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	NAPP2316446382
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 32.20976 Longitude -103.85272
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 23 Dog Town Draw 154H	Site Type Production Well
Date Release Discovered 06/02/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
C	23	24S	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) 29.00	Volume Recovered (bbls) 10.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: During pump swap incorrect pumping unit was closed causing fluids to release to containment and pad, All contained fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2316446382
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@emnrd.nm.gov, mike.bratcher@emnrd.nm.gov, Robert.Hamlet@emnrd.nm.gov, and Jocelyn.Harimon@emnrd.nm.gov on Tuesday, June 6, 2023 12:35 PM vie 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: 6/13/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 06/13/2023

Location:	PLU 13 Dog Town Draw 154	
Spill Date:	6/2/2023	

Area 1		
Approximate Area =	56.15	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	10.00	bbls

Area 2		
Approximate Area =	4267.00	sq. ft.
Average Saturation (or depth) of spill =	2.00	inches

Average Porosity Factor =	0.15	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	19.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**29.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**10.00**	**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: 227037
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	6/13/2023

Incident ID	NAPP2316446382
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>105 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2316446382
District RP	
Facility ID	
Application ID	

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

Printed Name: Garrett Green Title: SSHE Coordinator

Signature: Date: Nov 22 2023

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

OCD Only

Received by: Shelly Wells Date: 11/22/2023

Incident ID	NAPP2316446382
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.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] 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)

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

[X] 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: SSHE Coordinator

Signature:  Date: Nov 22 2023

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

OCD Only

Received by: Shelly Wells Date: 11/22/2023

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

November 21, 2023

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

Re: Closure Request
PLU 23 Dog Town Draw 154H
Incident Number nAPP2316446382
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment, delineation, and soil sampling activities performed at the PLU 23 Dog Town Draw 154H (Site). The purpose of the assessment, delineation, and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a produced water release at the Site. Based on the delineation activities and soil sample laboratory analytical results, XTO is submitting this Closure Request and requesting no further action for Incident Number nAPP2316446382.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit C, Section 23, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20976°, -103.85272°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management.

On June 2, 2023, during drilling operations, the incorrect pumping unit was closed while swapping pumps, causing approximately 29 barrels (bbls) of produced water to release into the temporary lined containment and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 10 bbls of produced water were recovered from within the containment. XTO reported the release immediately via email to the New Mexico Oil Conservation Division (NMOCD) and submitted on a Release Notification Form C-141 (Form C-141) on June 13, 2023. The release was assigned Incident Number nAPP2316446382.

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/soil boring with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) soil boring C-04575, located approximately 0.2 miles northeast of the Site. The soil boring was drilled during January 2022

to a total depth of 105 feet bgs, and no groundwater was encountered. The soil boring was subsequently plugged following NMOSE procedures. 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 is greater than 300 feet from 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

On September 21, 2023, once drilling operations were complete, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. The temporary lined containment had been removed at the time of the Site visit. Assessment soil samples SS01 through SS03 were collected within the documented release extent, including beneath the former containment, at a depth of 0.5 feet bgs to assess surficial soil within the release. Assessment soil samples SS04 through SS07 were collected around the release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included as 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 concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for assessment soil samples SS01 through SS03, collected within the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for assessment samples SS04 through SS07, collected around the release extent, were compliant with the most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Based on the laboratory analytical results, additional assessment activities were warranted to delineate the vertical extent of the release. Laboratory analytical results are summarized on the attached Table 1.

DELINEATION ACTIVITIES

On October 19, 2023, Ensolum personnel returned to the Site to delineate the vertical extent of the release. Boreholes BH01 through BH03 were advanced via hand auger at the location of assessment samples SS01 through SS03. The boreholes were advanced to depths ranging from 1-foot to 2 feet bgs. Soil from the boreholes was field screened at 1-foot intervals for VOCs and chloride. Final depth of the boreholes was determined by field screening results indicating compliance with the most stringent Table I Closure Criteria or hand auger refusal (BH03). Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. Discrete delineation soil samples were collected from the boreholes at depths ranging from 1-foot to 2 feet bgs. The delineation soil samples were collected, handled, and analyzed following the same procedures described above. The delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included as Appendix B.

Laboratory analytical results for the delineation soil samples collected from boreholes BH01 through BH03 indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, the final depth delineation sample from boreholes BH01 and BH02, collected at 2 feet bgs, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and defined the vertical extent of the release. Laboratory analytical results are summarized in Table 1 and the complete analytical reports are included as Appendix D. Based on laboratory analytical results for the assessment and delineation soil samples, no further remediation is warranted at this time.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the June 2, 2023, produced water release. Laboratory analytical results for the assessment and delineation soil samples, collected within and around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, the release was laterally and vertically delineated to below the most stringent Table I Closure Criteria. Based on the soil sample laboratory analytical results, no further remediation is required at this time. However, an estimated 285 cubic yards of soil exceeding reclamation requirements of NMAC 19.15.29.13.D (1) remain in-place across the 3,820 square foot release area to a maximum depth of 2 feet bgs. XTO will complete final removal of the soil exceeding reclamation requirements during plugging and abandonment of the wells and final reclamation of the well pad.

Initial response efforts and delineation of the release have mitigated impacts at this Site. Depth to groundwater is greater than 100 feet bgs and no sensitive receptors were identified near the release extent. XTO believes the remedial actions completed at the Site are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number nAPP2316446382. NMOCD notifications are included in Appendix E.

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

Sincerely,
Ensolum, LLC

Aimee Cole
Senior Managing Scientist

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

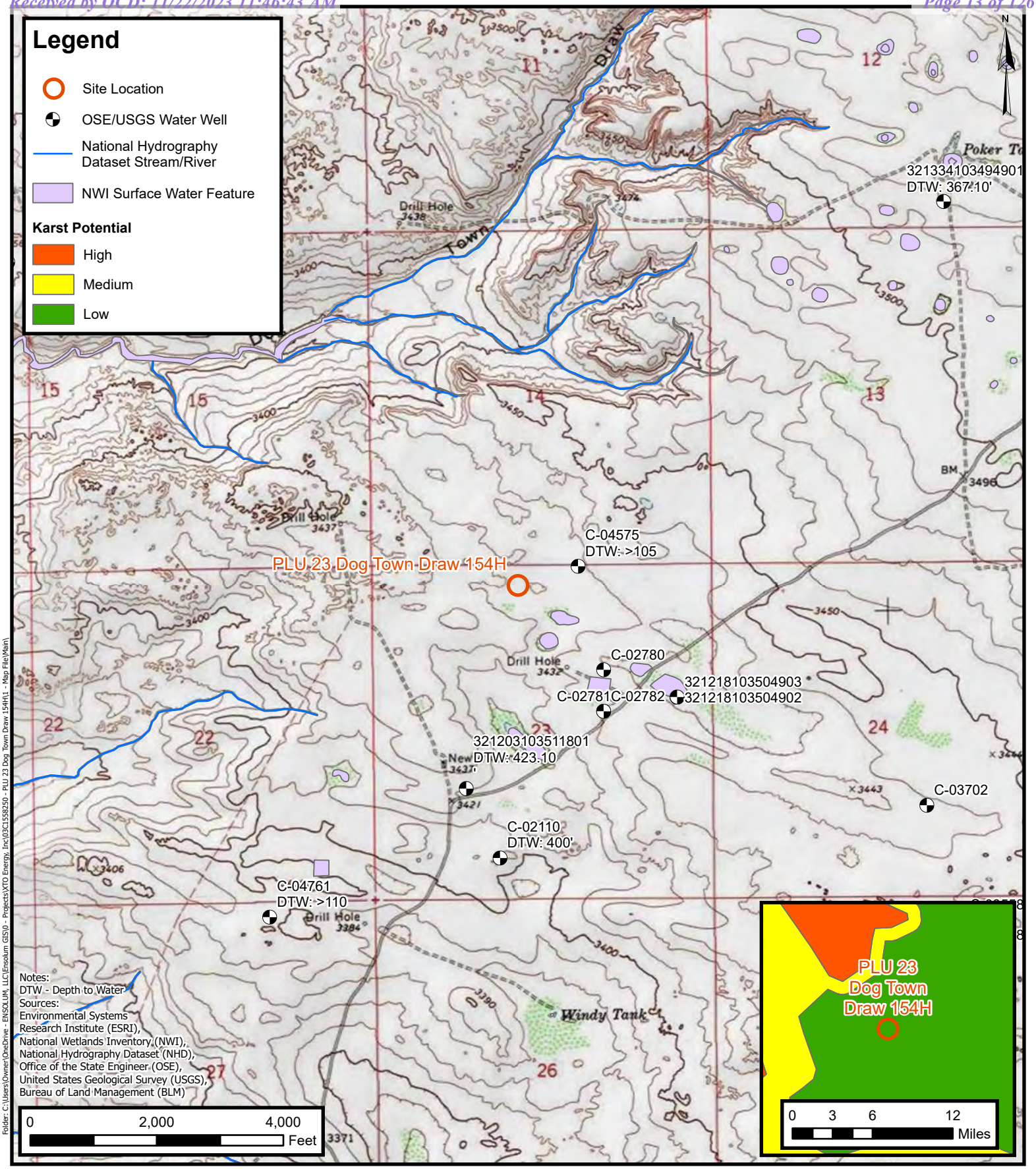
cc: Garrett Green, XTO
Tommee Lambert, XTO
Bureau of Land Management

Appendices:

