PH04A	S	10/27/2022	9:20	2'	Grab	1	x	x	x

890-3321 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
NAPP2222741514
Cost Center:
1667051001
AFE:

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.28.22 1215	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3321-1
SDG Number: 03E1558100

Login Number: 3321
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3321-1
SDG Number: 03E1558100

Login Number: 3321
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/31/22 09:20 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Green, Garrett J
To: ocd.enviro@emnrd.nm.gov; Hamlet, Robert, EMNRD; Bratcher, Michael, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 10/24/22 - 10/28/22)
Date: Friday, October 21, 2022 1:10:30 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 24, 2022.

Monday
- Elk Wallow CDP/ nAPP2223831434

Tuesday
- Elk Wallow CDP/ nAPP2223831434

Wednesday
- PLU PC 17/ nAPP2223832773

Thursday
- JRU DI 11 Ekalaka 823H/ nAPP2224527297
- Poker Lake Unit 409/ nAPP2223751933
- PLU 27 Brushy Draw 167H / nAPP2222741514

Friday
- JRU DI 11 Ekalaka 823H/ nAPP2224527297
- Poker Lake Unit 409/ nAPP2223751933
- PLU 27 Brushy Draw 167H / nAPP2222741514

Thank you!

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

ENSOLUM

APPENDIX F

SDS for Friction Reducer

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

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End of Safety Data Sheet

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 171197

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 171197
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2222741514 PLU 27 BRUSHY DRAW 167H, thank you. This closure is approved.	4/4/2023