ENSOLUM

April 5, 2024

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

Re: Closure Request
PLU 22 Dog Town Draw 172H
Incident Number NAPP2320840457
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document site assessment, excavation, and soil sampling activities at the PLU 22 Dog Town Draw 172H (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of friction reducer onto the well pad. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing Site assessment, delineation, and excavation activities that have occurred and requesting no further remediation for Incident Number NAPP2320840457. Reclamation and revegetation activites will be completed during pad abandonment.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 22, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20791°, -103.87650°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 13, 2023, a tote containing friction reducer ruptured, resulting in the release of approximately 7.0 barrels (bbls) of friction reducer fluid onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 6 bbls of released fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email and submitted a Release Notification Form C-141 (Form C-141) on July 27, 2023. The release was assigned Incident Number NAPP2320840457.

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

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 discussed below.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on nearby depth to groundwater data. The closest permitted groundwater well with depth to groundwater data is the United States Geological Survey (USGS) well 321214103525501, located approximately 0.44 miles southwest of the Site. The groundwater well has a reported depth to groundwater of 339 feet bgs. The total depth of the well is unknown due to the well depth not being recorded on the well record. The next closest permitted groundwater well with depth to groundwater data is the New Mexico Office of the State Engineer (NMOSE) well C-03893, located approximately 0.45 miles west of the Site. The groundwater well has a reported total depth of 600 feet bgs. The borehole was drilled in August 2015 and no groundwater was encountered. All wells used to determing depth to groundwater are depicted on Figure 1. Well Records are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 2,073 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (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

Because the release included produced water and friction reducer, the friction reducer SDS was reviewed to determine what additional consitituents of concern (COCs), if any, should be assessed. According to the SDS, the friction reducer does not contain any consitituents regulated by the Clean Water Act (CWA) or the Comprehensive Environmental Response Compensation and Liability Act (CERCLA); however friction reducer does include hydro-treated petroleum distillates, which can be detected through analysis of TPH. As such, no additional COCs were assessed for this release.

SITE ASSESSMENT ACTIVITIES

Ensolum personnel could not safely access the Site due to the XTO hydraulic fracturing and flowback operations. Due to the ongoing work at the Site, a report deadline extension was submitted to and approved by NMOCD on October 10, 2023. Following the completion of on-site operations, Ensolum personnel visited the Site on December 12, 2023 to evaluate the release extent based on information provided on the Form C-141, information provided by XTO, and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was conducted during the Site assessment and is included in a Photographic Log in Appendix C.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

Following a cleared one call utility locate request, Ensolum returned to the Site on December 20, 2023, to oversee delineation and soil sampling activities. One pothole (PH01) was advanced utilizing heavy equipment to assess the vertical extent of the release. Discrete delineation soil samples were collected from the pothole at depths of 0.5 feet and 1-foot bgs. Four additional delineation soil samples (SS01 through SS04) were collected just outside of the release extent area at a depth of 0.5 feet bgs to assess the lateral extent of the release. The delineation soil samples were field screened for volatile aromatic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. Field screening results and observations for pothole PH01 were logged on a lithologic/soil sampling log, which is included in Appendix D.

The delineation 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 COCs; BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celsius required for shipment and long term storage, but are considered to have been received in acceptable condition by the laboratory.

Based on laboratory analytical results from samples collected from PH01, soil requiring remediation did not appear to be present; however, the results indicated chloride concentrations exceeded the reclamation requirement. Heavy equipment was utilitized to remove waste-containing soil. Following the removal of soil, Ensolum personnel collected 5-point composite soil samples representing at least 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS03 were collected from the floor of the excavation from a depth of 1.5 feet bgs. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 1.5 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 540 square feet. A total of approximately 30 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area were secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all final confirmation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Delineation soil sample PH01, collected at 0.5 feet bgs, was the only soil sample that exceeded the reclamation requirement, but the soil represented by that sample was removed during excavation activities. Laboratory analytical results are summarized in Table 1 and complete laboratory analytical reports are included in Appendix E.

CLOSURE REQUEST

Site assessment, delineation, and excavation activities were conducted at the Site to address the July 13, 2023, release of friction reducer. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated that all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Based on laboratory analytical results, no further remediation is required. The excavation was backfilled on January 4, 2024, with caliche material purchased locally and the area and recontoured to match pre-existing Site conditions. Photographic documentation of the backfill is included in Appendix C.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. Based on laboratory analytical results compliant with Closure Criteria and reclamation requirement, no further remediation appears to be needed at this time. As such, XTO respectfully requests closure for the remediation of Incident Number NAPP2320840457.

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

Sincerely,
Ensolum, LLC

Mariaha O'Dell

Mariaha O'Dell
Staff Geologist

Ashley L. Ager

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

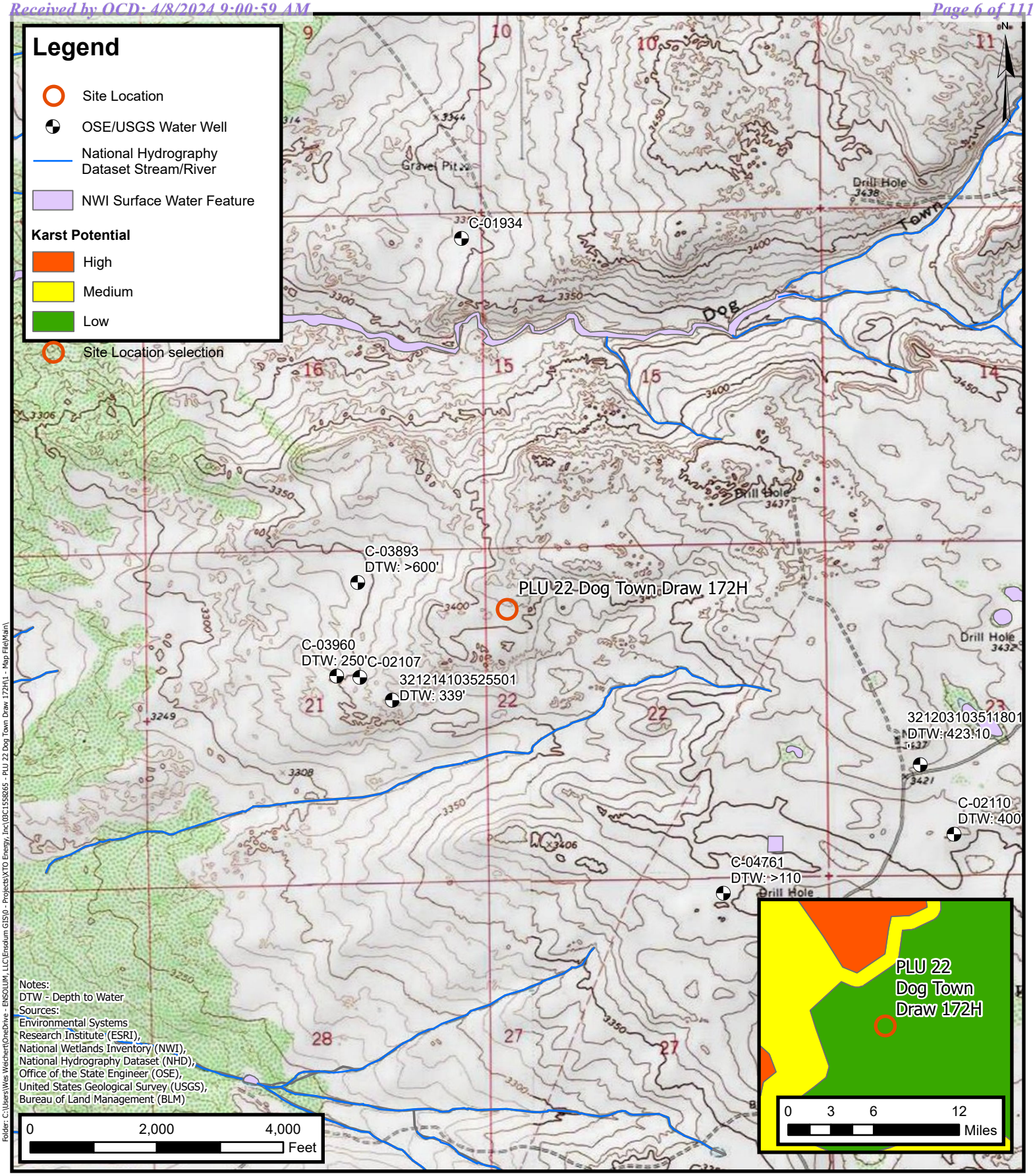
cc: Garrett Green, XTO
Amanda Garcia, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Friction Reducer SDS
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Lithologic / Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation

