ENSOLUM

February 11, 2025

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

Re: Closure Request Addendum
PLU 21 Brushy Draw 125H
Incident Number NAPP2229145683
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request Addendum* to present additional remediation activities completed at the PLU 21 Brushy Draw 125H (Site), in response to the denial of the original *Closure Request*, submitted to the New Mexico Oil Conservation Division (NMOCD) on March 31, 2023. In the denial, NMOCD indicated that the release was not laterally defined. Based on soil sampling activities described below, XTO is submitting this *Closure Request Addendum* and requesting no further action for Incident Number NAPP2229145683.

BACKGROUND

The Site is located in Unit O, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.109254°, -103.883924°) and is associated with oil and gas exploration and production operations on private land owned by Ms. Janey Paschal.

On October 4, 2022, a seal failed on the sand knockout, resulting in the release of 1.12 barrels (bbls) of crude oil and 4.47 bbls of produced water onto the pad surface. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 1.00 bbl of crude oil and 4.00 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil and Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on October 18, 2022. The release was assigned Incident Number NAPP2229145683.

The *Closure Request* detailed the Site characterization completed to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented in the original *Closure Request*, submitted March 31, 2023. Potential Site receptors are identified on Figure 1. Based on the results of the Site characterization, the following Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg

- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

Between November 17, 2022, and February 15, 2023, Ensolum conducted Site assessment, delineation, and excavation activities in response to the release. XTO submitted a *Closure Request* on March 31, 2023, requesting no further action (NFA) following delineation of the release and excavation of all soil exceeding the Closure Criteria. Delineation soil samples were collected within and around the release as shown on Figure 2. Excavation soil samples were collected from the excavation as shown on Figure 3. All previously completed remedial activities can be found in the original *Closure Request* included in Appendix A. On August 17, 2023, NMOCD denied the Closure Request for Incident Number NAPP2334152485 for the following reasons:

> *The Closure Report is Denied. The "step-out" samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area to conduct horizontal delineation samples may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. Please make sure that the edge of the release extent is accurately defined. Additionally, when equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won't give us those sampling data points that we need. "Step-out" samples should never be conducted if equipment is in the vicinity of the release area.*

CONFIRMATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On March 4, 2024, Ensolum personnel returned to the Site to collect additional confirmation soil samples. Composite soil sample SW01 was collected from the sidewalls of the previous excavation at depths ranging from the ground surface to 1-foot bgs. Soil samples SS07 through SS10 were collected at a depth of 0.5 feet bgs around the release to laterally define the release extent.

The confirmation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. All confirmation 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 Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500. Photographic documentation of the confirmation soil sampling activities is included in Appendix B. The release extent, excavation extent, and additional soil sample locations are presented on Figure 4.

Laboratory analytical results for all confirmation soil samples collected indicated all COC concentrations were in compliance with the Closure Criteria and confirmed the lateral extent of the release. The laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix C.

As previously reported, the excavation area measured approximately 775 square feet. The impacted soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. A

total of 29 cubic yards of impacted soil were removed from the Site. The excavation has been backfilled with material purchased locally and the Site has been recontoured to match pre-existing site conditions. The release remained on the active well pad. As such, the release area is not expected to be reclaimed until the well pad is reclaimed.

CLOSURE REQUEST

Soil sampling activities were conducted at the Site to address the October 4, 2022, crude oil and produced water release. Laboratory analytical results from all samples collected from the final excavation extent and release area, indicated that all COC concentrations were in compliance with the Closure Criteria. Based on laboratory analytical results, impacted soil exceeding the Site Closure Criteria has been excavated and no further remediation is required at this time. However, soil on the well pad exceeding the reclamation requirements of NMAC 19.15.29.13.D (1) will be removed during the final reclamation of the well pad. The excavation was backfilled with material purchased locally and the surface recontoured to match pre-existing Site conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2229145683.

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

Sincerely,
Ensolum, LLC

Hadlie Green
Project Geologist

Tacoma Morrissey
Associate Principal

cc: Kaylan Dirkx, XTO
Colton Brown, XTO
Ms. Janey Paschal

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	March 31, 2023 *Closure Request*
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation