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

ENSOLUM

FIGURES



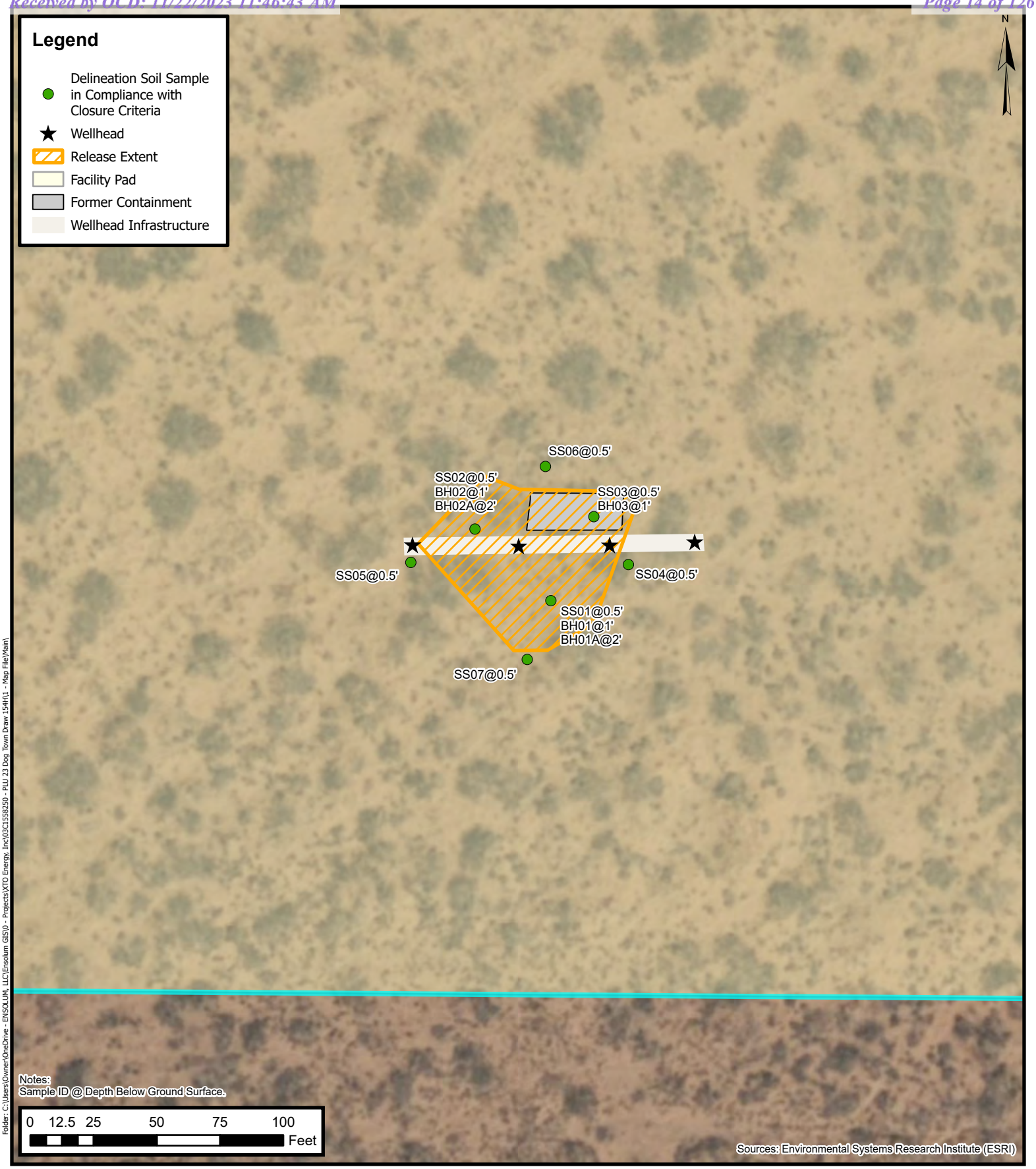
Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558250 - PLU 23 Dog Town Draw 154H\1 - Map File\Main\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 23 Dog Town Draw 154H
Incident Number: nAPP2316446382
Unit C, Sec 23, T24S, R30E
Eddy County, New Mexico

FIGURE 1



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Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
PLU 23 Dog Town Draw 154H
Incident Number: nAPP2316446382
Unit C, Sec 23, T24S, R30E
Eddy Co, New Mexico, United States

FIGURE 2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 23 Dog Town Draw 154H
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Assessment and Delineation Soil Samples										
SS01	09/21/2023	0.5	<0.00199	<0.00398	<49.8	84.0	<49.8	84.0	84.0	17,400
BH01	10/19/2023	1	<0.00202	<0.00403	<50.1	<50.1	<50.1	<50.1	<50.1	689
BH01A	10/19/2023	2	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	240
SS02	09/21/2023	0.5	<0.00200	<0.00399	<49.8	80.6	<49.8	80.6	80.6	7,490
BH02	10/19/2023	1	<0.00200	<0.00399	<50.3	120	<50.3	120	120	582
BH02A	10/19/2023	2	<0.00201	<0.00402	<49.7	<49.7	<49.7	<49.7	<49.7	231
SS03	09/21/2023	0.5	<0.00200	<0.00401	<49.6	339	<49.6	339	339	12,100
BH03	10/19/2023	1	<0.00200	<0.00401	<49.9	481	<49.9	481	481	133
SS04	09/21/2023	0.5	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	146
SS05	09/21/2023	0.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	231
SS06	10/19/2023	0.5	<0.00199	<0.00398	<49.9	56.2	<49.9	56.2	56.2	181
SS07	10/19/2023	0.5	<0.00198	<0.00396	<50.3	54.3	<50.3	54.3	54.3	182

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code

ENSOLUM

APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT JAN 24 2022 PM3:00

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4575

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	12	38.03	N
	LONGITUDE	103	50	58.70	W

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

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

NW NE Sec. 23 T24S R30E, NMPM

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)
1-4-2022	1-4-2022	temporary well material	105	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	105	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4575	POD NO. 1	TRN NO. 709414
LOCATION 2-1-1 24S-30E-23	WELL TAG ID NO. —	PAGE 1 OF 2

MON

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	1	1	Caliche, White, Dry	Y ✓ N	
1	20	19	Sand, very fine grained, well graded, with caliche, Reddish Brown-Light Brown	Y N	
20	30	20	Caliche, consolidated with silt and some gravel, Off-White, Dry	Y ✓ N	
30	50	20	Sand, very fine grained, well graded, with gravel, Light Brown	Y ✓ N	
50	75	25	Sand, very fine grained, well graded, with gravel, Reddish Brown, slight moist	Y ✓ N	
75	105	30	Sand, very fine grained, poorly graded, Reddish Brown, slight moist	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.

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

Shane Eldridge, Cameron Pruitt, Carmelo Trevino

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 — 1/21/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4573	POD NO. 1	TRN NO. 709414	
LOCATION 2-1-1 24S-30E-23		WELL TAG ID NO.	PAGE 2 OF 2

MON

OSE_Well Record and Log_-forsign

Final Audit Report 2022-01-22

Created:	2022-01-21
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAHFW29aZiQH1D931B0LxyAz3o1wYi88ri

"OSE_Well Record and Log_-forsign" History

OSE DIT JAN 24 2022 PM3:00

Document created by Lucas Middleton (lucas@atkinseng.com)
2022-01-21 - 10:47:34 PM GMT- IP address: 69.21.248.123

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2022-01-21 - 10:48:19 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2022-01-21 - 10:49:13 PM GMT- IP address: 64.90.153.232

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2022-01-22 - 0:16:23 AM GMT - Time Source: server- IP address: 64.90.153.232

Agreement completed.
2022-01-22 - 0:16:23 AM GMT

Adobe Sign

ENSOLUM

APPENDIX B

Photographic Log

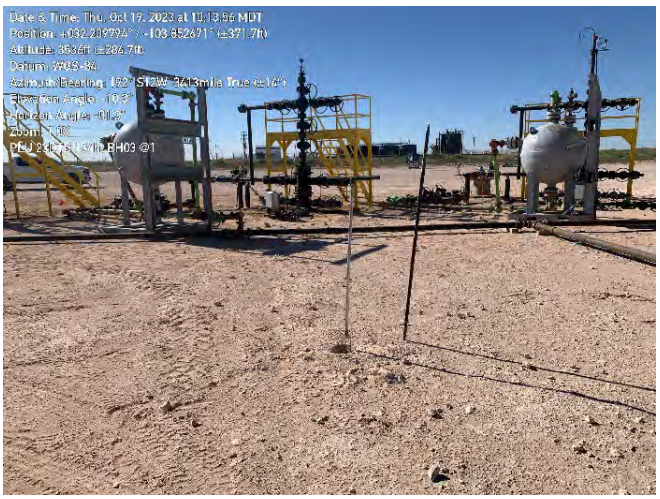
ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 23 Dog Town Draw 154H
Incident Number nAPP2316446382

Photograph 1 Date: 6/2/2023
Description Release within temporary containment.
View: East

Photograph 2 Date: 9/21/2023
Description: Release area during initial assessment.
View: South

Photograph 3 Date: 10/19/2023
Description Release area during delineation activities.
View: East



Photograph 4 Date: 10/19/2023
Description: Release area during delineation activities.
View: South

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: BH01	Date: 10/19/2023
	Site Name: PLU 23 Dog Town Draw 154H	
	Incident Number: nAPP2316446382	
	Job Number: 03C1558250	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates:	Hole Diameter: 6"	Total Depth: 2' bgs

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. +40% chloride correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	34529	36.2	Y	SS01	0.5		CCHE	CALICHE, pad material,
D	532	0.0	N	BH01	1	1		
D	212	0.0	N	BH01A	2	2		

Total depth @ 2 feet bgs.

ENSOLUM

	Sample Name: BH02	Date: 10/19/2023
	Site Name: PLU 23 Dog Town Draw 154H	
	Incident Number: nAPP2316446382	
	Job Number: 03C1558250	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates:	Hole Diameter: 6"	Total Depth: 2' bgs

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. +40% chloride correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	15876	21.7	Y	SS02	0.5		CCHE	CALICHE, pad material,
D	572	0.0	N	BH02	1	1		
D	273	0.0	N	BH02A	2	2		

Total depth @ 2 feet bgs.

ENSOLUM

	Sample Name: BH03	Date: 10/19/2023
	Site Name: PLU 23 Dog Town Draw 154H	
	Incident Number: nAPP2316446382	
	Job Number: 03C1558250	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates:	Hole Diameter: 6"	Total Depth: 1' bgs

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. +40% chloride correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	>34529	42.3	Y	SS03	0.5		CCHE	CALICHE, pad material,
D	<168	0	N	BH03	1	1		

Total depth at 1 foot bgs/refual with hand auger.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/2/2023 4:10:47 PM

JOB DESCRIPTION

PLU 23 Dog Town Draw 154H
SDG NUMBER 32.20976,-103.85272

JOB NUMBER

890-5323-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

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

Authorization

Generated
10/2/2023 4:10:47 PM

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

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Laboratory Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Table of Contents

Definitions/Glossary

Client: Ensolum
Job ID: 890-5323-1
Project/Site: PLU 23 Dog Town Draw 154H
SDG: 32.20976,-103.85272

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Job ID: 890-5323-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5323-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/22/2023 8:08 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 2.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-5323-1), SS02 (890-5323-2) and SS03 (890-5323-3).