ENSOLUM

FIGURES

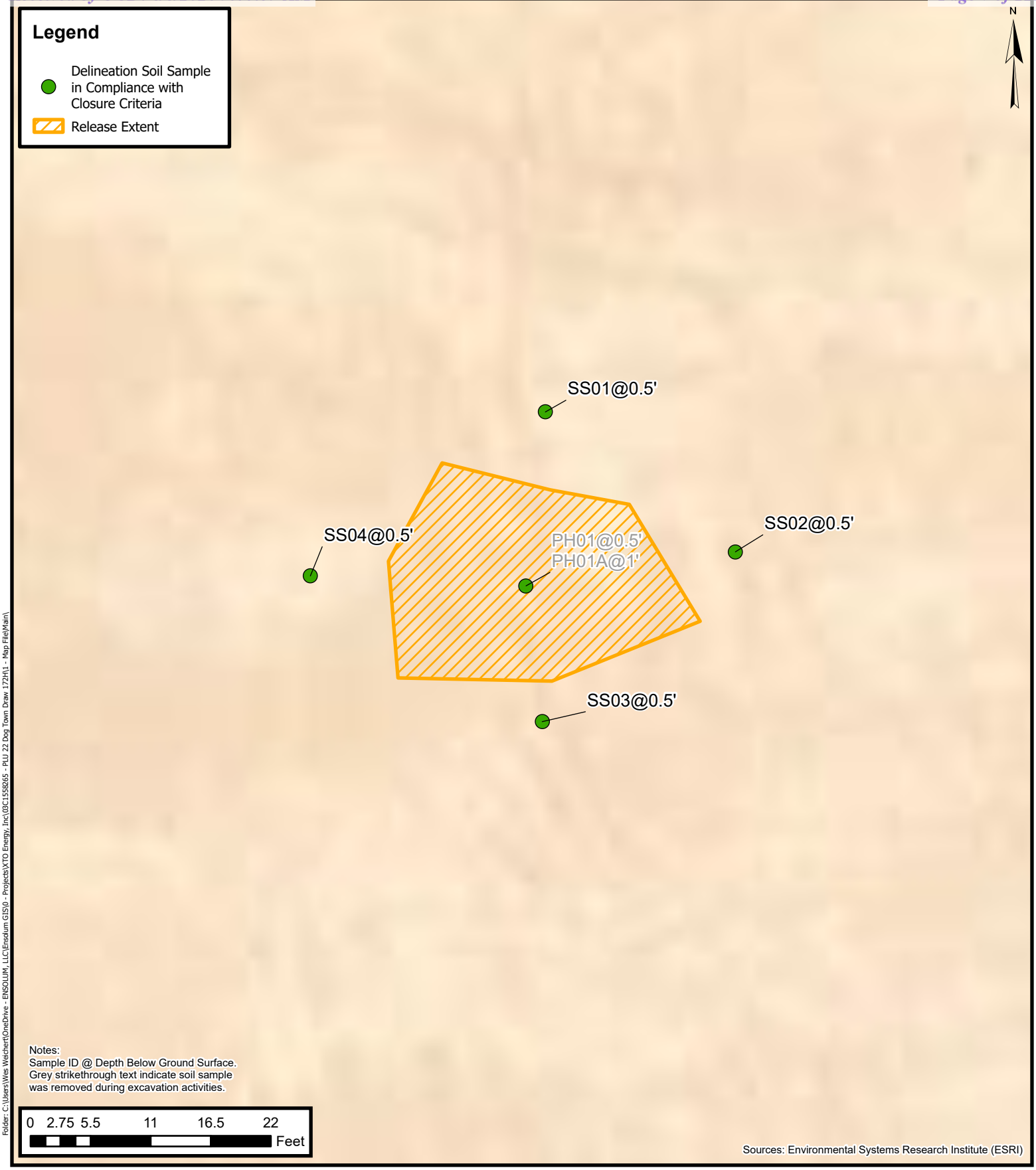


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 22 Dog Town Draw 172H
Incident Number: NAPP2320840457
Unit D, Sec 22, T24S, R30E
Eddy Co, New Mexico, United States

FIGURE 1



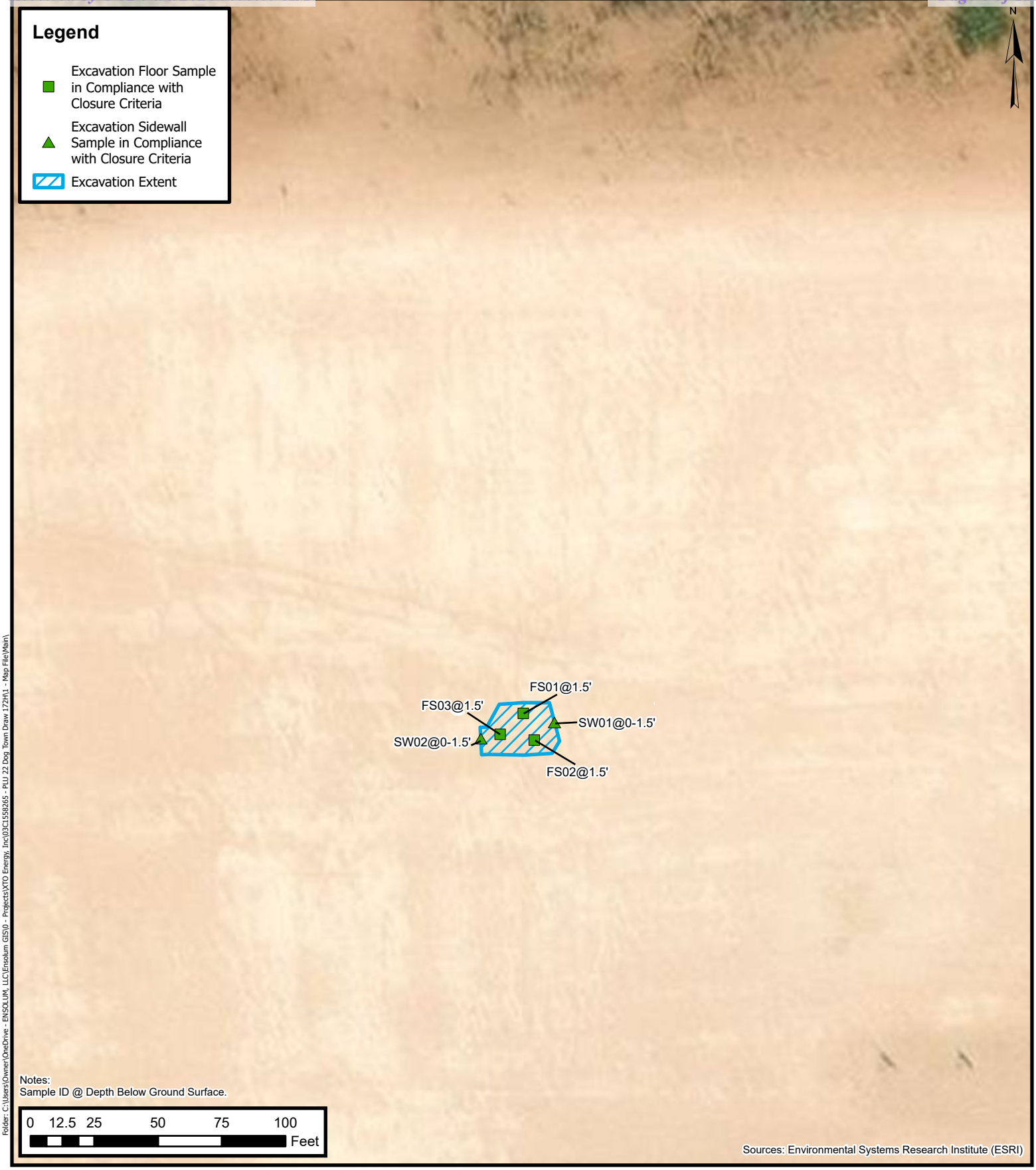
Folder: C:\Users\Wes Welchert\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558265 - PLU 22 Dog Town Draw 172H\1 - Map File\Main\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
PLU 22 Dog Town Draw 172H
Incident Number: NAPP2320840457
Unit D, Sec 22, T24S, R30E
Eddy Co, New Mexico, United States

FIGURE 2



Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558265 - PLU 22 Dog Town Draw 172H\1 - Map File\Main\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO Energy, Inc
PLU 22 Dog Town Draw 172H
Incident Number: NAPP2320840457
Unit D, Sec 22, T24S, R30E
Eddy County, New Mexico

FIGURE 3

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 22 Dog Town Draw 172H
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01	12/20/2023	0.5	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	13.4
SS02	12/20/2023	0.5	<0.00201	<0.00402	<50.2	57.9	<50.2	57.9	57.9	40.0
SS03	12/20/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	47.6
SS04	12/20/2023	0.5	<0.00202	<0.00403	<49.7	73.2	<49.7	73.2	73.2	20.9
~~PH01~~	~~12/20/2023~~	~~0.5~~	~~<0.00201~~	~~<0.00402~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~1,560~~
~~PH01A~~	~~12/20/2023~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~336~~
Confirmation Soil Samples										
FS01	12/20/2023	1.5	<0.00199	<0.00398	<49.6	52.4	<49.6	52.4	52.4	25.4
FS02	12/20/2023	1.5	<0.00199	<0.00398	<50.5	71.3	<50.5	71.3	71.3	11.3
FS03	12/20/2023	1.5	<0.00198	<0.00396	<49.7	<49.7	<49.7	<49.7	<49.7	118
SW01	12/20/2023	0-1.5	<0.00200	<0.00400	<50.0	67.3	<50.0	67.3	67.3	213
SW02	12/20/2023	0-1.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	239

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 or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

ENSOLUM

APPENDIX A

Friction Reducer SDS

PFP INDUSTRIES

SAFETY DATA SHEET

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

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

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

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

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

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

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

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

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

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

Precautionary Statements - Response

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

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

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

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

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

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

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

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

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

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

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

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

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

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

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

Methods and material for containment and cleaning up

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

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

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

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

Other Information

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

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

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

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

Component Information

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

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

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

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

International Inventories

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

PICCS	Complies
AICS	Complies

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

US Federal Regulations

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

SARA 311/312 Hazard Categories

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

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

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

US State Regulations

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

U.S. State Right-to-Know Regulations

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

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

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

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

Issuing Date	01-Aug-2019
Revision Date	01-Aug-2019
Revision Note	No information available.