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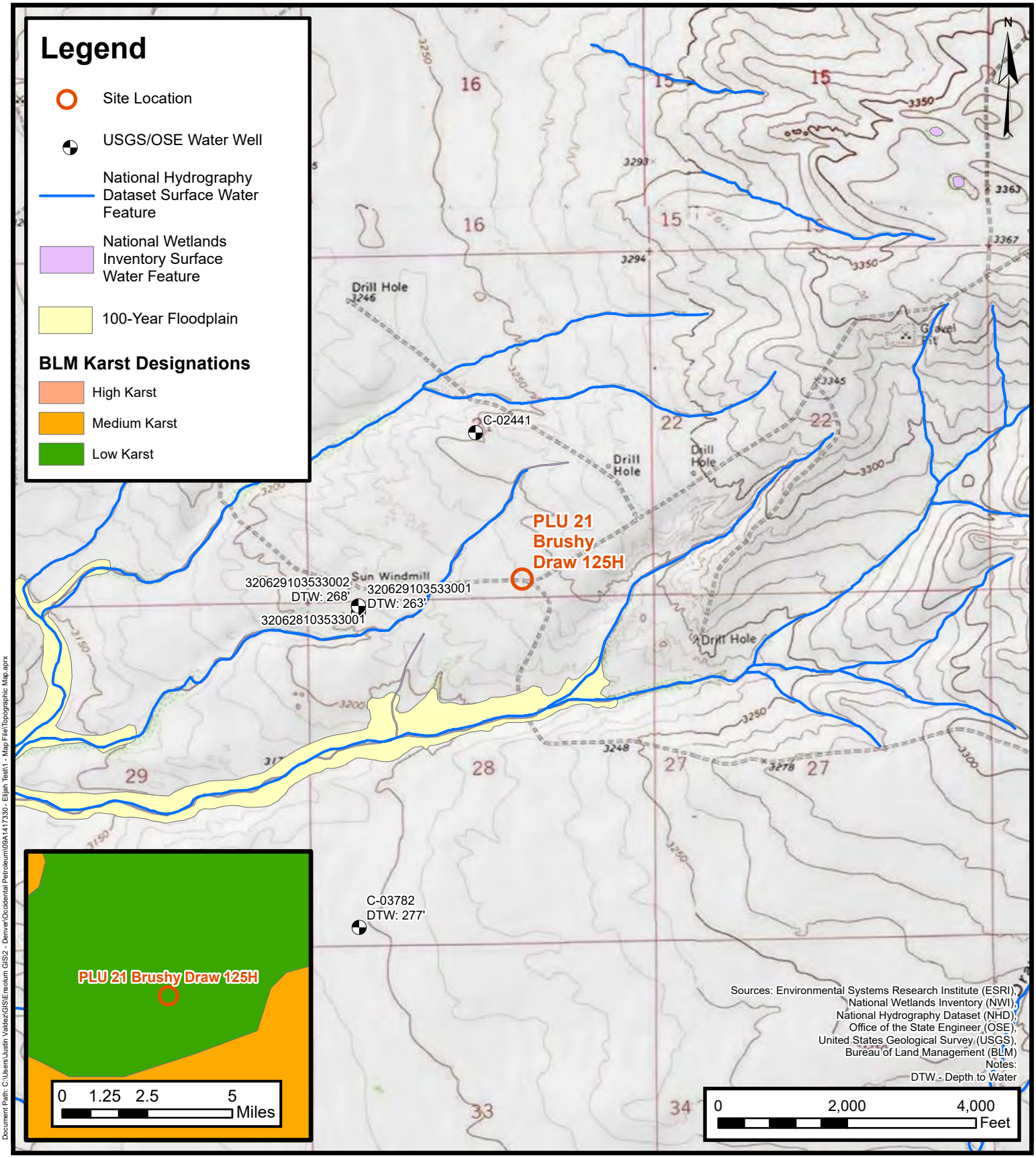
FIGURES