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63582 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: The matrix spike (MS) and/or matrix spike duplicate (MSD) recovery for preparation batch 880-63241 and analytical batch 880-63582 was outside control limits for the following analyte(s): m-Xylene & p-Xylene. Results may be biased high because this analyte is a common laboratory solvent and contaminant.

Method 8021B: The laboratory control sample (LCS) for preparation batch 880-63241 and analytical batch 880-63582 recovered outside control limits for the following analytes: o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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 spiking solution was inadvertently omitted during the extraction process for the laboratory control sample duplicate (LCSD) associated with preparation batch 880-63229; therefore, percent recoveries are unavailable. 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
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-63262 and analytical batch 880-63423 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 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Client Sample ID: SS01

Lab Sample ID: 890-5323-1
Matrix: Solid
Date Collected: 09/21/23 11:30
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/25/23 15:04	09/30/23 10:05	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/25/23 15:04	09/30/23 10:05	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/25/23 15:04	09/30/23 10:05	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		09/25/23 15:04	09/30/23 10:05	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/25/23 15:04	09/30/23 10:05	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/25/23 15:04	09/30/23 10:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:05*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:05*	*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			09/30/23 10:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**84.0**		49.8		mg/Kg			09/26/23 03:37	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 *- *1	49.8		mg/Kg		09/25/23 12:16	09/26/23 03:37	1
Diesel Range Organics (Over C10-C28)	**84.0**	***- *1**	49.8		mg/Kg		09/25/23 12:16	09/26/23 03:37	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/25/23 12:16	09/26/23 03:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*09/25/23 12:16*	*09/26/23 03:37*	*1*
o-Terphenyl	*86*		*70 - 130*	*09/25/23 12:16*	*09/26/23 03:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17400**		100		mg/Kg			09/27/23 15:43	20

Client Sample ID: SS02

Lab Sample ID: 890-5323-2
Matrix: Solid
Date Collected: 09/21/23 11:35
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

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		09/25/23 15:04	09/30/23 10:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 10:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 10:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/25/23 15:04	09/30/23 10:26	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/25/23 15:04	09/30/23 10:26	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/25/23 15:04	09/30/23 10:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:26*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Client Sample ID: SS02

Date Collected: 09/21/23 11:35
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

Lab Sample ID: 890-5323-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:26*	*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			09/30/23 10:26	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**80.6**		49.8	mg/Kg			09/26/23 03:58	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 *- *1	49.8	mg/Kg		09/25/23 12:16	09/26/23 03:58	1
Diesel Range Organics (Over C10-C28)	**80.6**	***- *1**	49.8	mg/Kg		09/25/23 12:16	09/26/23 03:58	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/25/23 12:16	09/26/23 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/25/23 12:16*	*09/26/23 03:58*	*1*
o-Terphenyl	*82*		*70 - 130*	*09/25/23 12:16*	*09/26/23 03:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7490**		50.1	mg/Kg			09/27/23 15:50	10

Client Sample ID: SS03

Date Collected: 09/21/23 11:40
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

Lab Sample ID: 890-5323-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/25/23 15:04	09/30/23 10:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/25/23 15:04	09/30/23 10:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/25/23 15:04	09/30/23 10:47	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/25/23 15:04	09/30/23 10:47	1
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		09/25/23 15:04	09/30/23 10:47	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/25/23 15:04	09/30/23 10:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:47*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*09/25/23 15:04*	*09/30/23 10:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			09/30/23 10:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**339**		49.6	mg/Kg			09/26/23 04:18	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Client Sample ID: SS03

Date Collected: 09/21/23 11:40
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

Lab Sample ID: 890-5323-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U *- *1	49.6		mg/Kg		09/25/23 12:16	09/26/23 04:18	1
Diesel Range Organics (Over C10-C28)	**339**	***- *1**	49.6		mg/Kg		09/25/23 12:16	09/26/23 04:18	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/25/23 12:16	09/26/23 04:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:18*	*1*
o-Terphenyl	*85*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12100**		100		mg/Kg			09/27/23 15:56	20

Surrogate Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

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)
890-5323-1	SS01	86	77
890-5323-1 MS	SS01	118	111
890-5323-1 MSD	SS01	118	109
890-5323-2	SS02	90	73
890-5323-3	SS03	89	74
LCS 880-63241/1-A	Lab Control Sample	125	114
LCSD 880-63241/2-A	Lab Control Sample Dup	120	105
MB 880-63241/5-A	Method Blank	74	86
MB 880-63561/5-A	Method Blank	70	98

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)
890-5312-A-1-C MS	Matrix Spike	91	84
890-5312-A-1-D MSD	Matrix Spike Duplicate	91	86
890-5323-1	SS01	79	86
890-5323-2	SS02	77	82
890-5323-3	SS03	80	85
LCS 880-63229/2-A	Lab Control Sample	93	99
LCSD 880-63229/3-A	Lab Control Sample Dup	6 S1-	3 S1-
MB 880-63229/1-A	Method Blank	94	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-63241/5-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63241

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/25/23 15:04	09/30/23 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*09/25/23 15:04*	*09/30/23 09:44*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*09/25/23 15:04*	*09/30/23 09:44*	*1*

Lab Sample ID: LCS 880-63241/1-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1056		mg/Kg		106	70 - 130		
Toluene			0.100	0.1028		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09895		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2063		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1377	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-63241/2-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1011		mg/Kg		101	70 - 130	4	35
Toluene			0.100	0.1004		mg/Kg		100	70 - 130	2	35
Ethylbenzene			0.100	0.09835		mg/Kg		98	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2043		mg/Kg		102	70 - 130	1	35
o-Xylene			0.100	0.1162		mg/Kg		116	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-5323-1 MS
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0998	0.09021		mg/Kg		90	70 - 130		
Toluene	<0.00199	U	0.0998	0.08420		mg/Kg		84	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: 890-5323-1 MS
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0998	0.07776		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1505		mg/Kg		75	70 - 130
o-Xylene	<0.00199	U *+	0.0998	0.08123		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-5323-1 MSD
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08527		mg/Kg		86	70 - 130	6	35
Toluene	<0.00199	U	0.0996	0.07934		mg/Kg		80	70 - 130	6	35
Ethylbenzene	<0.00199	U	0.0996	0.07440		mg/Kg		75	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1378	F1	mg/Kg		69	70 - 130	9	35
o-Xylene	<0.00199	U *+	0.0996	0.07353		mg/Kg		74	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: MB 880-63561/5-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63561

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/28/23 17:43	09/29/23 23:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*09/28/23 17:43*	*09/29/23 23:06*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/28/23 17:43*	*09/29/23 23:06*	*1*

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/25/23 12:16	09/25/23 21:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*

Lab Sample ID: LCS 880-63229/2-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	905.7		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	963.3		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-63229/3-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	264.5	*- *1	mg/Kg		26	70 - 130	110	20
Diesel Range Organics (Over C10-C28)			1000	33.12	J *- *1	mg/Kg		3	70 - 130	187	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*6*	*S1-*	*70 - 130*
o-Terphenyl	*3*	*S1-*	*70 - 130*

Lab Sample ID: 890-5312-A-1-C MS
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	1010	744.6		mg/Kg		74	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	769.6		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: 890-5312-A-1-D MSD
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63229

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	<49.8	U *- *1	1010	757.1		mg/Kg		75	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	792.6		mg/Kg		78	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63262/1-A
Matrix: Solid
Analysis Batch: 63423

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			09/27/23 13:55	1

Lab Sample ID: LCS 880-63262/2-A
Matrix: Solid
Analysis Batch: 63423

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.8		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-63262/3-A
Matrix: Solid
Analysis Batch: 63423

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	240.4		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 880-33526-A-31-D MS
Matrix: Solid
Analysis Batch: 63423

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	503	F1	253	655.8	F1	mg/Kg		61	90 - 110		

Lab Sample ID: 880-33526-A-31-E MSD
Matrix: Solid
Analysis Batch: 63423

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	503	F1	253	648.4	F1	mg/Kg		58	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

GC VOA

Prep Batch: 63241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	5035	
890-5323-2	SS02	Total/NA	Solid	5035	
890-5323-3	SS03	Total/NA	Solid	5035	
MB 880-63241/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63241/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63241/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5323-1 MS	SS01	Total/NA	Solid	5035	
890-5323-1 MSD	SS01	Total/NA	Solid	5035	

Prep Batch: 63561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63561/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 63582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	8021B	63241
890-5323-2	SS02	Total/NA	Solid	8021B	63241
890-5323-3	SS03	Total/NA	Solid	8021B	63241
MB 880-63241/5-A	Method Blank	Total/NA	Solid	8021B	63241
MB 880-63561/5-A	Method Blank	Total/NA	Solid	8021B	63561
LCS 880-63241/1-A	Lab Control Sample	Total/NA	Solid	8021B	63241
LCSD 880-63241/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63241
890-5323-1 MS	SS01	Total/NA	Solid	8021B	63241
890-5323-1 MSD	SS01	Total/NA	Solid	8021B	63241

Analysis Batch: 63809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	Total BTEX	
890-5323-2	SS02	Total/NA	Solid	Total BTEX	
890-5323-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 63178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	8015B NM	63229
890-5323-2	SS02	Total/NA	Solid	8015B NM	63229
890-5323-3	SS03	Total/NA	Solid	8015B NM	63229
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015B NM	63229
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63229
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63229
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	63229
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63229

Prep Batch: 63229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	8015NM Prep	
890-5323-2	SS02	Total/NA	Solid	8015NM Prep	
890-5323-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

GC Semi VOA (Continued)

Prep Batch: 63229 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 63292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Total/NA	Solid	8015 NM	
890-5323-2	SS02	Total/NA	Solid	8015 NM	
890-5323-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 63262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Soluble	Solid	DI Leach	
890-5323-2	SS02	Soluble	Solid	DI Leach	
890-5323-3	SS03	Soluble	Solid	DI Leach	
MB 880-63262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33526-A-31-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-33526-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 63423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5323-1	SS01	Soluble	Solid	300.0	63262
890-5323-2	SS02	Soluble	Solid	300.0	63262
890-5323-3	SS03	Soluble	Solid	300.0	63262
MB 880-63262/1-A	Method Blank	Soluble	Solid	300.0	63262
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	300.0	63262
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63262
880-33526-A-31-D MS	Matrix Spike	Soluble	Solid	300.0	63262
880-33526-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	63262