Disclaimer

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

End of Safety Data Sheet

ENSOLUM

APPENDIX B

Referenced Well Records

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- How are we doing? We want to hear from you. Take our quick survey to tell us what you think.
- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321214103525501

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

USGS 321214103525501 24S.30E.21.23144

Eddy County, New Mexico
Latitude 32°12'14", Longitude 103°52'55" NAD27
Land-surface elevation 3,371 feet above NAVD88
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1976-12-01		D	62610		3025.74	NGVD29	1	Z		
1976-12-01		D	62611		3027.43	NAVD88	1	Z		
1976-12-01		D	72019	343.57			1	Z		
1983-02-01		D	62610		3024.48	NGVD29	1	Z		
1983-02-01		D	62611		3026.17	NAVD88	1	Z		
1983-02-01		D	72019	344.83			1	Z		
1987-10-15		D	62610		3024.80	NGVD29	1	S		
1987-10-15		D	62611		3026.49	NAVD88	1	S		
1987-10-15		D	72019	344.51			1	S		
1998-01-28		D	62610		3029.84	NGVD29	1	S		
1998-01-28		D	62611		3031.53	NAVD88	1	S		
1998-01-28		D	72019	339.47			1	S		

Explanation

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

Questions or Comments
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2023-08-28 09:09:28 EDT
0.28 0.25 nadww01

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): PLU Lease CP Bed	OSE FILE NUMBER(S): C-3893
WELL OWNER NAME(S): BOPCO, L.P.	PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: 201 MAIN STREET	CITY: FORT WORTH STATE: TX ZIP: 76102

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	12	32.88	N
LONGITUDE	103	53	2.88	W

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

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

SE 1/4 OF NW 1/4 OF NW 1/4 OF NE 1/4 OF SECTION 21, TOWNSHIP 24S, RANGE 30E

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1261	R. DARRELL CRASS	DARRELL CRASS DRILLING COMPANY

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
8/19/15	8/26/15	600	600	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: SUPER GEL X

DRILLING METHOD: ◉ ROTARY ○ HAMMER ○ CABLE TOOL ○ OTHER – SPECIFY:

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	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	40	8"	SCH 40 PVC BLANK	GLUE, SCREWS	8"		

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
10	425	8"	BENTONITE HOLE PLUG	145 CUBIC FEET	POUR
0	10	8"	PORTLAND CEMENT	7 CUBIC FEET	POUR

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	C-3893	POD NUMBER	1	TRN NUMBER	511438
LOCATION	2-1-1 24S.30E.21				PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5	5	TOPSOIL	○ Y ◉ N	
5	75	70	SAND	○ Y ◉ N	
75	90	15	CLAY	○ Y ◉ N	
90	100	10	SANDSTONE	○ Y ◉ N	
100	180	80	SANDY CLAY	○ Y ◉ N	
180	240	60	SAND	○ Y ◉ N	
240	280	40	SAND & GRAVEL	○ Y ◉ N	
280	400	120	SANDY CLAY	○ Y ◉ N	
400	520	120	SAND	○ Y ◉ N	
520	600	80	SANDY CLAY	○ 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): N/A

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:
THIS IS THE WELL LOG FOR A CATHODIC PROTECTION GROUNDBED

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

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 20 DAYS AFTER COMPLETION OF WELL DRILLING:

R Darrell Cass — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

8-27-15 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	C-3893	POD NUMBER	1	TRN NUMBER	571438
LOCATION	24S.30E.21 2-1-1				PAGE 2 OF 2

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 22 Dog Town Draw 172H
Incident Number NAPP2320840457

Photograph 1 Date: 12/12/2023
Description: Site assessment, release extent area.
View: Southeast

Photograph 2 Date: 12/20/2023
Description: Excazation activities.
View: Southeast

Photograph 3 Date: 12/20/2023
Description: Final excavation extent.
View: Southwest

Photograph 4 Date: 1/4/2024
Description: Backfilled excavation.
View: Southeast

ENSOLUM

APPENDIX D

Lithologic Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Sample Name: PH01	Date: 12/20/2023
Site Name: PLU 22 Dog Town Draw 172H	
Incident Number: NAPP2320840457	
Job Number: 03C1558265	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: MR	Method: Backhoe
Coordinates: 32.207828, -103.876207	Hole Diameter: ~2'
	Total Depth: 1'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D			Y			0	CCHE	0-0.5' CALICHE, fill. Primarily medium brown stained slightly purple. Meduim to coarse grained, poorly sorted. Some odor, dry.
M	2,100	0.6	N	PH01	0.5		SP	0.5-1' SAND with caliche, red/ brown, poorly sorted, medium to coarse grained, no stain, no odor, moist.
M	319.2	0.1	N	PH01A	1	1		
						TD		Total Depth @ 1' bgs.

ENSOLUM

APPENDIX E

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 1/2/2024 1:59:51 PM

JOB DESCRIPTION

PLU 22 DOGTOWN DRAW 172H
03C1558265

JOB NUMBER

890-5829-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

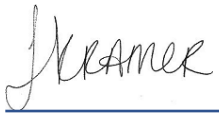
Eurofins Carlsbad

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
1/2/2024 1:59:51 PM

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

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Laboratory Job ID: 890-5829-1
SDG: 03C1558265

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 890-5829-1
Project: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1 Eurofins Carlsbad

Job Narrative
890-5829-1

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 12/20/2023 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS 01 (890-5829-1), SS 02 (890-5829-2), SS 03 (890-5829-3) and SS 04 (890-5829-4).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69895 and analytical batch 880-69988 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5829-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69715 and analytical batch 880-69711 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS 01 (890-5829-1), SS 02 (890-5829-2), (MB 880-69715/1-A), (890-5827-A-1-E), (890-5827-A-1-F MS) and (890-5827-A-1-G MSD). Evidence of matrix interferences is not obvious.

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

HPLC/IC
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 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 01

Lab Sample ID: 890-5829-1
Matrix: Solid
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
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 F2 F1	0.00199		mg/Kg		12/28/23 10:26	12/30/23 15:48	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		12/28/23 10:26	12/30/23 15:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/28/23 10:26	12/30/23 15:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/28/23 10:26	12/30/23 15:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/28/23 10:26	12/30/23 15:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/28/23 10:26	12/30/23 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*12/28/23 10:26*	*12/30/23 15:48*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*12/28/23 10:26*	*12/30/23 15:48*	*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			12/30/23 15:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			12/23/23 13:40	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	<50.3	U	50.3		mg/Kg		12/23/23 07:52	12/23/23 13:40	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		12/23/23 07:52	12/23/23 13:40	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		12/23/23 07:52	12/23/23 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*12/23/23 07:52*	*12/23/23 13:40*	*1*
o-Terphenyl	*108*		*70 - 130*	*12/23/23 07:52*	*12/23/23 13:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.4**		4.99		mg/Kg			12/27/23 14:07	1

Client Sample ID: SS 02

Lab Sample ID: 890-5829-2
Matrix: Solid
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

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		12/28/23 10:26	12/30/23 16:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/28/23 10:26	12/30/23 16:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/28/23 10:26	12/30/23 16:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/28/23 10:26	12/30/23 16:08	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/28/23 10:26	12/30/23 16:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/28/23 10:26	12/30/23 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:08*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 02

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

Lab Sample ID: 890-5829-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:08*	*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			12/30/23 16:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**57.9**		50.2	mg/Kg			12/23/23 14:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		12/23/23 07:52	12/23/23 14:02	1
Diesel Range Organics (Over C10-C28)	**57.9**		50.2	mg/Kg		12/23/23 07:52	12/23/23 14:02	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		12/23/23 07:52	12/23/23 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*12/23/23 07:52*	*12/23/23 14:02*	*1*
o-Terphenyl	*122*		*70 - 130*	*12/23/23 07:52*	*12/23/23 14:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**40.0**		4.95	mg/Kg			12/27/23 14:13	1

Client Sample ID: SS 03

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

Lab Sample ID: 890-5829-3

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		12/28/23 10:26	12/30/23 16:29	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/28/23 10:26	12/30/23 16:29	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/28/23 10:26	12/30/23 16:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/28/23 10:26	12/30/23 16:29	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/28/23 10:26	12/30/23 16:29	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/28/23 10:26	12/30/23 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:29*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:29*	*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			12/30/23 16:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/23/23 14:23	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 03

Lab Sample ID: 890-5829-3
Matrix: Solid
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

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		12/23/23 07:52	12/23/23 14:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/23/23 07:52	12/23/23 14:23	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/23/23 07:52	12/23/23 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*12/23/23 07:52*	*12/23/23 14:23*	*1*
o-Terphenyl	*91*		*70 - 130*	*12/23/23 07:52*	*12/23/23 14:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**47.6**		4.95		mg/Kg			12/27/23 14:33	1

Client Sample ID: SS 04

Lab Sample ID: 890-5829-4
Matrix: Solid
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

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		12/28/23 10:26	12/30/23 16:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/28/23 10:26	12/30/23 16:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/28/23 10:26	12/30/23 16:50	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/28/23 10:26	12/30/23 16:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/28/23 10:26	12/30/23 16:50	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/28/23 10:26	12/30/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:50*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*12/28/23 10:26*	*12/30/23 16:50*	*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			12/30/23 16:50	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**73.2**		49.7		mg/Kg			12/23/23 14:45	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		12/23/23 07:52	12/23/23 14:45	1
Diesel Range Organics (Over C10-C28)	**73.2**		49.7		mg/Kg		12/23/23 07:52	12/23/23 14:45	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		12/23/23 07:52	12/23/23 14:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*12/23/23 07:52*	*12/23/23 14:45*	*1*
o-Terphenyl	*94*		*70 - 130*	*12/23/23 07:52*	*12/23/23 14:45*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 04
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