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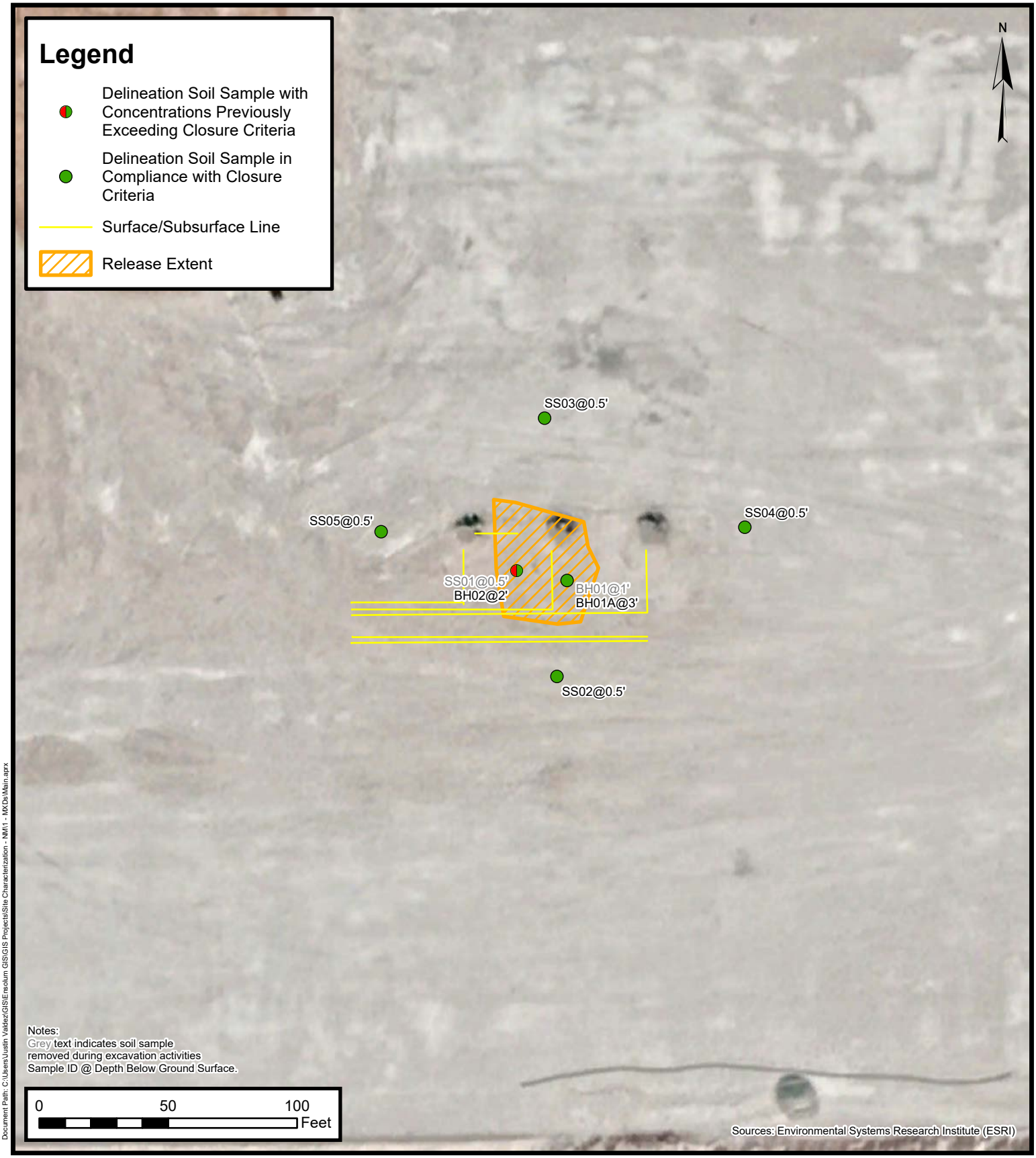
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
1



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Delineation Soil Sample Locations