Lab Chronicle

Client: Ensolum
Job ID: 890-5323-1
Project/Site: PLU 23 Dog Town Draw 154H
SDG: 32.20976,-103.85272

Client Sample ID: SS01
Lab Sample ID: 890-5323-1
Date Collected: 09/21/23 11:30
Matrix: Solid
Date Received: 09/22/23 08:08

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	63241	09/25/23 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63582	09/30/23 10:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63809	09/30/23 10:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			63292	09/26/23 03:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	63229	09/25/23 12:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63178	09/26/23 03:37	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63262	09/25/23 15:49	SMC	EET MID
Soluble	Analysis	300.0		20			63423	09/27/23 15:43	CH	EET MID

Client Sample ID: SS02
Lab Sample ID: 890-5323-2
Date Collected: 09/21/23 11:35
Matrix: Solid
Date Received: 09/22/23 08:08

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	63241	09/25/23 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63582	09/30/23 10:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63809	09/30/23 10:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			63292	09/26/23 03:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	63229	09/25/23 12:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63178	09/26/23 03:58	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63262	09/25/23 15:49	SMC	EET MID
Soluble	Analysis	300.0		10			63423	09/27/23 15:50	CH	EET MID

Client Sample ID: SS03
Lab Sample ID: 890-5323-3
Date Collected: 09/21/23 11:40
Matrix: Solid
Date Received: 09/22/23 08:08

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	63241	09/25/23 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63582	09/30/23 10:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63809	09/30/23 10:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			63292	09/26/23 04:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63229	09/25/23 12:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63178	09/26/23 04:18	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63262	09/25/23 15:49	SMC	EET MID
Soluble	Analysis	300.0		20			63423	09/27/23 15:56	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 890-5323-1
Project/Site: PLU 23 Dog Town Draw 154H
SDG: 32.20976,-103.85272

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5323-1
SDG: 32.20976,-103.85272

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5323-1	SS01	Solid	09/21/23 11:30	09/22/23 08:08	0.5'
890-5323-2	SS02	Solid	09/21/23 11:35	09/22/23 08:08	0.5'
890-5323-3	SS03	Solid	09/21/23 11:40	09/22/23 08:08	0.5'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 23 DOG TOWN DRAW 154H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558250	Due Date:	
Project Location:	32.20976, -103.85272	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Meredith Roberts		
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	(Yes) No	Thermometer ID:		TNMOC7
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:		-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:		2.6
Total Containers:		Corrected Temperature:		2.4

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

890-5323 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	Chlorides	TPH
SS01	S	9/21/23	1130	0.5'	G	1		X	X	X
SS02	↓	↓	1135	↓	↓	↓		↓	↓	↓
SS03	↓	↓	1140	↓	↓	↓		↓	↓	↓

Parameters

Sample Comments

Incident #:
nAPP2316446382

Cost Center:
2219811001

mroberts@ensolum.com

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/22 8:08	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5323-1
SDG Number: 32.20976,-103.85272

Login Number: 5323
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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.	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: 890-5323-1
SDG Number: 32.20976,-103.85272

Login Number: 5323
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/25/23 09:54 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/28/2023 11:28:54 AM

JOB DESCRIPTION

PLU 23 Dogtown Draw 154
SDG NUMBER 32.20976,-103.85272

JOB NUMBER

890-5325-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

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

Authorization

Generated
9/28/2023 11:28:54 AM

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

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Laboratory Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Table of Contents

Definitions/Glossary

Client: Ensolum
Job ID: 890-5325-1
Project/Site: PLU 23 Dogtown Draw 154
SDG: 32.20976,-103.85272

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Job ID: 890-5325-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5325-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 9/22/2023 8:08 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 2.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS04 (890-5325-1).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63094 and analytical batch 880-63185 was outside the control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS04 (890-5325-1) and (890-5308-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63185 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63203 and analytical batch 880-63185 was outside the control limits.

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

GC Semi VOA
Method 8015MOD_NM: The spiking solution was inadvertently omitted during the extraction process for the laboratory control sample duplicate (LCSD) associated with preparation batch 880-63229; therefore, percent recoveries are unavailable. 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
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-63262 and analytical batch 880-63423 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 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Client Sample ID: SS04

Date Collected: 09/21/23 11:45
Date Received: 09/22/23 08:08
Sample Depth: 0.5

Lab Sample ID: 890-5325-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/25/23 09:44	09/26/23 09:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/25/23 09:44	09/26/23 09:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/25/23 09:44	09/26/23 09:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/25/23 09:44	09/26/23 09:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/25/23 09:44	09/26/23 09:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/25/23 09:44	09/26/23 09:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*147*	*S1+*	*70 - 130*	*09/25/23 09:44*	*09/26/23 09:19*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/25/23 09:44*	*09/26/23 09:19*	*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			09/26/23 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			09/26/23 04:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U *- *1	50.1		mg/Kg		09/25/23 12:16	09/26/23 04:38	1
Diesel Range Organics (Over C10-C28)	<50.1	U *- *1	50.1		mg/Kg		09/25/23 12:16	09/26/23 04:38	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/25/23 12:16	09/26/23 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:38*	*1*
o-Terphenyl	*81*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		4.97		mg/Kg			09/27/23 16:03	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

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)										
890-5308-A-1-E MS	Matrix Spike	119	105										
890-5308-A-1-F MSD	Matrix Spike Duplicate	133 S1+	92										
890-5325-1	SS04	147 S1+	87										
LCS 880-63203/1-A	Lab Control Sample	121	102										
LCSD 880-63203/2-A	Lab Control Sample Dup	129	110										
MB 880-63094/5-A	Method Blank	68 S1-	90										
MB 880-63203/5-A	Method Blank	68 S1-	92										

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)										
890-5312-A-1-C MS	Matrix Spike	91	84										
890-5312-A-1-D MSD	Matrix Spike Duplicate	91	86										
890-5325-1	SS04	76	81										
LCS 880-63229/2-A	Lab Control Sample	93	99										
LCSD 880-63229/3-A	Lab Control Sample Dup	6 S1-	3 S1-										
MB 880-63229/1-A	Method Blank	94	111										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-63094/5-A
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63094

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/22/23 14:56	09/25/23 11:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/22/23 14:56	09/25/23 11:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/22/23 14:56	09/25/23 11:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*09/22/23 14:56*	*09/25/23 11:44*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/22/23 14:56*	*09/25/23 11:44*	*1*

Lab Sample ID: MB 880-63203/5-A
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63203

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/25/23 09:44	09/26/23 01:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/25/23 09:44	09/26/23 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/25/23 09:44	09/26/23 01:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/25/23 09:44	09/26/23 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/25/23 09:44	09/26/23 01:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/25/23 09:44	09/26/23 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*09/25/23 09:44*	*09/26/23 01:06*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*09/25/23 09:44*	*09/26/23 01:06*	*1*

Lab Sample ID: LCS 880-63203/1-A
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63203

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09860		mg/Kg		99	70 - 130		
Toluene			0.100	0.1098		mg/Kg		110	70 - 130		
Ethylbenzene			0.100	0.1004		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2062		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1076		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-63203/2-A
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63203

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1215		mg/Kg		122	70 - 130	21	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: LCSD 880-63203/2-A
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63203

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1272		mg/Kg		127	70 - 130	15	35
Ethylbenzene			0.100	0.1187		mg/Kg		119	70 - 130	17	35
m-Xylene & p-Xylene			0.200	0.2358		mg/Kg		118	70 - 130	13	35
o-Xylene			0.100	0.1280		mg/Kg		128	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-5308-A-1-E MS
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.1165		mg/Kg		117	70 - 130
Toluene	<0.00200	U	0.0998	0.1103		mg/Kg		110	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.1193		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2356		mg/Kg		118	70 - 130
o-Xylene	<0.00200	U	0.0998	0.1120		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-5308-A-1-F MSD
Matrix: Solid
Analysis Batch: 63185

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1135		mg/Kg		113	70 - 130	3	35
Toluene	<0.00200	U	0.100	0.1258		mg/Kg		126	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.100	0.1036		mg/Kg		102	70 - 130	14	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2324		mg/Kg		116	70 - 130	1	35
o-Xylene	<0.00200	U	0.100	0.1140		mg/Kg		114	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/25/23 12:16	09/25/23 21:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*

Lab Sample ID: LCS 880-63229/2-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	905.7		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	963.3		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-63229/3-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	264.5	*- *1	mg/Kg		26	70 - 130	110	20
Diesel Range Organics (Over C10-C28)			1000	33.12	J *- *1	mg/Kg		3	70 - 130	187	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*6*	*S1-*	*70 - 130*
o-Terphenyl	*3*	*S1-*	*70 - 130*

Lab Sample ID: 890-5312-A-1-C MS
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	1010	744.6		mg/Kg		74	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	769.6		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

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

Lab Sample ID: 890-5312-A-1-D MSD
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63229

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	<49.8	U *- *1	1010	757.1		mg/Kg		75	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	792.6		mg/Kg		78	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63262/1-A
Matrix: Solid
Analysis Batch: 63423

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			09/27/23 13:55	1

Lab Sample ID: LCS 880-63262/2-A
Matrix: Solid
Analysis Batch: 63423

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.8		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-63262/3-A
Matrix: Solid
Analysis Batch: 63423

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	240.4		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 880-33526-A-31-D MS
Matrix: Solid
Analysis Batch: 63423

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	503	F1	253	655.8	F1	mg/Kg		61	90 - 110		

Lab Sample ID: 880-33526-A-31-E MSD
Matrix: Solid
Analysis Batch: 63423

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	503	F1	253	648.4	F1	mg/Kg		58	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

GC VOA

Prep Batch: 63094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63094/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 63185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	8021B	63203
MB 880-63094/5-A	Method Blank	Total/NA	Solid	8021B	63094
MB 880-63203/5-A	Method Blank	Total/NA	Solid	8021B	63203
LCS 880-63203/1-A	Lab Control Sample	Total/NA	Solid	8021B	63203
LCSD 880-63203/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63203
890-5308-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	63203
890-5308-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63203

Prep Batch: 63203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	5035	
MB 880-63203/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63203/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63203/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5308-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-5308-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 63351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 63178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	8015B NM	63229
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015B NM	63229
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63229
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63229
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	63229
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63229

Prep Batch: 63229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 63293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