Lab Sample ID: 890-5829-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.9		4.95		mg/Kg			12/27/23 14:39	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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)										
890-5829-1	SS 01	95	87										
890-5829-1 MS	SS 01	129	86										
890-5829-1 MSD	SS 01	131 S1+	96										
890-5829-2	SS 02	116	79										
890-5829-3	SS 03	89	84										
890-5829-4	SS 04	111	78										
LCS 880-69895/1-A	Lab Control Sample	125	99										
LCSD 880-69895/2-A	Lab Control Sample Dup	125	96										
MB 880-69895/5-A	Method Blank	92	86										
MB 880-69926/5-A	Method Blank	84	91										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-5827-A-1-F MS	Matrix Spike	154 S1+	108										
890-5827-A-1-G MSD	Matrix Spike Duplicate	148 S1+	105										
890-5829-1	SS 01	133 S1+	108										
890-5829-2	SS 02	145 S1+	122										
890-5829-3	SS 03	120	91										
890-5829-4	SS 04	117	94										
LCS 880-69715/2-A	Lab Control Sample	91	83										
LCSD 880-69715/3-A	Lab Control Sample Dup	92	81										
MB 880-69715/1-A	Method Blank	139 S1+	128										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-69895/5-A
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69895

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/28/23 10:26	12/30/23 15:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/28/23 10:26	12/30/23 15:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/28/23 10:26	12/30/23 15:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/28/23 10:26	12/30/23 15:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/28/23 10:26	12/30/23 15:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/28/23 10:26	12/30/23 15:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*12/28/23 10:26*	*12/30/23 15:26*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*12/28/23 10:26*	*12/30/23 15:26*	*1*

Lab Sample ID: LCS 880-69895/1-A
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69895

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09887		mg/Kg		99	70 - 130		
Toluene			0.100	0.09406		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.1075		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.2291		mg/Kg		115	70 - 130		
o-Xylene			0.100	0.1132		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-69895/2-A
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69895

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09899		mg/Kg		99	70 - 130	0	35
Toluene			0.100	0.09493		mg/Kg		95	70 - 130	1	35
Ethylbenzene			0.100	0.1009		mg/Kg		101	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2213		mg/Kg		111	70 - 130	3	35
o-Xylene			0.100	0.1100		mg/Kg		110	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-5829-1 MS
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: SS 01
Prep Type: Total/NA
Prep Batch: 69895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F2 F1	0.0990	0.05411	F1	mg/Kg		55	70 - 130		
Toluene	<0.00199	U F1	0.0990	0.05846	F1	mg/Kg		59	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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

Lab Sample ID: 890-5829-1 MS
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: SS 01
Prep Type: Total/NA
Prep Batch: 69895

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0990	0.07132		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1440		mg/Kg		73	70 - 130
o-Xylene	<0.00199	U	0.0990	0.07552		mg/Kg		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-5829-1 MSD
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: SS 01
Prep Type: Total/NA
Prep Batch: 69895

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F2 F1	0.101	0.08483	F2	mg/Kg		84	70 - 130	44	35
Toluene	<0.00199	U F1	0.101	0.08260		mg/Kg		82	70 - 130	34	35
Ethylbenzene	<0.00199	U	0.101	0.09309		mg/Kg		92	70 - 130	26	35
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1960		mg/Kg		97	70 - 130	31	35
o-Xylene	<0.00199	U	0.101	0.09883		mg/Kg		98	70 - 130	27	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: MB 880-69926/5-A
Matrix: Solid
Analysis Batch: 69988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69926

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/23 16:15	12/30/23 04:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/23 16:15	12/30/23 04:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/23 16:15	12/30/23 04:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/28/23 16:15	12/30/23 04:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/23 16:15	12/30/23 04:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/28/23 16:15	12/30/23 04:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*12/28/23 16:15*	*12/30/23 04:42*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*12/28/23 16:15*	*12/30/23 04:42*	*1*

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

Lab Sample ID: MB 880-69715/1-A
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69715

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		12/23/23 07:52	12/23/23 08:14	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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

Lab Sample ID: MB 880-69715/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

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		12/23/23 07:52	12/23/23 08:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/23/23 07:52	12/23/23 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/23/23 07:52*	*12/23/23 08:14*	*1*
o-Terphenyl	*128*		*70 - 130*	*12/23/23 07:52*	*12/23/23 08:14*	*1*

Lab Sample ID: LCS 880-69715/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	920.5		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	848.0		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-69715/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	922.0		mg/Kg		92	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	852.2		mg/Kg		85	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-5827-A-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	1000	1695	F1	mg/Kg		168	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1329		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*154*	*S1+*	*70 - 130*
o-Terphenyl	*108*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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

Lab Sample ID: 890-5827-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	1000	1331	F1 F2	mg/Kg		131	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1313		mg/Kg		129	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*148*	*S1+*	*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-69615/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 69790

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/27/23 11:57	1

Lab Sample ID: LCS 880-69615/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 69790

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.9		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-69615/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 69790

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	240.8		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-5828-A-5-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 69790

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	239		251	476.8		mg/Kg		95	90 - 110		

Lab Sample ID: 890-5828-A-5-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 69790

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	239		251	479.4		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

GC VOA

Prep Batch: 69895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	5035	
890-5829-2	SS 02	Total/NA	Solid	5035	
890-5829-3	SS 03	Total/NA	Solid	5035	
890-5829-4	SS 04	Total/NA	Solid	5035	
MB 880-69895/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69895/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-69895/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5829-1 MS	SS 01	Total/NA	Solid	5035	
890-5829-1 MSD	SS 01	Total/NA	Solid	5035	

Prep Batch: 69926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-69926/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 69988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	8021B	69895
890-5829-2	SS 02	Total/NA	Solid	8021B	69895
890-5829-3	SS 03	Total/NA	Solid	8021B	69895
890-5829-4	SS 04	Total/NA	Solid	8021B	69895
MB 880-69895/5-A	Method Blank	Total/NA	Solid	8021B	69895
MB 880-69926/5-A	Method Blank	Total/NA	Solid	8021B	69926
LCS 880-69895/1-A	Lab Control Sample	Total/NA	Solid	8021B	69895
LCSD 880-69895/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69895
890-5829-1 MS	SS 01	Total/NA	Solid	8021B	69895
890-5829-1 MSD	SS 01	Total/NA	Solid	8021B	69895

Analysis Batch: 70043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	Total BTEX	
890-5829-2	SS 02	Total/NA	Solid	Total BTEX	
890-5829-3	SS 03	Total/NA	Solid	Total BTEX	
890-5829-4	SS 04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 69711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	8015B NM	69715
890-5829-2	SS 02	Total/NA	Solid	8015B NM	69715
890-5829-3	SS 03	Total/NA	Solid	8015B NM	69715
890-5829-4	SS 04	Total/NA	Solid	8015B NM	69715
MB 880-69715/1-A	Method Blank	Total/NA	Solid	8015B NM	69715
LCS 880-69715/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	69715
LCSD 880-69715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	69715
890-5827-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	69715
890-5827-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	69715

Prep Batch: 69715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

GC Semi VOA (Continued)

Prep Batch: 69715 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-2	SS 02	Total/NA	Solid	8015NM Prep	
890-5829-3	SS 03	Total/NA	Solid	8015NM Prep	
890-5829-4	SS 04	Total/NA	Solid	8015NM Prep	
MB 880-69715/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-69715/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-69715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5827-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5827-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 69734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Total/NA	Solid	8015 NM	
890-5829-2	SS 02	Total/NA	Solid	8015 NM	
890-5829-3	SS 03	Total/NA	Solid	8015 NM	
890-5829-4	SS 04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 69615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Soluble	Solid	DI Leach	
890-5829-2	SS 02	Soluble	Solid	DI Leach	
890-5829-3	SS 03	Soluble	Solid	DI Leach	
890-5829-4	SS 04	Soluble	Solid	DI Leach	
MB 880-69615/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5828-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5828-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 69790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5829-1	SS 01	Soluble	Solid	300.0	69615
890-5829-2	SS 02	Soluble	Solid	300.0	69615
890-5829-3	SS 03	Soluble	Solid	300.0	69615
890-5829-4	SS 04	Soluble	Solid	300.0	69615
MB 880-69615/1-A	Method Blank	Soluble	Solid	300.0	69615
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	300.0	69615
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	69615
890-5828-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	69615
890-5828-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	69615

Lab Chronicle

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 01

Lab Sample ID: 890-5829-1

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40

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	69895	12/28/23 10:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69988	12/30/23 15:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70043	12/30/23 15:48	SM	EET MID
Total/NA	Analysis	8015 NM		1			69734	12/23/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 13:40	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 14:07	SMC	EET MID

Client Sample ID: SS 02

Lab Sample ID: 890-5829-2

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	69895	12/28/23 10:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69988	12/30/23 16:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70043	12/30/23 16:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			69734	12/23/23 14:02	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 14:02	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 14:13	SMC	EET MID

Client Sample ID: SS 03

Lab Sample ID: 890-5829-3

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	69895	12/28/23 10:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69988	12/30/23 16:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70043	12/30/23 16:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			69734	12/23/23 14:23	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 14:23	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 14:33	SMC	EET MID

Client Sample ID: SS 04

Lab Sample ID: 890-5829-4

Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40

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	69895	12/28/23 10:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69988	12/30/23 16:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			70043	12/30/23 16:50	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Client Sample ID: SS 04
Date Collected: 12/20/23 00:00
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5829-4
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			69734	12/23/23 14:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 14:45	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 14:39	SMC	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 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5829-1
SDG: 03C1558265

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5829-1	SS 01	Solid	12/20/23 00:00	12/20/23 15:40	0.5'
890-5829-2	SS 02	Solid	12/20/23 00:00	12/20/23 15:40	0.5'
890-5829-3	SS 03	Solid	12/20/23 00:00	12/20/23 15:40	0.5'
890-5829-4	SS 04	Solid	12/20/23 00:00	12/20/23 15:40	0.5'

eurofins | Environment Testing Xenco

Chain of Custody

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

890-5829 Chain of Custody

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 22 DOG TOWN DRAW 172H	Turn Around	
Project Number:	03C1558265	☑ Routine ☐ Rush	
Project Location:	32.20791, -103.87650	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:	TNM001
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	Chlorides	TPH
SS01	S	12/20/23		0.5'	G	1		X	X	X
SS02										
SS03										
SS04										

Parameters

ANALYSIS REQUEST

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 #:
NAPP2320840457

Cost Center:
2224951001

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			2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5829-1
SDG Number: 03C1558265

Login Number: 5829
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: 890-5829-1
SDG Number: 03C1558265

Login Number: 5829
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/22/23 02:58 PM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/28/2023 7:33:06 AM

JOB DESCRIPTION

PLU 22 DOGTOWN DRAW 172H
03C1558265

JOB NUMBER

890-5830-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

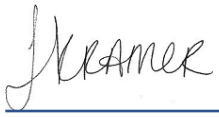
Eurofins Carlsbad

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
12/28/2023 7:33:06 AM

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

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Laboratory Job ID: 890-5830-1
SDG: 03C1558265

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Qualifiers

GC 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.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 890-5830-1
Project: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1 Eurofins Carlsbad

Job Narrative
890-5830-1

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 12/20/2023 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH 01 (890-5830-1) and PH 01A (890-5830-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69695 and analytical batch 880-69717 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-69600 and 880-69695 and analytical batch 880-69717 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH 01 (890-5830-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-69604 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-69604/5).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-69700 and analytical batch 880-69604 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.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-69604 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-69604/21).

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH 01 (890-5830-1), PH 01A (890-5830-2), (890-5830-A-1-D MS) and (890-5830-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-69700/1-A). Evidence of matrix interferences is not obvious.

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

Eurofins Carlsbad

Case Narrative

Client: Ensolum Job ID: 890-5830-1
Project: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1 (Continued) Eurofins Carlsbad

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 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Client Sample ID: PH 01

Lab Sample ID: 890-5830-1
Matrix: Solid
Date Collected: 12/20/23 10:25
Date Received: 12/20/23 15:40
Sample Depth: 0.5'

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		12/22/23 15:55	12/25/23 09:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 09:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 09:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/22/23 15:55	12/25/23 09:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 09:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/22/23 15:55	12/25/23 09:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*12/22/23 15:55*	*12/25/23 09:52*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*12/22/23 15:55*	*12/25/23 09:52*	*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			12/25/23 09:52	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			12/22/23 18:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/22/23 17:09	12/22/23 18:07	1
Diesel Range Organics (Over C10-C28)	<49.8	U F1	49.8		mg/Kg		12/22/23 17:09	12/22/23 18:07	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/22/23 17:09	12/22/23 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*12/22/23 17:09*	*12/22/23 18:07*	*1*
o-Terphenyl	*105*		*70 - 130*	*12/22/23 17:09*	*12/22/23 18:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1560**		25.0		mg/Kg			12/27/23 14:46	5

Client Sample ID: PH 01A

Lab Sample ID: 890-5830-2
Matrix: Solid
Date Collected: 12/20/23 10:30
Date Received: 12/20/23 15:40
Sample Depth: 1'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 10:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 10:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 10:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/22/23 15:55	12/25/23 10:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/22/23 15:55	12/25/23 10:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/22/23 15:55	12/25/23 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*12/22/23 15:55*	*12/25/23 10:20*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Client Sample ID: PH 01A
Date Collected: 12/20/23 10:30
Date Received: 12/20/23 15:40
Sample Depth: 1'

Lab Sample ID: 890-5830-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*12/22/23 15:55*	*12/25/23 10:20*	*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			12/25/23 10:20	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			12/22/23 19:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		12/22/23 17:09	12/22/23 19:12	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		12/22/23 17:09	12/22/23 19:12	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		12/22/23 17:09	12/22/23 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/22/23 17:09*	*12/22/23 19:12*	*1*
o-Terphenyl	*111*		*70 - 130*	*12/22/23 17:09*	*12/22/23 19:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**336**		4.97		mg/Kg			12/27/23 14:52	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-37281-A-44-B MS	Matrix Spike	90	90
880-37281-A-44-C MSD	Matrix Spike Duplicate	108	92
890-5830-1	PH 01	136 S1+	113
890-5830-2	PH 01A	121	105
LCS 880-69695/1-A	Lab Control Sample	103	101
LCSD 880-69695/2-A	Lab Control Sample Dup	94	92
MB 880-69600/5-A	Method Blank	63 S1-	87
MB 880-69695/5-A	Method Blank	64 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)
890-5830-1	PH 01	131 S1+	105
890-5830-1 MS	PH 01	154 S1+	105
890-5830-1 MSD	PH 01	147 S1+	95
890-5830-2	PH 01A	139 S1+	111
LCS 880-69700/2-A	Lab Control Sample	91	78
LCSD 880-69700/3-A	Lab Control Sample Dup	93	80
MB 880-69700/1-A	Method Blank	137 S1+	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-69600/5-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69600

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/21/23 15:30	12/24/23 10:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*12/21/23 15:30*	*12/24/23 10:25*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*12/21/23 15:30*	*12/24/23 10:25*	*1*

Lab Sample ID: MB 880-69695/5-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69695

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 00:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*12/22/23 15:55*	*12/25/23 00:32*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*12/22/23 15:55*	*12/25/23 00:32*	*1*

Lab Sample ID: LCS 880-69695/1-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69695

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09013		mg/Kg		90	70 - 130		
Toluene			0.100	0.07607		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.08187		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1564		mg/Kg		78	70 - 130		
o-Xylene			0.100	0.08099		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-69695/2-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69695

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08583		mg/Kg		86	70 - 130	5	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

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

Lab Sample ID: LCSD 880-69695/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08168		mg/Kg		82	70 - 130	7	35
Ethylbenzene			0.100	0.08114		mg/Kg		81	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1622		mg/Kg		81	70 - 130	4	35
o-Xylene			0.100	0.08654		mg/Kg		87	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-37281-A-44-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.101	0.05648	F1	mg/Kg		56	70 - 130
Toluene	<0.00200	U F1	0.101	0.04996	F1	mg/Kg		49	70 - 130
Ethylbenzene	<0.00200	U F1	0.101	0.05680	F1	mg/Kg		56	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.1057	F1	mg/Kg		52	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.05921	F1	mg/Kg		59	70 - 130

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

Lab Sample ID: 880-37281-A-44-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0996	0.06076	F1	mg/Kg		61	70 - 130	7	35
Toluene	<0.00200	U F1	0.0996	0.05804	F1	mg/Kg		58	70 - 130	15	35
Ethylbenzene	<0.00200	U F1	0.0996	0.06213	F1	mg/Kg		62	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U F1	0.199	0.1199	F1	mg/Kg		60	70 - 130	13	35
o-Xylene	<0.00200	U F1	0.0996	0.06454	F1	mg/Kg		65	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

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

Lab Sample ID: MB 880-69700/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69604 — **Prep Batch: 69700**

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		12/22/23 17:09	12/22/23 08:12	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

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

Lab Sample ID: MB 880-69700/1-A
Matrix: Solid
Analysis Batch: 69604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69700

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		12/22/23 17:09	12/22/23 08:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/22/23 17:09	12/22/23 08:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*12/22/23 17:09*	*12/22/23 08:12*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*12/22/23 17:09*	*12/22/23 08:12*	*1*

Lab Sample ID: LCS 880-69700/2-A
Matrix: Solid
Analysis Batch: 69604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69700

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	913.7		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	829.2		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Lab Sample ID: LCSD 880-69700/3-A
Matrix: Solid
Analysis Batch: 69604

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69700

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	913.1		mg/Kg		91	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	861.4		mg/Kg		86	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 890-5830-1 MS
Matrix: Solid
Analysis Batch: 69604

Client Sample ID: PH 01
Prep Type: Total/NA
Prep Batch: 69700

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	1000	875.0		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1000	1380	F1	mg/Kg		138	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*154*	*S1+*	*70 - 130*
o-Terphenyl	*105*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

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

Lab Sample ID: 890-5830-1 MSD
Matrix: Solid
Analysis Batch: 69604

Client Sample ID: PH 01
Prep Type: Total/NA
Prep Batch: 69700

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	1000	854.8		mg/Kg		85	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1000	1304		mg/Kg		130	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-69615/1-A
Matrix: Solid
Analysis Batch: 69790

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			12/27/23 11:57	1

Lab Sample ID: LCS 880-69615/2-A
Matrix: Solid
Analysis Batch: 69790

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.9		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-69615/3-A
Matrix: Solid
Analysis Batch: 69790