HPLC/IC

Leach Batch: 63262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Soluble	Solid	DI Leach	
MB 880-63262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-33526-A-31-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-33526-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 63423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5325-1	SS04	Soluble	Solid	300.0	63262
MB 880-63262/1-A	Method Blank	Soluble	Solid	300.0	63262
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	300.0	63262
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63262
880-33526-A-31-D MS	Matrix Spike	Soluble	Solid	300.0	63262
880-33526-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	63262

Lab Chronicle

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Client Sample ID: SS04

Date Collected: 09/21/23 11:45
Date Received: 09/22/23 08:08

Lab Sample ID: 890-5325-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63203	09/25/23 09:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/26/23 09:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63351	09/26/23 09:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			63293	09/26/23 04:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	63229	09/25/23 12:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63178	09/26/23 04:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63262	09/25/23 15:49	SMC	EET MID
Soluble	Analysis	300.0		1			63423	09/27/23 16:03	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
Job ID: 890-5325-1
Project/Site: PLU 23 Dogtown Draw 154
SDG: 32.20976,-103.85272

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154

Job ID: 890-5325-1
SDG: 32.20976,-103.85272

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5325-1	SS04	Solid	09/21/23 11:45	09/22/23 08:08	0.5

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 23 Dog Town Draw 154H	Turn Around	
Project Number:	~~03E2M~~ 03C1558250	☑ Routine ☐ Rush	
Project Location:	32.20976, -103.85272	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	Yes No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWN007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.6
Total Containers:		Corrected Temperature:	2.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	Chlorides	TPH
SS04	S	9/21/23	1145	0.5	G	1		X	X	X

890-5325 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 #:
nAPP2316446382

Cost Center:
2219811001

mroberts@ensolum.com

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/22 8:08	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5325-1
SDG Number: 32.20976,-103.85272

Login Number: 5325
List Number: 1
Creator: Bruns, Shannon

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: 890-5325-1
SDG Number: 32.20976,-103.85272

Login Number: 5325
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/25/23 09:54 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").	False	

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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

PLU 23 Dogtown Draw 154H
SDG NUMBER 32.20976,-103.85272

JOB NUMBER

890-5327-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

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

Authorization

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10/2/2023 4:15:54 PM

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

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Laboratory Job ID: 890-5327-1
SDG: 32.20976,-103.85272

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

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Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5327-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 9/22/2023 8:08 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 2.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-5327-1).

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63582 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: The matrix spike (MS) and/or matrix spike duplicate (MSD) recovery for preparation batch 880-63241 and analytical batch 880-63582 was outside control limits for the following analyte(s): m-Xylene & p-Xylene. Results may be biased high because this analyte is a common laboratory solvent and contaminant.

Method 8021B: The laboratory control sample (LCS) for preparation batch 880-63241 and analytical batch 880-63582 recovered outside control limits for the following analytes: o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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 spiking solution was inadvertently omitted during the extraction process for the laboratory control sample duplicate (LCSD) associated with preparation batch 880-63229; therefore, percent recoveries are unavailable. 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 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

Client Sample ID: SS05

Date Collected: 09/21/23 11:50
Date Received: 09/22/23 08:08
Sample Depth: 0.5'

Lab Sample ID: 890-5327-1

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		09/25/23 15:04	09/30/23 12:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/25/23 15:04	09/30/23 12:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/25/23 15:04	09/30/23 12:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/25/23 15:04	09/30/23 12:08	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/25/23 15:04	09/30/23 12:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/25/23 15:04	09/30/23 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*09/25/23 15:04*	*09/30/23 12:08*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*09/25/23 15:04*	*09/30/23 12:08*	*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			09/30/23 12:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/26/23 04:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U *- *1	50.5		mg/Kg		09/25/23 12:16	09/26/23 04:58	1
Diesel Range Organics (Over C10-C28)	<50.5	U *- *1	50.5		mg/Kg		09/25/23 12:16	09/26/23 04:58	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		09/25/23 12:16	09/26/23 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:58*	*1*
o-Terphenyl	*80*		*70 - 130*	*09/25/23 12:16*	*09/26/23 04:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**231**		5.01		mg/Kg			09/27/23 17:03	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

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)										
890-5323-A-1-B MS	Matrix Spike	118	111										
890-5323-A-1-C MSD	Matrix Spike Duplicate	118	109										
890-5327-1	SS05	75	88										
LCS 880-63241/1-A	Lab Control Sample	125	114										
LCSD 880-63241/2-A	Lab Control Sample Dup	120	105										
MB 880-63241/5-A	Method Blank	74	86										
MB 880-63561/5-A	Method Blank	70	98										

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)										
890-5312-A-1-C MS	Matrix Spike	91	84										
890-5312-A-1-D MSD	Matrix Spike Duplicate	91	86										
890-5327-1	SS05	75	80										
LCS 880-63229/2-A	Lab Control Sample	93	99										
LCSD 880-63229/3-A	Lab Control Sample Dup	6 S1-	3 S1-										
MB 880-63229/1-A	Method Blank	94	111										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-63241/5-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63241

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/25/23 15:04	09/30/23 09:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/25/23 15:04	09/30/23 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*09/25/23 15:04*	*09/30/23 09:44*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*09/25/23 15:04*	*09/30/23 09:44*	*1*

Lab Sample ID: LCS 880-63241/1-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1056		mg/Kg		106	70 - 130		
Toluene			0.100	0.1028		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09895		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2063		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1377	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-63241/2-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1011		mg/Kg		101	70 - 130	4	35
Toluene			0.100	0.1004		mg/Kg		100	70 - 130	2	35
Ethylbenzene			0.100	0.09835		mg/Kg		98	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2043		mg/Kg		102	70 - 130	1	35
o-Xylene			0.100	0.1162		mg/Kg		116	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-5323-A-1-B MS
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0998	0.09021		mg/Kg		90	70 - 130		
Toluene	<0.00199	U	0.0998	0.08420		mg/Kg		84	70 - 130		

QC Sample Results

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

Lab Sample ID: 890-5323-A-1-B MS
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0998	0.07776		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1505		mg/Kg		75	70 - 130
o-Xylene	<0.00199	U *+	0.0998	0.08123		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-5323-A-1-C MSD
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08527		mg/Kg		86	70 - 130	6	35
Toluene	<0.00199	U	0.0996	0.07934		mg/Kg		80	70 - 130	6	35
Ethylbenzene	<0.00199	U	0.0996	0.07440		mg/Kg		75	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1378	F1	mg/Kg		69	70 - 130	9	35
o-Xylene	<0.00199	U *+	0.0996	0.07353		mg/Kg		74	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: MB 880-63561/5-A
Matrix: Solid
Analysis Batch: 63582

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63561

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/28/23 17:43	09/29/23 23:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/28/23 17:43	09/29/23 23:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*09/28/23 17:43*	*09/29/23 23:06*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/28/23 17:43*	*09/29/23 23:06*	*1*

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1

QC Sample Results

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

Lab Sample ID: MB 880-63229/1-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63229

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		09/25/23 12:16	09/25/23 21:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/25/23 12:16	09/25/23 21:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/25/23 12:16*	*09/25/23 21:10*	*1*

Lab Sample ID: LCS 880-63229/2-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	905.7		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	963.3		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-63229/3-A
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63229

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	264.5	*- *1	mg/Kg		26	70 - 130	110	20
Diesel Range Organics (Over C10-C28)			1000	33.12	J *- *1	mg/Kg		3	70 - 130	187	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*6*	*S1-*	*70 - 130*
o-Terphenyl	*3*	*S1-*	*70 - 130*

Lab Sample ID: 890-5312-A-1-C MS
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	1010	744.6		mg/Kg		74	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	769.6		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-5312-A-1-D MSD
Matrix: Solid
Analysis Batch: 63178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63229

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	<49.8	U *- *1	1010	757.1		mg/Kg		75	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	1010	792.6		mg/Kg		78	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63262/1-A
Matrix: Solid
Analysis Batch: 63423

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			09/27/23 13:55	1

Lab Sample ID: LCS 880-63262/2-A
Matrix: Solid
Analysis Batch: 63423

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.8		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-63262/3-A
Matrix: Solid
Analysis Batch: 63423

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	240.4		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-5326-A-2-D MS
Matrix: Solid
Analysis Batch: 63423

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	119		252	385.9		mg/Kg		106	90 - 110		

Lab Sample ID: 890-5326-A-2-E MSD
Matrix: Solid
Analysis Batch: 63423

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	119		252	392.9		mg/Kg		109	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

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GC VOA

Prep Batch: 63241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	5035	
MB 880-63241/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63241/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63241/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5323-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-5323-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 63561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63561/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 63582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	8021B	63241
MB 880-63241/5-A	Method Blank	Total/NA	Solid	8021B	63241
MB 880-63561/5-A	Method Blank	Total/NA	Solid	8021B	63561
LCS 880-63241/1-A	Lab Control Sample	Total/NA	Solid	8021B	63241
LCSD 880-63241/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63241
890-5323-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	63241
890-5323-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63241

Analysis Batch: 63811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 63178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	8015B NM	63229
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015B NM	63229
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63229
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63229
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	63229
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63229

Prep Batch: 63229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-63229/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63229/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5312-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5312-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 63294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

HPLC/IC

Leach Batch: 63262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Soluble	Solid	DI Leach	
MB 880-63262/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5326-A-2-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5326-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 63423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5327-1	SS05	Soluble	Solid	300.0	63262
MB 880-63262/1-A	Method Blank	Soluble	Solid	300.0	63262
LCS 880-63262/2-A	Lab Control Sample	Soluble	Solid	300.0	63262
LCSD 880-63262/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63262
890-5326-A-2-D MS	Matrix Spike	Soluble	Solid	300.0	63262
890-5326-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	63262

Lab Chronicle

Client: Ensolum
Job ID: 890-5327-1
Project/Site: PLU 23 Dogtown Draw 154H
SDG: 32.20976,-103.85272

Client Sample ID: SS05
Lab Sample ID: 890-5327-1

Date Collected: 09/21/23 11:50
Matrix: Solid

Date Received: 09/22/23 08:08

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	63241	09/25/23 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63582	09/30/23 12:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63811	09/30/23 12:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			63294	09/26/23 04:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63229	09/25/23 12:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63178	09/26/23 04:58	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63262	09/25/23 15:49	SMC	EET MID
Soluble	Analysis	300.0		1			63423	09/27/23 17:03	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
Job ID: 890-5327-1
Project/Site: PLU 23 Dogtown Draw 154H
SDG: 32.20976,-103.85272