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	240.8		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-5828-A-5-B MS
Matrix: Solid
Analysis Batch: 69790

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	239		251	476.8		mg/Kg		95	90 - 110		

Lab Sample ID: 890-5828-A-5-C MSD
Matrix: Solid
Analysis Batch: 69790

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	239		251	479.4		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

GC VOA

Prep Batch: 69600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-69600/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 69695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	5035	
890-5830-2	PH 01A	Total/NA	Solid	5035	
MB 880-69695/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69695/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-69695/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-37281-A-44-B MS	Matrix Spike	Total/NA	Solid	5035	
880-37281-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 69717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	8021B	69695
890-5830-2	PH 01A	Total/NA	Solid	8021B	69695
MB 880-69600/5-A	Method Blank	Total/NA	Solid	8021B	69600
MB 880-69695/5-A	Method Blank	Total/NA	Solid	8021B	69695
LCS 880-69695/1-A	Lab Control Sample	Total/NA	Solid	8021B	69695
LCSD 880-69695/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69695
880-37281-A-44-B MS	Matrix Spike	Total/NA	Solid	8021B	69695
880-37281-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	69695

Analysis Batch: 69806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	Total BTEX	
890-5830-2	PH 01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 69604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	8015B NM	69700
890-5830-2	PH 01A	Total/NA	Solid	8015B NM	69700
MB 880-69700/1-A	Method Blank	Total/NA	Solid	8015B NM	69700
LCS 880-69700/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	69700
LCSD 880-69700/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	69700
890-5830-1 MS	PH 01	Total/NA	Solid	8015B NM	69700
890-5830-1 MSD	PH 01	Total/NA	Solid	8015B NM	69700

Prep Batch: 69700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	8015NM Prep	
890-5830-2	PH 01A	Total/NA	Solid	8015NM Prep	
MB 880-69700/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-69700/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-69700/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5830-1 MS	PH 01	Total/NA	Solid	8015NM Prep	
890-5830-1 MSD	PH 01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

GC Semi VOA

Analysis Batch: 69738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Total/NA	Solid	8015 NM	
890-5830-2	PH 01A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 69615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Soluble	Solid	DI Leach	
890-5830-2	PH 01A	Soluble	Solid	DI Leach	
MB 880-69615/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5828-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5828-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 69790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5830-1	PH 01	Soluble	Solid	300.0	69615
890-5830-2	PH 01A	Soluble	Solid	300.0	69615
MB 880-69615/1-A	Method Blank	Soluble	Solid	300.0	69615
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	300.0	69615
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	69615
890-5828-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	69615
890-5828-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	69615

Lab Chronicle

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Client Sample ID: PH 01

Date Collected: 12/20/23 10:25
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5830-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 09:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69806	12/25/23 09:52	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69738	12/22/23 18:07	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	69700	12/22/23 17:09	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69604	12/22/23 18:07	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	69790	12/27/23 14:46	SMC	EET MID

Client Sample ID: PH 01A

Date Collected: 12/20/23 10:30
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5830-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 10:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69806	12/25/23 10:20	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69738	12/22/23 19:12	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	69700	12/22/23 17:09	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69604	12/22/23 19:12	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 14:52	SMC	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 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5830-1
SDG: 03C1558265

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5830-1	PH 01	Solid	12/20/23 10:25	12/20/23 15:40	0.5'
890-5830-2	PH 01A	Solid	12/20/23 10:30	12/20/23 15:40	1'

eurofins | Environment Testing Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-129
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-31

890-5830 Chain of Custody

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 22 DOG TOWN DRAW 172H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558265	Due Date:	
Project Location:	32.20791, 103.87650	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:	IR#2
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.9
Total Containers:		Corrected Temperature:	2.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	Chlorides	TPH	Parameters
PH01	S	12/20/23	1025	0.5'	G	1		X	X	X	
PH01A	↓	↓	1030	1'	↓	↓		↓	↓	↓	

Sample Comments

Incident #:
NAPP2320840457

Cost Center:
2224951001

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 Meares	Brunt	12/20 15 40	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5830-1
SDG Number: 03C1558265

Login Number: 5830
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: 890-5830-1
SDG Number: 03C1558265

Login Number: 5830
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/22/23 02:58 PM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/4/2024 11:36:19 AM Revision 1

JOB DESCRIPTION

PLU 22 DOGTOWN DRAW 172H
03C1558265

JOB NUMBER

890-5828-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

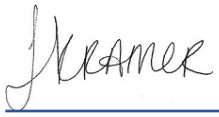
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
1/4/2024 11:36:19 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Laboratory Job ID: 890-5828-1
SDG: 03C1558265

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Qualifiers

GC VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 890-5828-1
Project: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1 **Eurofins Carlsbad**

Job Narrative
890-5828-1

REVISION

The report being provided is a revision of the original report sent on 12/27/2023. The report (revision 1) is being revised due to Per client email, requestin TPH re run.

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 12/20/2023 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS 01 (890-5828-1), FS 02 (890-5828-2), FS 03 (890-5828-3), SW 01 (890-5828-4) and SW 02 (890-5828-5).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69695 and analytical batch 880-69717 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-69600 and 880-69695 and analytical batch 880-69717 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69715 and analytical batch 880-69711 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SW 01 (890-5828-4), SW 02 (890-5828-5), (MB 880-69715/1-A), (890-5827-A-1-E), (890-5827-A-1-F MS) and (890-5827-A-1-G MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS 01 (890-5828-1). 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 880-70029 and analytical batch 880-70090 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Case Narrative

Client: Ensolum Job ID: 890-5828-1
Project: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1 (Continued) Eurofins Carlsbad

HPLC/IC
Method 300_ORGFM_28D: The matrix spike (MS) recoveries for preparation batch 880-69615 and analytical batch 880-69790 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: FS 01

Date Collected: 12/20/23 13:15
Date Received: 12/20/23 15:40
Sample Depth: 1.5'

Lab Sample ID: 890-5828-1
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		12/22/23 15:55	12/25/23 07:34	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 07:34	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 07:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/23 15:55	12/25/23 07:34	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 07:34	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/23 15:55	12/25/23 07:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*12/22/23 15:55*	*12/25/23 07:34*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*12/22/23 15:55*	*12/25/23 07:34*	*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			12/25/23 07:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.4**		49.6		mg/Kg			01/03/24 10:42	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	<49.6	U F1	49.6		mg/Kg		01/02/24 09:50	01/03/24 10:42	1
Diesel Range Organics (Over C10-C28)	**52.4**	**F1**	49.6		mg/Kg		01/02/24 09:50	01/03/24 10:42	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		01/02/24 09:50	01/03/24 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*68*	*S1-*	*70 - 130*	*01/02/24 09:50*	*01/03/24 10:42*	*1*
o-Terphenyl	*66*	*S1-*	*70 - 130*	*01/02/24 09:50*	*01/03/24 10:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.4**		5.00		mg/Kg			12/27/23 13:21	1

Client Sample ID: FS 02

Date Collected: 12/20/23 13:20
Date Received: 12/20/23 15:40
Sample Depth: 1.5'

Lab Sample ID: 890-5828-2
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		12/22/23 15:55	12/25/23 08:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 08:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 08:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/23 15:55	12/25/23 08:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/23 15:55	12/25/23 08:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/23 15:55	12/25/23 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:02*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: FS 02

Date Collected: 12/20/23 13:20
Date Received: 12/20/23 15:40
Sample Depth: 1.5'

Lab Sample ID: 890-5828-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/25/23 08:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**71.3**		50.5	mg/Kg			12/23/23 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	<50.5	U	50.5	mg/Kg		12/23/23 07:52	12/23/23 17:34	1
Diesel Range Organics (Over C10-C28)	**71.3**		50.5	mg/Kg		12/23/23 07:52	12/23/23 17:34	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/23/23 07:52	12/23/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*12/23/23 07:52*	*12/23/23 17:34*	*1*
o-Terphenyl	*98*		*70 - 130*	*12/23/23 07:52*	*12/23/23 17:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.3**		4.99	mg/Kg			12/27/23 13:28	1

Client Sample ID: FS 03

Date Collected: 12/20/23 13:05
Date Received: 12/20/23 15:40
Sample Depth: 1.5'

Lab Sample ID: 890-5828-3
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		12/22/23 15:55	12/25/23 08:29	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/22/23 15:55	12/25/23 08:29	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/22/23 15:55	12/25/23 08:29	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/22/23 15:55	12/25/23 08:29	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/22/23 15:55	12/25/23 08:29	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/22/23 15:55	12/25/23 08:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:29*	*1*
1,4-Difluorobenzene (Surr)	*127*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:29*	*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			12/25/23 08:29	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			12/23/23 17:55	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: FS 03

Date Collected: 12/20/23 13:05
Date Received: 12/20/23 15:40
Sample Depth: 1.5'

Lab Sample ID: 890-5828-3
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	<49.7	U	49.7		mg/Kg		12/23/23 07:52	12/23/23 17:55	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		12/23/23 07:52	12/23/23 17:55	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		12/23/23 07:52	12/23/23 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*12/23/23 07:52*	*12/23/23 17:55*	*1*
o-Terphenyl	*103*		*70 - 130*	*12/23/23 07:52*	*12/23/23 17:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**118**		5.04		mg/Kg			12/27/23 13:34	1

Client Sample ID: SW 01

Date Collected: 12/20/23 13:10
Date Received: 12/20/23 15:40
Sample Depth: 0-1.5'

Lab Sample ID: 890-5828-4
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		12/22/23 15:55	12/25/23 08:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 08:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 08:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 08:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 08:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 08:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:57*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*12/22/23 15:55*	*12/25/23 08:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			12/25/23 08:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**67.3**		50.0		mg/Kg			12/23/23 18:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/23/23 07:52	12/23/23 18:17	1
Diesel Range Organics (Over C10-C28)	**67.3**		50.0		mg/Kg		12/23/23 07:52	12/23/23 18:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/23/23 07:52	12/23/23 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*12/23/23 07:52*	*12/23/23 18:17*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/23/23 07:52*	*12/23/23 18:17*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: SW 01

Lab Sample ID: 890-5828-4
Matrix: Solid
Date Collected: 12/20/23 13:10
Date Received: 12/20/23 15:40
Sample Depth: 0-1.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	213		5.02		mg/Kg			12/27/23 13:41	1

Client Sample ID: SW 02

Lab Sample ID: 890-5828-5
Matrix: Solid
Date Collected: 12/20/23 12:50
Date Received: 12/20/23 15:40
Sample Depth: 0-1.5'

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		12/22/23 15:55	12/25/23 09:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/22/23 15:55	12/25/23 09:24	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/22/23 15:55	12/25/23 09:24	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/22/23 15:55	12/25/23 09:24	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/22/23 15:55	12/25/23 09:24	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/22/23 15:55	12/25/23 09:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*12/22/23 15:55*	*12/25/23 09:24*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*12/22/23 15:55*	*12/25/23 09:24*	*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			12/25/23 09:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/03/24 11:52	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/02/24 09:50	01/03/24 11:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/02/24 09:50	01/03/24 11:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/02/24 09:50	01/03/24 11:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*70*		*70 - 130*	*01/02/24 09:50*	*01/03/24 11:52*	*1*
o-Terphenyl	*70*		*70 - 130*	*01/02/24 09:50*	*01/03/24 11:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	239		5.01		mg/Kg			12/27/23 13:47	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-37281-A-44-B MS	Matrix Spike	90	90
880-37281-A-44-C MSD	Matrix Spike Duplicate	108	92
890-5828-1	FS 01	113	111
890-5828-2	FS 02	104	95
890-5828-3	FS 03	106	127
890-5828-4	SW 01	115	73
890-5828-5	SW 02	108	100
LCS 880-69695/1-A	Lab Control Sample	103	101
LCSD 880-69695/2-A	Lab Control Sample Dup	94	92
MB 880-69600/5-A	Method Blank	63 S1-	87
MB 880-69695/5-A	Method Blank	64 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)
890-5827-A-1-F MS	Matrix Spike	154 S1+	108
890-5827-A-1-G MSD	Matrix Spike Duplicate	148 S1+	105
890-5828-1	FS 01	68 S1-	66 S1-
890-5828-1 MS	FS 01	85	77
890-5828-1 MSD	FS 01	77	72
890-5828-2	FS 02	125	98
890-5828-3	FS 03	129	103
890-5828-4	SW 01	142 S1+	116
890-5828-5	SW 02	70	70
LCS 880-69715/2-A	Lab Control Sample	91	83
LCS 880-70029/2-A	Lab Control Sample	112	125
LCSD 880-69715/3-A	Lab Control Sample Dup	92	81
LCSD 880-70029/3-A	Lab Control Sample Dup	89	97
MB 880-69715/1-A	Method Blank	139 S1+	128
MB 880-70029/1-A - RA2	Method Blank	73	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-69600/5-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69600

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/21/23 15:30	12/24/23 10:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/21/23 15:30	12/24/23 10:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*12/21/23 15:30*	*12/24/23 10:25*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*12/21/23 15:30*	*12/24/23 10:25*	*1*

Lab Sample ID: MB 880-69695/5-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69695

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/23 15:55	12/25/23 00:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/23 15:55	12/25/23 00:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*12/22/23 15:55*	*12/25/23 00:32*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*12/22/23 15:55*	*12/25/23 00:32*	*1*

Lab Sample ID: LCS 880-69695/1-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69695

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09013		mg/Kg		90	70 - 130		
Toluene			0.100	0.07607		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.08187		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1564		mg/Kg		78	70 - 130		
o-Xylene			0.100	0.08099		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-69695/2-A
Matrix: Solid
Analysis Batch: 69717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69695

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08583		mg/Kg		86	70 - 130	5	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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

Lab Sample ID: LCSD 880-69695/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08168		mg/Kg		82	70 - 130	7	35
Ethylbenzene			0.100	0.08114		mg/Kg		81	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1622		mg/Kg		81	70 - 130	4	35
o-Xylene			0.100	0.08654		mg/Kg		87	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-37281-A-44-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.101	0.05648	F1	mg/Kg		56	70 - 130
Toluene	<0.00200	U F1	0.101	0.04996	F1	mg/Kg		49	70 - 130
Ethylbenzene	<0.00200	U F1	0.101	0.05680	F1	mg/Kg		56	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.1057	F1	mg/Kg		52	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.05921	F1	mg/Kg		59	70 - 130

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

Lab Sample ID: 880-37281-A-44-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69717 — **Prep Batch: 69695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0996	0.06076	F1	mg/Kg		61	70 - 130	7	35
Toluene	<0.00200	U F1	0.0996	0.05804	F1	mg/Kg		58	70 - 130	15	35
Ethylbenzene	<0.00200	U F1	0.0996	0.06213	F1	mg/Kg		62	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U F1	0.199	0.1199	F1	mg/Kg		60	70 - 130	13	35
o-Xylene	<0.00200	U F1	0.0996	0.06454	F1	mg/Kg		65	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

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

Lab Sample ID: MB 880-69715/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 69711 — **Prep Batch: 69715**

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		12/23/23 07:52	12/23/23 08:14	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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

Lab Sample ID: MB 880-69715/1-A
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69715

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		12/23/23 07:52	12/23/23 08:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/23/23 07:52	12/23/23 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/23/23 07:52*	*12/23/23 08:14*	*1*
o-Terphenyl	*128*		*70 - 130*	*12/23/23 07:52*	*12/23/23 08:14*	*1*

Lab Sample ID: LCS 880-69715/2-A
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69715

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	920.5		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	848.0		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-69715/3-A
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69715

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	922.0		mg/Kg		92	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	852.2		mg/Kg		85	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-5827-A-1-F MS
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 69715

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	1000	1695	F1	mg/Kg		168	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1329		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*154*	*S1+*	*70 - 130*
o-Terphenyl	*108*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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

Lab Sample ID: 890-5827-A-1-G MSD
Matrix: Solid
Analysis Batch: 69711

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 69715

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	1000	1331	F1 F2	mg/Kg		131	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1313		mg/Kg		129	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*148*	*S1+*	*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: LCS 880-70029/2-A
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 70029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	933.8		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1023		mg/Kg		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*125*		*70 - 130*

Lab Sample ID: LCSD 880-70029/3-A
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 70029

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	925.9		mg/Kg		93	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	927.0		mg/Kg		93	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-5828-1 MS
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: FS 01
Prep Type: Total/NA
Prep Batch: 70029

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.6	U F1	1010	679.6	F1	mg/Kg		67	70 - 130
Diesel Range Organics (Over C10-C28)	52.4	F1	1010	753.7	F1	mg/Kg		69	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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

Lab Sample ID: 890-5828-1 MS
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: FS 01
Prep Type: Total/NA
Prep Batch: 70029

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*77*		*70 - 130*

Lab Sample ID: 890-5828-1 MSD
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: FS 01
Prep Type: Total/NA
Prep Batch: 70029

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	<49.6	U F1	1010	635.8	F1	mg/Kg		63	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	52.4	F1	1010	690.1	F1	mg/Kg		63	70 - 130	9	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC) - RA2

Lab Sample ID: MB 880-70029/1-A
Matrix: Solid
Analysis Batch: 70090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 70029

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 - RA2	<50.0	U	50.0		mg/Kg		01/02/24 09:50	01/03/24 07:57	1
Diesel Range Organics (Over C10-C28) - RA2	<50.0	U	50.0		mg/Kg		01/02/24 09:50	01/03/24 07:57	1
Oil Range Organics (Over C28-C36) - RA2	<50.0	U	50.0		mg/Kg		01/02/24 09:50	01/03/24 07:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane - RA2	*73*		*70 - 130*	*01/02/24 09:50*	*01/03/24 07:57*	*1*
o-Terphenyl - RA2	*80*		*70 - 130*	*01/02/24 09:50*	*01/03/24 07:57*	*1*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-69615/1-A
Matrix: Solid
Analysis Batch: 69790

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			12/27/23 11:57	1

Lab Sample ID: LCS 880-69615/2-A
Matrix: Solid
Analysis Batch: 69790

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.9		mg/Kg		94	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-69615/3-A
Matrix: Solid
Analysis Batch: 69790

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	240.8		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-5828-5 MS
Matrix: Solid
Analysis Batch: 69790

Client Sample ID: SW 02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	239		251	476.8		mg/Kg		95	90 - 110		

Lab Sample ID: 890-5828-5 MSD
Matrix: Solid
Analysis Batch: 69790

Client Sample ID: SW 02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	239		251	479.4		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