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 23 Dogtown Draw 154H

Job ID: 890-5327-1
SDG: 32.20976,-103.85272

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5327-1	SS05	Solid	09/21/23 11:50	09/22/23 08:08	0.5'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 23 Dog Town Draw 154H	Turn Around	
Project Number:	D3C158250	☑ Routine ☐ Rush	
Project Location:	32.20976, -103.85272	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.6
Total Containers:		Corrected Temperature:	2.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	Chlorides	TPH	
SS05	S	9/21/23	1150	0.5'	G	1		X	X	X	

890-5327 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 #:
nAPP2316496382

Cost Center:
2219811001

mroberts@ensolum.com

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/22 8:08	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5327-1
SDG Number: 32.20976,-103.85272

Login Number: 5327
List Number: 1
Creator: Bruns, Shannon

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.		
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.	N/A	
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: 890-5327-1
SDG Number: 32.20976,-103.85272

Login Number: 5327
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/25/23 09:54 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/10/2023 8:50:20 AM Revision 1

JOB DESCRIPTION

PLU 23 Dog Town Draw 154H
SDG NUMBER 03C1558250

JOB NUMBER

890-5496-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

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

Authorization

Generated
11/10/2023 8:50:20 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Laboratory Job ID: 890-5496-1
SDG: 03C1558250

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery 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
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 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Job ID: 890-5496-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5496-1

REVISION

The report being provided is a revision of the original report sent on 10/26/2023. The report (revision 1) is being revised due to Per client email, requesting sample ID correction.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/19/2023 3:34 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 -0.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-5496-1), BH01A (890-5496-2), BH02 (890-5496-3), BH02A (890-5496-4), BH03 (890-5496-5), SS06 (890-5496-6) and SS07 (890-5496-7).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BH01A (890-5496-2), BH02 (890-5496-3), BH03 (890-5496-5), SS06 (890-5496-6) and SS07 (890-5496-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-65488 and analytical batch 880-65513 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.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-65395 and analytical batch 880-65434 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS06 (890-5496-6), SS07 (890-5496-7) and (890-5496-A-6-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-65394 and analytical batch 880-65440 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-34703-A-41-C MS) and (880-34703-A-41-D MSD). 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 (MS/MSD) recoveries for preparation batch 880-65394 and analytical batch 880-65440 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference

Case Narrative

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Job ID: 890-5496-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-65479 and analytical batch 880-65494 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 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH01

Date Collected: 10/19/23 09:15
Date Received: 10/19/23 15:34
Sample Depth: 1

Lab Sample ID: 890-5496-1

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		10/23/23 15:15	10/25/23 22:53	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/23/23 15:15	10/25/23 22:53	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/23/23 15:15	10/25/23 22:53	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/23/23 15:15	10/25/23 22:53	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/23/23 15:15	10/25/23 22:53	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/23/23 15:15	10/25/23 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*10/23/23 15:15*	*10/25/23 22:53*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/23/23 15:15*	*10/25/23 22:53*	*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			10/25/23 22:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			10/24/23 17:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		10/23/23 16:06	10/24/23 17:34	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		10/23/23 16:06	10/24/23 17:34	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/23/23 16:06	10/24/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*10/23/23 16:06*	*10/24/23 17:34*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/23/23 16:06*	*10/24/23 17:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**689**	**F1**	5.05		mg/Kg			10/24/23 20:55	1

Client Sample ID: BH01A

Date Collected: 10/19/23 11:15
Date Received: 10/19/23 15:34
Sample Depth: 2

Lab Sample ID: 890-5496-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/25/23 23:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/25/23 23:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/25/23 23:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/23/23 15:15	10/25/23 23:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/25/23 23:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/23/23 15:15	10/25/23 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/23/23 15:15*	*10/25/23 23:13*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH01A

Date Collected: 10/19/23 11:15
Date Received: 10/19/23 15:34
Sample Depth: 2

Lab Sample ID: 890-5496-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*10/23/23 15:15*	*10/25/23 23:13*	*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			10/25/23 23:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			10/24/23 17:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		10/23/23 16:06	10/24/23 17:56	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		10/23/23 16:06	10/24/23 17:56	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		10/23/23 16:06	10/24/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*10/23/23 16:06*	*10/24/23 17:56*	*1*
o-Terphenyl	*90*		*70 - 130*	*10/23/23 16:06*	*10/24/23 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**240**		5.01	mg/Kg			10/24/23 21:15	1

Client Sample ID: BH02

Date Collected: 10/19/23 09:40
Date Received: 10/19/23 15:34
Sample Depth: 1

Lab Sample ID: 890-5496-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/23/23 15:15	10/25/23 23:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/23/23 15:15	10/25/23 23:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/23/23 15:15	10/25/23 23:33	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/23/23 15:15	10/25/23 23:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/23/23 15:15	10/25/23 23:33	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/23/23 15:15	10/25/23 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*10/23/23 15:15*	*10/25/23 23:33*	*1*
1,4-Difluorobenzene (Surr)	*55*	*S1-*	*70 - 130*	*10/23/23 15:15*	*10/25/23 23:33*	*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			10/25/23 23:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**120**		50.3	mg/Kg			10/24/23 18:18	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH02

Date Collected: 10/19/23 09:40
Date Received: 10/19/23 15:34
Sample Depth: 1

Lab Sample ID: 890-5496-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		10/23/23 16:06	10/24/23 18:18	1
Diesel Range Organics (Over C10-C28)	**120**		50.3		mg/Kg		10/23/23 16:06	10/24/23 18:18	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		10/23/23 16:06	10/24/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*10/23/23 16:06*	*10/24/23 18:18*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/23/23 16:06*	*10/24/23 18:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**582**		5.05		mg/Kg			10/24/23 21:22	1

Client Sample ID: BH02A

Date Collected: 10/19/23 11:30
Date Received: 10/19/23 15:34
Sample Depth: 2

Lab Sample ID: 890-5496-4
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		10/23/23 15:15	10/25/23 23:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/23/23 15:15	10/25/23 23:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/23/23 15:15	10/25/23 23:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/23/23 15:15	10/25/23 23:54	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/23/23 15:15	10/25/23 23:54	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/23/23 15:15	10/25/23 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*10/23/23 15:15*	*10/25/23 23:54*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*10/23/23 15:15*	*10/25/23 23:54*	*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			10/25/23 23:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			10/24/23 18:40	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	<49.7	U	49.7		mg/Kg		10/23/23 16:06	10/24/23 18:40	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		10/23/23 16:06	10/24/23 18:40	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		10/23/23 16:06	10/24/23 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/23/23 16:06*	*10/24/23 18:40*	*1*
o-Terphenyl	*100*		*70 - 130*	*10/23/23 16:06*	*10/24/23 18:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH02A

Date Collected: 10/19/23 11:30
Date Received: 10/19/23 15:34
Sample Depth: 2

Lab Sample ID: 890-5496-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	231		5.04		mg/Kg			10/24/23 21:42	1

Client Sample ID: BH03

Date Collected: 10/19/23 10:05
Date Received: 10/19/23 15:34
Sample Depth: 1

Lab Sample ID: 890-5496-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/26/23 00:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/26/23 00:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/26/23 00:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/23/23 15:15	10/26/23 00:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/26/23 00:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/23/23 15:15	10/26/23 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/23/23 15:15*	*10/26/23 00:14*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*10/23/23 15:15*	*10/26/23 00:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/26/23 00:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	481		49.9		mg/Kg			10/24/23 19:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/23/23 16:06	10/24/23 19:01	1
Diesel Range Organics (Over C10-C28)	481		49.9		mg/Kg		10/23/23 16:06	10/24/23 19:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/23/23 16:06	10/24/23 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*10/23/23 16:06*	*10/24/23 19:01*	*1*
o-Terphenyl	*94*		*70 - 130*	*10/23/23 16:06*	*10/24/23 19:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	133		5.00		mg/Kg			10/24/23 21:48	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: SS06

Date Collected: 10/19/23 10:30
Date Received: 10/19/23 15:34
Sample Depth: .5

Lab Sample ID: 890-5496-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/26/23 00:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/26/23 00:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/26/23 00:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/23/23 15:15	10/26/23 00:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/23/23 15:15	10/26/23 00:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/23/23 15:15	10/26/23 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*10/23/23 15:15*	*10/26/23 00:35*	*1*
1,4-Difluorobenzene (Surr)	*53*	*S1-*	*70 - 130*	*10/23/23 15:15*	*10/26/23 00:35*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/26/23 00:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**56.2**		49.9		mg/Kg			10/24/23 20:23	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		10/23/23 16:10	10/24/23 20:23	1
Diesel Range Organics (Over C10-C28)	**56.2**		49.9		mg/Kg		10/23/23 16:10	10/24/23 20:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/23/23 16:10	10/24/23 20:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 20:23*	*1*
o-Terphenyl	*144*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 20:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**181**		5.01		mg/Kg			10/24/23 21:55	1

Client Sample ID: SS07

Date Collected: 10/19/23 10:35
Date Received: 10/19/23 15:34
Sample Depth: .5

Lab Sample ID: 890-5496-7
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		10/23/23 15:15	10/26/23 00:55	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/23/23 15:15	10/26/23 00:55	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/23/23 15:15	10/26/23 00:55	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/23/23 15:15	10/26/23 00:55	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/23/23 15:15	10/26/23 00:55	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/23/23 15:15	10/26/23 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*10/23/23 15:15*	*10/26/23 00:55*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: SS07

Date Collected: 10/19/23 10:35
Date Received: 10/19/23 15:34
Sample Depth: .5

Lab Sample ID: 890-5496-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*10/23/23 15:15*	*10/26/23 00:55*	*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			10/26/23 00:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**54.3**		50.3	mg/Kg			10/24/23 21:26	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	<50.3	U	50.3	mg/Kg		10/23/23 16:10	10/24/23 21:26	1
Diesel Range Organics (Over C10-C28)	**54.3**		50.3	mg/Kg		10/23/23 16:10	10/24/23 21:26	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		10/23/23 16:10	10/24/23 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*150*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 21:26*	*1*
o-Terphenyl	*152*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 21:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**182**		4.96	mg/Kg			10/24/23 22:02	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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)
890-5496-1	BH01	80	94
890-5496-1 MS	BH01	110	92
890-5496-1 MSD	BH01	107	116
890-5496-2	BH01A	95	59 S1-
890-5496-3	BH02	89	55 S1-
890-5496-4	BH02A	91	74
890-5496-5	BH03	87	65 S1-
890-5496-6	SS06	91	53 S1-
890-5496-7	SS07	89	64 S1-
LCS 880-65373/1-A	Lab Control Sample	109	100
LCSD 880-65373/2-A	Lab Control Sample Dup	107	116
MB 880-65373/5-A	Method Blank	70	78
MB 880-65488/5-A	Method Blank	68 S1-	97