GC VOA

Prep Batch: 69600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-69600/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 69695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	5035	
890-5828-2	FS 02	Total/NA	Solid	5035	
890-5828-3	FS 03	Total/NA	Solid	5035	
890-5828-4	SW 01	Total/NA	Solid	5035	
890-5828-5	SW 02	Total/NA	Solid	5035	
MB 880-69695/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69695/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-69695/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-37281-A-44-B MS	Matrix Spike	Total/NA	Solid	5035	
880-37281-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 69717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	8021B	69695
890-5828-2	FS 02	Total/NA	Solid	8021B	69695
890-5828-3	FS 03	Total/NA	Solid	8021B	69695
890-5828-4	SW 01	Total/NA	Solid	8021B	69695
890-5828-5	SW 02	Total/NA	Solid	8021B	69695
MB 880-69600/5-A	Method Blank	Total/NA	Solid	8021B	69600
MB 880-69695/5-A	Method Blank	Total/NA	Solid	8021B	69695
LCS 880-69695/1-A	Lab Control Sample	Total/NA	Solid	8021B	69695
LCSD 880-69695/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69695
880-37281-A-44-B MS	Matrix Spike	Total/NA	Solid	8021B	69695
880-37281-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	69695

Analysis Batch: 69805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	Total BTEX	
890-5828-2	FS 02	Total/NA	Solid	Total BTEX	
890-5828-3	FS 03	Total/NA	Solid	Total BTEX	
890-5828-4	SW 01	Total/NA	Solid	Total BTEX	
890-5828-5	SW 02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 69711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-2	FS 02	Total/NA	Solid	8015B NM	69715
890-5828-3	FS 03	Total/NA	Solid	8015B NM	69715
890-5828-4	SW 01	Total/NA	Solid	8015B NM	69715
MB 880-69715/1-A	Method Blank	Total/NA	Solid	8015B NM	69715
LCS 880-69715/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	69715
LCSD 880-69715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	69715
890-5827-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	69715
890-5827-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	69715

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

GC Semi VOA

Prep Batch: 69715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-2	FS 02	Total/NA	Solid	8015NM Prep	
890-5828-3	FS 03	Total/NA	Solid	8015NM Prep	
890-5828-4	SW 01	Total/NA	Solid	8015NM Prep	
MB 880-69715/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-69715/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-69715/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5827-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5827-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 69737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	8015 NM	
890-5828-2	FS 02	Total/NA	Solid	8015 NM	
890-5828-3	FS 03	Total/NA	Solid	8015 NM	
890-5828-4	SW 01	Total/NA	Solid	8015 NM	
890-5828-5	SW 02	Total/NA	Solid	8015 NM	

Prep Batch: 70029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	8015NM Prep	
890-5828-5	SW 02	Total/NA	Solid	8015NM Prep	
MB 880-70029/1-A - RA2	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-70029/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-70029/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5828-1 MS	FS 01	Total/NA	Solid	8015NM Prep	
890-5828-1 MSD	FS 01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 70090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Total/NA	Solid	8015B NM	70029
890-5828-5	SW 02	Total/NA	Solid	8015B NM	70029
MB 880-70029/1-A - RA2	Method Blank	Total/NA	Solid	8015B NM	70029
LCS 880-70029/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	70029
LCSD 880-70029/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	70029
890-5828-1 MS	FS 01	Total/NA	Solid	8015B NM	70029
890-5828-1 MSD	FS 01	Total/NA	Solid	8015B NM	70029

HPLC/IC

Leach Batch: 69615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Soluble	Solid	DI Leach	
890-5828-2	FS 02	Soluble	Solid	DI Leach	
890-5828-3	FS 03	Soluble	Solid	DI Leach	
890-5828-4	SW 01	Soluble	Solid	DI Leach	
890-5828-5	SW 02	Soluble	Solid	DI Leach	
MB 880-69615/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5828-5 MS	SW 02	Soluble	Solid	DI Leach	
890-5828-5 MSD	SW 02	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

HPLC/IC

Analysis Batch: 69790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5828-1	FS 01	Soluble	Solid	300.0	69615
890-5828-2	FS 02	Soluble	Solid	300.0	69615
890-5828-3	FS 03	Soluble	Solid	300.0	69615
890-5828-4	SW 01	Soluble	Solid	300.0	69615
890-5828-5	SW 02	Soluble	Solid	300.0	69615
MB 880-69615/1-A	Method Blank	Soluble	Solid	300.0	69615
LCS 880-69615/2-A	Lab Control Sample	Soluble	Solid	300.0	69615
LCSD 880-69615/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	69615
890-5828-5 MS	SW 02	Soluble	Solid	300.0	69615
890-5828-5 MSD	SW 02	Soluble	Solid	300.0	69615

Lab Chronicle

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: FS 01
Date Collected: 12/20/23 13:15
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5828-1
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	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 07:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69805	12/25/23 07:34	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69737	01/03/24 10:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	70029	01/02/24 09:50	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70090	01/03/24 10:42	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 13:21	SMC	EET MID

Client Sample ID: FS 02
Date Collected: 12/20/23 13:20
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5828-2
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			5.03 g	5 mL	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 08:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69805	12/25/23 08:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69737	12/23/23 17:34	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 17:34	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 13:28	SMC	EET MID

Client Sample ID: FS 03
Date Collected: 12/20/23 13:05
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5828-3
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			5.05 g	5 mL	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 08:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69805	12/25/23 08:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69737	12/23/23 17:55	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 17:55	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 13:34	SMC	EET MID

Client Sample ID: SW 01
Date Collected: 12/20/23 13:10
Date Received: 12/20/23 15:40

Lab Sample ID: 890-5828-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 08:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69805	12/25/23 08:57	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Client Sample ID: SW 01

Lab Sample ID: 890-5828-4

Date Collected: 12/20/23 13:10
Date Received: 12/20/23 15:40

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			69737	12/23/23 18:17	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	69715	12/23/23 07:52	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	69711	12/23/23 18:17	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 13:41	SMC	EET MID

Client Sample ID: SW 02

Lab Sample ID: 890-5828-5

Date Collected: 12/20/23 12:50
Date Received: 12/20/23 15:40

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	69695	12/22/23 15:55	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	69717	12/25/23 09:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69805	12/25/23 09:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			69737	01/03/24 11:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	70029	01/02/24 09:50	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	70090	01/03/24 11:52	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	69615	12/22/23 08:14	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	69790	12/27/23 13:47	SMC	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 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

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 22 DOGTOWN DRAW 172H

Job ID: 890-5828-1
SDG: 03C1558265

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5828-1	FS 01	Solid	12/20/23 13:15	12/20/23 15:40	1.5'
890-5828-2	FS 02	Solid	12/20/23 13:20	12/20/23 15:40	1.5'
890-5828-3	FS 03	Solid	12/20/23 13:05	12/20/23 15:40	1.5'
890-5828-4	SW 01	Solid	12/20/23 13:10	12/20/23 15:40	0-1.5'
890-5828-5	SW 02	Solid	12/20/23 12:50	12/20/23 15:40	0-1.5'

eurofins | Environment Testing Xenco

Chain of Custody

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

890-5828 Chain of Custody

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 22 DOG TOWN DRAW 172H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558265	Due Date:	
Project Location:	32.20791, -103.87650	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:	TNM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	TPH	Chlorides
FS01	S	12/20/23	1315	1.5'	C	1	X	X	X
FS02			1320						
FS03			1305						
SW01			1310	0-1.5'					
SW02			1250						

me

Sample Comments

Incident #:
NAPP2320840457

Cost Center:
2224951001

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	2	12/20 1540	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5828-1
SDG Number: 03C1558265

Login Number: 5828
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: 890-5828-1
SDG Number: 03C1558265

Login Number: 5828
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/22/23 02:58 PM

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

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

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

QUESTIONS

Action 330857

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2320840457**
Incident Name	**NAPP2320840457 PLU 22 DOG TOWN DRAW 172H @ 0**
Incident Type	**Release Other**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU 22 DOG TOWN DRAW 172H
Date Release Discovered	07/13/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Release Other
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	Cause: Other | Other (Specify) | Other (Specify) | Released: 7 BBL | Recovered: 6 BBL | Lost: 1 BBL.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Friction Reducer - Liquid FR tote ruptured, releasing fluids to pad. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Garrett Green Title: SHE Coordinator Email: garrett.green@exxonmobil.com Date: 01/05/2024

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 500 and 1000 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1000 (ft.) and ½ (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1000 (ft.) and ½ (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1560
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	73.2
GRO+DRO (EPA SW-846 Method 8015M)	73.2
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	12/20/2023
On what date will (or did) the final sampling or liner inspection occur	12/20/2023
On what date will (or was) the remediation complete(d)	01/04/2024
What is the estimated surface area (in square feet) that will be reclaimed	540
What is the estimated volume (in cubic yards) that will be reclaimed	30
What is the estimated surface area (in square feet) that will be remediated	540
What is the estimated volume (in cubic yards) that will be remediated	30
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 04/08/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**294586**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**12/20/2023**
What was the (estimated) number of samples that were to be gathered	**5**
What was the sampling surface area in square feet	**600**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	540
What was the total volume (cubic yards) remediated	30
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	340
What was the total volume (in cubic yards) reclaimed	30
Summarize any additional remediation activities not included by answers (above)	Site assessment, delineation, and excavation activities were conducted at the Site to address the July 13, 2023, release of friction reducer. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated that all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Based on laboratory analytical results, no further remediation is required. The excavation was backfilled on January 4, 2024, with caliche material purchased locally and the area and recontoured to match pre-existing Site conditions.

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 04/08/2024

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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

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

CONDITIONS

Action 330857

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 330857
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
crystal.walker	None	5/9/2024