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-34703-A-41-C MS	Matrix Spike	71	66 S1-
880-34703-A-41-D MSD	Matrix Spike Duplicate	72	68 S1-
890-5496-1	BH01	77	91
890-5496-2	BH01A	80	90
890-5496-3	BH02	85	98
890-5496-4	BH02A	88	100
890-5496-5	BH03	83	94
890-5496-6	SS06	142 S1+	144 S1+
890-5496-6 MS	SS06	129	115
890-5496-6 MSD	SS06	142 S1+	135 S1+
890-5496-7	SS07	150 S1+	152 S1+
LCS 880-65394/2-A	Lab Control Sample	91	100
LCS 880-65395/2-A	Lab Control Sample	116	123
LCSD 880-65394/3-A	Lab Control Sample Dup	84	90
LCSD 880-65395/3-A	Lab Control Sample Dup	106	105
MB 880-65394/1-A	Method Blank	112	134 S1+
MB 880-65395/1-A	Method Blank	189 S1+	194 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-65373/5-A
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65373

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/25/23 22:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/25/23 22:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/25/23 22:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/23/23 15:15	10/25/23 22:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/23/23 15:15	10/25/23 22:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/23/23 15:15	10/25/23 22:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*10/23/23 15:15*	*10/25/23 22:31*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*10/23/23 15:15*	*10/25/23 22:31*	*1*

Lab Sample ID: LCS 880-65373/1-A
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65373

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08811		mg/Kg		88	70 - 130		
Toluene			0.100	0.09966		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.1016		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2142		mg/Kg		107	70 - 130		
o-Xylene			0.100	0.1048		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-65373/2-A
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65373

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08723		mg/Kg		87	70 - 130	1	35
Toluene			0.100	0.09147		mg/Kg		91	70 - 130	9	35
Ethylbenzene			0.100	0.09156		mg/Kg		92	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1916		mg/Kg		96	70 - 130	11	35
o-Xylene			0.100	0.09328		mg/Kg		93	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: 890-5496-1 MS
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: BH01
Prep Type: Total/NA
Prep Batch: 65373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0996	0.07398		mg/Kg		74	70 - 130		
Toluene	<0.00202	U	0.0996	0.08103		mg/Kg		81	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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

Lab Sample ID: 890-5496-1 MS
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: BH01
Prep Type: Total/NA
Prep Batch: 65373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0996	0.07970		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1675		mg/Kg		84	70 - 130
o-Xylene	<0.00202	U	0.0996	0.08061		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-5496-1 MSD
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: BH01
Prep Type: Total/NA
Prep Batch: 65373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0992	0.07999		mg/Kg		81	70 - 130	8	35
Toluene	<0.00202	U	0.0992	0.08196		mg/Kg		83	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0992	0.08012		mg/Kg		81	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1656		mg/Kg		83	70 - 130	1	35
o-Xylene	<0.00202	U	0.0992	0.07947		mg/Kg		80	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: MB 880-65488/5-A
Matrix: Solid
Analysis Batch: 65513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65488

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/23 14:38	10/25/23 11:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/23 14:38	10/25/23 11:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/23 14:38	10/25/23 11:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/23 14:38	10/25/23 11:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/23 14:38	10/25/23 11:52	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/23 14:38	10/25/23 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*10/24/23 14:38*	*10/25/23 11:52*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/24/23 14:38*	*10/25/23 11:52*	*1*

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

Lab Sample ID: MB 880-65394/1-A
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65394

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		10/23/23 16:06	10/24/23 07:37	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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

Lab Sample ID: MB 880-65394/1-A
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65394

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		10/23/23 16:06	10/24/23 07:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/23/23 16:06	10/24/23 07:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/23/23 16:06*	*10/24/23 07:37*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*10/23/23 16:06*	*10/24/23 07:37*	*1*

Lab Sample ID: LCS 880-65394/2-A
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65394

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	902.5		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	898.6		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: LCSD 880-65394/3-A
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65394

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	815.9		mg/Kg		82	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	820.3		mg/Kg		82	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Lab Sample ID: 880-34703-A-41-C MS
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65394

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1	999	600.6	F1	mg/Kg		58	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U F1	999	595.9	F1	mg/Kg		60	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*71*		*70 - 130*
o-Terphenyl	*66*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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

Lab Sample ID: 880-34703-A-41-D MSD
Matrix: Solid
Analysis Batch: 65440

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65394

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	<49.8	U F1	999	623.5	F1	mg/Kg		61	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	999	641.9	F1	mg/Kg		64	70 - 130	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*72*		*70 - 130*
o-Terphenyl	*68*	*S1-*	*70 - 130*

Lab Sample ID: MB 880-65395/1-A
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65395

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		10/23/23 16:10	10/24/23 19:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/23/23 16:10	10/24/23 19:19	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/23/23 16:10	10/24/23 19:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*189*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 19:19*	*1*
o-Terphenyl	*194*	*S1+*	*70 - 130*	*10/23/23 16:10*	*10/24/23 19:19*	*1*

Lab Sample ID: LCS 880-65395/2-A
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		105	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1139		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*123*		*70 - 130*

Lab Sample ID: LCSD 880-65395/3-A
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1113		mg/Kg		111	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	933.2		mg/Kg		93	70 - 130	20	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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

Lab Sample ID: LCSD 880-65395/3-A
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65395

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: 890-5496-6 MS
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 65395

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	992	826.3		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	56.2		992	942.8		mg/Kg		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*129*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: 890-5496-6 MSD
Matrix: Solid
Analysis Batch: 65434

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 65395

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	992	898.7		mg/Kg		87	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	56.2		992	1068		mg/Kg		102	70 - 130	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*142*	*S1+*	*70 - 130*
o-Terphenyl	*135*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-65479/1-A
Matrix: Solid
Analysis Batch: 65494

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			10/24/23 19:02	1

Lab Sample ID: LCS 880-65479/2-A
Matrix: Solid
Analysis Batch: 65494

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	237.2		mg/Kg		95	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-65479/3-A
Matrix: Solid
Analysis Batch: 65494

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	229.5		mg/Kg		92	90 - 110	3	20

Lab Sample ID: 890-5496-1 MS
Matrix: Solid
Analysis Batch: 65494

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	689	F1	253	894.1	F1	mg/Kg		81	90 - 110		

Lab Sample ID: 890-5496-1 MSD
Matrix: Solid
Analysis Batch: 65494

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	689	F1	253	894.6	F1	mg/Kg		81	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

GC VOA

Prep Batch: 65373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	5035	
890-5496-2	BH01A	Total/NA	Solid	5035	
890-5496-3	BH02	Total/NA	Solid	5035	
890-5496-4	BH02A	Total/NA	Solid	5035	
890-5496-5	BH03	Total/NA	Solid	5035	
890-5496-6	SS06	Total/NA	Solid	5035	
890-5496-7	SS07	Total/NA	Solid	5035	
MB 880-65373/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-65373/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-65373/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5496-1 MS	BH01	Total/NA	Solid	5035	
890-5496-1 MSD	BH01	Total/NA	Solid	5035	

Prep Batch: 65488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-65488/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 65513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	8021B	65373
890-5496-2	BH01A	Total/NA	Solid	8021B	65373
890-5496-3	BH02	Total/NA	Solid	8021B	65373
890-5496-4	BH02A	Total/NA	Solid	8021B	65373
890-5496-5	BH03	Total/NA	Solid	8021B	65373
890-5496-6	SS06	Total/NA	Solid	8021B	65373
890-5496-7	SS07	Total/NA	Solid	8021B	65373
MB 880-65373/5-A	Method Blank	Total/NA	Solid	8021B	65373
MB 880-65488/5-A	Method Blank	Total/NA	Solid	8021B	65488
LCS 880-65373/1-A	Lab Control Sample	Total/NA	Solid	8021B	65373
LCSD 880-65373/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	65373
890-5496-1 MS	BH01	Total/NA	Solid	8021B	65373
890-5496-1 MSD	BH01	Total/NA	Solid	8021B	65373

Analysis Batch: 65649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	Total BTEX	
890-5496-2	BH01A	Total/NA	Solid	Total BTEX	
890-5496-3	BH02	Total/NA	Solid	Total BTEX	
890-5496-4	BH02A	Total/NA	Solid	Total BTEX	
890-5496-5	BH03	Total/NA	Solid	Total BTEX	
890-5496-6	SS06	Total/NA	Solid	Total BTEX	
890-5496-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 65394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	8015NM Prep	
890-5496-2	BH01A	Total/NA	Solid	8015NM Prep	
890-5496-3	BH02	Total/NA	Solid	8015NM Prep	
890-5496-4	BH02A	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

GC Semi VOA (Continued)

Prep Batch: 65394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-5	BH03	Total/NA	Solid	8015NM Prep	
MB 880-65394/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-65394/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-65394/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-34703-A-41-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-34703-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 65395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-6	SS06	Total/NA	Solid	8015NM Prep	
890-5496-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-65395/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-65395/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-65395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5496-6 MS	SS06	Total/NA	Solid	8015NM Prep	
890-5496-6 MSD	SS06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 65434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-6	SS06	Total/NA	Solid	8015B NM	65395
890-5496-7	SS07	Total/NA	Solid	8015B NM	65395
MB 880-65395/1-A	Method Blank	Total/NA	Solid	8015B NM	65395
LCS 880-65395/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	65395
LCSD 880-65395/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	65395
890-5496-6 MS	SS06	Total/NA	Solid	8015B NM	65395
890-5496-6 MSD	SS06	Total/NA	Solid	8015B NM	65395

Analysis Batch: 65440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	8015B NM	65394
890-5496-2	BH01A	Total/NA	Solid	8015B NM	65394
890-5496-3	BH02	Total/NA	Solid	8015B NM	65394
890-5496-4	BH02A	Total/NA	Solid	8015B NM	65394
890-5496-5	BH03	Total/NA	Solid	8015B NM	65394
MB 880-65394/1-A	Method Blank	Total/NA	Solid	8015B NM	65394
LCS 880-65394/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	65394
LCSD 880-65394/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	65394
880-34703-A-41-C MS	Matrix Spike	Total/NA	Solid	8015B NM	65394
880-34703-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	65394

Analysis Batch: 65538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Total/NA	Solid	8015 NM	
890-5496-2	BH01A	Total/NA	Solid	8015 NM	
890-5496-3	BH02	Total/NA	Solid	8015 NM	
890-5496-4	BH02A	Total/NA	Solid	8015 NM	
890-5496-5	BH03	Total/NA	Solid	8015 NM	
890-5496-6	SS06	Total/NA	Solid	8015 NM	
890-5496-7	SS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

HPLC/IC

Leach Batch: 65479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Soluble	Solid	DI Leach	
890-5496-2	BH01A	Soluble	Solid	DI Leach	
890-5496-3	BH02	Soluble	Solid	DI Leach	
890-5496-4	BH02A	Soluble	Solid	DI Leach	
890-5496-5	BH03	Soluble	Solid	DI Leach	
890-5496-6	SS06	Soluble	Solid	DI Leach	
890-5496-7	SS07	Soluble	Solid	DI Leach	
MB 880-65479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-65479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5496-1 MS	BH01	Soluble	Solid	DI Leach	
890-5496-1 MSD	BH01	Soluble	Solid	DI Leach	

Analysis Batch: 65494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5496-1	BH01	Soluble	Solid	300.0	65479
890-5496-2	BH01A	Soluble	Solid	300.0	65479
890-5496-3	BH02	Soluble	Solid	300.0	65479
890-5496-4	BH02A	Soluble	Solid	300.0	65479
890-5496-5	BH03	Soluble	Solid	300.0	65479
890-5496-6	SS06	Soluble	Solid	300.0	65479
890-5496-7	SS07	Soluble	Solid	300.0	65479
MB 880-65479/1-A	Method Blank	Soluble	Solid	300.0	65479
LCS 880-65479/2-A	Lab Control Sample	Soluble	Solid	300.0	65479
LCSD 880-65479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65479
890-5496-1 MS	BH01	Soluble	Solid	300.0	65479
890-5496-1 MSD	BH01	Soluble	Solid	300.0	65479

Lab Chronicle

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH01
Date Collected: 10/19/23 09:15
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-1
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	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/25/23 22:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/25/23 22:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 17:34	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	65394	10/23/23 16:06	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65440	10/24/23 17:34	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 20:55	CH	EET MID

Client Sample ID: BH01A
Date Collected: 10/19/23 11:15
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-2
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	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/25/23 23:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/25/23 23:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 17:56	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	65394	10/23/23 16:06	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65440	10/24/23 17:56	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 21:15	CH	EET MID

Client Sample ID: BH02
Date Collected: 10/19/23 09:40
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/25/23 23:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/25/23 23:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 18:18	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	65394	10/23/23 16:06	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65440	10/24/23 18:18	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 21:22	CH	EET MID

Client Sample ID: BH02A
Date Collected: 10/19/23 11:30
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/25/23 23:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/25/23 23:54	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: BH02A
Date Collected: 10/19/23 11:30
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-4
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			65538	10/24/23 18:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	65394	10/23/23 16:06	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65440	10/24/23 18:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 21:42	CH	EET MID

Client Sample ID: BH03
Date Collected: 10/19/23 10:05
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/26/23 00:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/26/23 00:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 19:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	65394	10/23/23 16:06	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65440	10/24/23 19:01	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 21:48	CH	EET MID

Client Sample ID: SS06
Date Collected: 10/19/23 10:30
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-6
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	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/26/23 00:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/26/23 00:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 20:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	65395	10/23/23 16:10	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65434	10/24/23 20:23	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 21:55	CH	EET MID

Client Sample ID: SS07
Date Collected: 10/19/23 10:35
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-7
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			5.05 g	5 mL	65373	10/23/23 15:15	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65513	10/26/23 00:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65649	10/26/23 00:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			65538	10/24/23 21:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	65395	10/23/23 16:10	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65434	10/24/23 21:26	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Client Sample ID: SS07

Date Collected: 10/19/23 10:35
Date Received: 10/19/23 15:34

Lab Sample ID: 890-5496-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	65479	10/24/23 12:55	SMC	EET MID
Soluble	Analysis	300.0		1			65494	10/24/23 22:02	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 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 23 Dog Town Draw 154H

Job ID: 890-5496-1
SDG: 03C1558250

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5496-1	BH01	Solid	10/19/23 09:15	10/19/23 15:34	1
890-5496-2	BH01A	Solid	10/19/23 11:15	10/19/23 15:34	2
890-5496-3	BH02	Solid	10/19/23 09:40	10/19/23 15:34	1
890-5496-4	BH02A	Solid	10/19/23 11:30	10/19/23 15:34	2
890-5496-5	BH03	Solid	10/19/23 10:05	10/19/23 15:34	1
890-5496-6	SS06	Solid	10/19/23 10:30	10/19/23 15:34	.5
890-5496-7	SS07	Solid	10/19/23 10:35	10/19/23 15:34	.5

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Chain of Custody

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

Work Order No: ______

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 23 Dog Town Draw 154H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558250	Due Date:	
Project Location:			TAT starts the day received by the lab, if received by 4:30pm
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT	Temp Blank:	(Yes) No	Wet Ice:	Yes No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	-.8	
Total Containers:		Corrected Temperature:		

ANALYSIS REQUEST — Parameters

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
BH01	S	10/19/23	915	1	G	1	|	|	|
BH01A	|	|	1115	2	|	1	|	|	|
BH02	|	|	940	1	|	1	|	|	|
BH02A	|	|	1130	2	|	1	|	|	|
BH03	|	|	1005	1	|	1	|	|	|
SS06	|	|	1030	.5	|	1	|	|	|
SS07	|	|	1035	.5	|	1	|	|	|

890-5496 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: nAPP2316446382

Cost Center: 2219811001

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 [signature]	[signature]	10-19 1534	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5496-1
SDG Number: 03C1558250

Login Number: 5496
List Number: 1
Creator: Bruns, Shannon

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: 890-5496-1
SDG Number: 03C1558250

Login Number: 5496
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/23/23 09:18 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: Wells, Shelly, EMNRD
To: Collins, Melanie; Hamlet, Robert, EMNRD; Bratcher, Michael, EMNRD
Cc: Green, Garrett J; Ben Belill; Tacoma Morrissey; Lambert, Tommee L; DelawareSpills /SM
Subject: RE: [EXTERNAL] XTO - Sampling Notification (Week of 10/16/23 - 10/20/23)
Date: Thursday, October 12, 2023 4:26:05 PM
Attachments: image001.png

[**EXTERNAL EMAIL**]

Hi Melanie,

The OCD has received your notification. Notification requirements are **two full business days**, per rule. When reporting sampling at multiple locations it is required to provide the anticipated start time for each location. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

Thank you,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Thursday, October 12, 2023 2:14 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; bbelill@ensolum.com; Tacoma Morrissey <tmorrissey@ensolum.com>; Lambert, Tommee L <tommee.l.lambert@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 10/16/23 - 10/20/23)

All,

XTO plans to complete final sampling activities at the sites listed below for the week of October 16,

2023.

Monday – October 16, 2023

- BEU Connector PW Booster / nAPP2213151424
- Mobley Ranch Pipeline / nAPP2316045229
- PLU 18 TWR Sat Battery / nAPP2230551957

Tuesday - October 17, 2023

- BEU Connector PW Booster / nAPP2213151424
- Mobley Ranch Pipeline / nAPP2316045229

Wednesday - October 18, 2023

- BEU Connector PW Booster / nAPP2213151424
- Mobley Ranch Pipeline / nAPP2316045229

Thursday - October 19, 2023

- BEU Connector PW Booster / nAPP2213151424
- Mobley Ranch Pipeline / nAPP2316045229
- PLU 23 Dog Town Draw 154H / nAPP2316446382

Friday - October 20, 2023

- BEU Connector PW Booster / nAPP2213151424
- Mobley Ranch Pipeline / nAPP2316045229

Thank you,

Melanie Collins

XTO ENERGY

Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

From: Hamlet, Robert, EMNRD
To: Collins, Melanie Suzanne
Cc: Ashley Giovengo; Ben Belill; DelawareSpills /SM; Green, Garrett J; Bratcher, Michael, EMNRD; Wells, Shelly, EMNRD; Velez, Nelson, EMNRD
Subject: (Extension Approval) - XTO - PLU 23 Dog Town Draw 154H - Incident Number nAPP2316446382
Date: Friday, August 25, 2023 9:29:11 AM
Attachments: image003.png

Some people who received this message don't often get email from robert.hamlet@emnrd.nm.gov. Learn why this is important

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2316446382**

Melanie,

Your request for an extension to **November 29th, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Thursday, August 24, 2023 3:26 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] XTO - Extension Request - PLU 23 Dog Town Draw 154H - Incident Number nAPP2316446382

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Thursday, August 24, 2023 2:55 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Ashley Giovengo <agiovengo@ensolum.com>; bbelill@ensolum.com; DelawareSpills /SM

<DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>
Subject: [EXTERNAL] XTO - Extension Request - PLU 23 Dog Town Draw 154H - Incident Number nAPP2316446382

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All,

XTO is requesting an extension of the current deadline of August 31, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the PLU 23 Dog Town Draw 154H (Incident Number nAPP2316446382). The release occurred on June 6, 2023, as a result of a pump swap during frac operations. Approximately 29 barrels (bbls) of produced water were released inside the equipment containment and onto the caliche pad; 10 bbls of produced water were recovered. Due to the presence of frac equipment and subsequent flowback operations, XTO has been unable to conduct delineation sampling within and in the immediate area surrounding the release. In order to provide time to complete on-site drilling operations, then complete delineation soil sampling, conduct excavation and confirmation sampling activities, and to submit a remediation work plan or closure report, XTO requests a 90-day extension of this deadline until November 29, 2023.

Thank you,

Melanie Collins

XTO ENERGY

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

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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 287958

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 287958
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	In future closure requests, if intending to use delineation samples for closure a variance request for sampling must be approved and sampling notification submitted via C-141N.	2/19/2024
amaxwell	In future closure requests, when delineation results meet Table I closure criteria, to meet confirmation closure requirements, collect 5-point confirmation samples representing no more than 200 square feet.	2/19/2024
amaxwell	Remediation Closure approved. All areas not reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as practical. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed.	2/19/2024
amaxwell	When submitting the reclamation report, include an Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	2/19/2024