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
2

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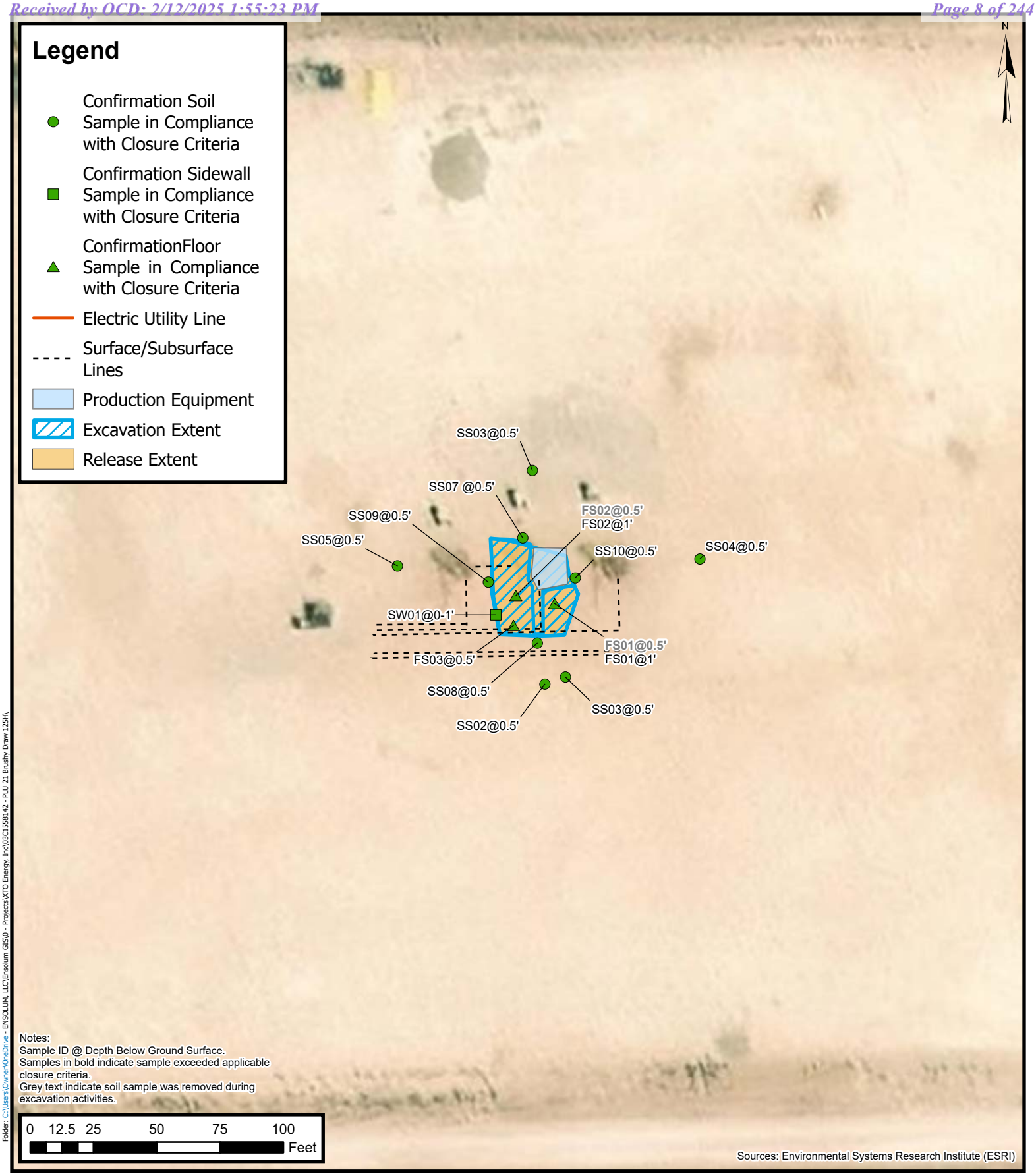
Excavation Soil Sample Locations

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
3



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Confirmation Soil Sample Location

XTO Energy, Inc.
PLU 21 Brushy Draw 125H
Incident Number: NAPP2229145683
Unit O, Sec 21, T25S, R30E
Eddy County, New Mexico

FIGURE 4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 21 Brushy Draw 125H
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~~	~~11/17/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<249~~	~~13,500~~	~~1,950~~	~~**13,500**~~	~~**15,500**~~	~~4,170~~
BH02	02/15/2023	2	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	307
~~BH01~~	~~12/29/2022~~	~~1~~	~~<0.0398~~	~~<0.0797~~	~~<50.0~~	~~429~~	~~144~~	~~429~~	~~573~~	~~6,460~~
BH01A	12/29/2022	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	477
SS02	11/17/2022	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	79.3
SS03	11/17/2022	0.5	<0.00200	<0.00401	<50.0	64.8	<50.0	64.8	64.8	126
SS03	12/15/2023	0.5	<0.00199	<0.00398	<50.5	81.7	<50.5	81.7	81.7	236
SS04	11/17/2022	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	202
SS05	11/17/2022	0.5	<0.00199	<0.00398	<49.9	60.3	<49.9	60.3	60.3	458
SS06	12/15/2023	0.5	<0.00199	<0.00398	<50.5	81.7	<50.5	81.7	81.7	236
SS07	03/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SS08	03/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SS09	03/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SS10	03/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
Excavation Soil Samples										
~~FS01~~	~~12/29/2022~~	~~0.5~~	~~<0.0401~~	~~<0.0802~~	~~<50.0~~	~~1,820~~	~~281~~	~~**1,820**~~	~~2,100~~	~~8,400~~
FS01	02/15/2023	1	<0.00200	<0.00400	<49.9	168	<49.9	168	168	2,650
~~FS02~~	~~12/29/2022~~	~~0.5~~	~~<0.0399~~	~~0.112~~	~~<49.9~~	~~1,970~~	~~305~~	~~**1,970**~~	~~2,280~~	~~5,610~~
FS02	02/15/2023	1	<0.00202	<0.00404	<50.0	138	<50.0	138	138	2,940
FS03	12/30/2022	0.5	<0.00201	<0.00402	<49.8	246	<49.8	246	246	2,760
~~FS04~~	~~12/30/2022~~	~~0.5~~	~~<0.0401~~	~~<0.0802~~	~~106~~	~~2,850~~	~~<50.0~~	~~**2,960**~~	~~**2,960**~~	~~5,340~~
FS04	02/15/2023	1	<0.0020	<0.00403	<49.9	115	<49.9	115	115	1,590
SW01	03/04/2024	0 - 1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria

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

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

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APPENDIX A

Closure Request Report; Dated March 31, 2023

ENSOLUM

March 31, 2023

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

Re: Closure Request
PLU 21 Brushy Draw 125H
Incident Number NAPP2229145683
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities at the PLU 21 Brushy Draw 125H (Site). The purpose of the the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil and produced water at the Site. Based on observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing Site assessment, excavation, and delineation activities that have occurred and requesting no further action for Incident Number NAPP2229145683.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.109254°, -103.883924°) and is associated with oil and gas exploration and production operations on private land owned by Ms. Janey Paschal.

On October 4, 2022, a seal failed on the sand knockout, resulting in the release of 1.12 barrels (bbls) of crude oil and 4.47 bbls of produced water onto the pad surface. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 1.00 bbl of crude oil and 4.00 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil and Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on October 18, 2022. The release was assigned Incident Number NAPP2229145683.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to water is United States Geological Survey (USGS) well 320628103533001, located 0.48 miles west of the Site. The groundwater well has a reported depth to groundwater of 264 feet bgs and a total depth of 288 feet bgs. Ground surface elevation at the groundwater well location is 3,207 feet above mean sea level

(amsl), which is approximately 44 feet lower in elevation than the Site. All wells used to determine depth to groundwater are depicted on Figure 1. The Well Record for USGS well 32062810353301 is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 970 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT ACTIVITIES

On November 17, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six delineation soil samples (SS01 through SS05) were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The delineation soil samples were field screened for volatile aromatic hydrocarbons (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

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

Based on laboratory analyical results for SS01 and observed surficial staining, delineation and excavation activities appeared warranted.

DELINEATION AND EXCAVATION ACTIVITIES

Between December 29, 2022 and February 15, 2023, Ensolum returned to the Site to oversee delineation and excavation activities. Delineation boreholes (BH01 and BH02) were advanced within the relase extent by use of a hand auger and hydrovacuum to assess the vertical extent of the release. Borehole BH01 was advanced to a total depth of 3 feet bgs and discrete soil samples were collected at 1-foot bgs and 3 feet bgs. Borehole BH02 was advanced at the location of SS01 to a depth of 2 feet bgs and a discrete soil sample was collected at 2 feet bgs. Soil from the borehole was field screened for VOCs and chloride. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix C. The delineation soil samples were handled, and analyzed following the same procedures as described above.

Following delineation activities, excavation of impacted soil was performed by use of hand tools and directed by field screening and visible staining. Following removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing up to 200 square feet from the 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 FS04 were collected from the floor of the excavation from a depth of 0.5 feet bgs. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into all confirmation floor soil samples. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above.

Based on laboratory analytical results for soil samples, additional impacted soil was removed by use of heavy equipment to a depth of 1-foot bgs in the areas of FS01, FS02 and FS04. New 5-point composite soil samples dated February 15, 2023 were collected, handled, and analyzed following the same procedures as described above. The excavation extent and soil sample locations are presented on Figure 3.

The final excavation measured approximately 775 square feet. A total of approximately 29 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS01 indicated TPH concentrations exceeded the Closure Criteria. All other delineation soil samples collected indicated COC concentrations were compliant with the Closure Criteria and indicate the Site was vertically and laterally delineated to the strictest Table I Closure Criteria.

Laboratory analytical results for excavation soil samples FS01, FS02, and FS04 collected at 0.5 feet bgs indicated TPH-GRO/TPH-DRO concentrations ranged from 2,100 mg/kg to 2,960 mg/kg and the residual impacted soil was subsequently excavated. Laboratory analytical results for final excavation confirmation samples FS01 through FS04, collected at depths ranging from 0.5 feet to 1-foot bgs, indicated all COC were in compliance with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D. NMOCD notifications are included in Appendix E.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the October 4, 2022 release of crude oil and produced water. Laboratory analytical results for the excavation soil samples,

collected from the final excavation extent, indicated COC concentrations were compliant with the Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

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

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

Sincerely,
Ensolum, LLC

Meredith Roberts
Field Geologist

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

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

Appendices:

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

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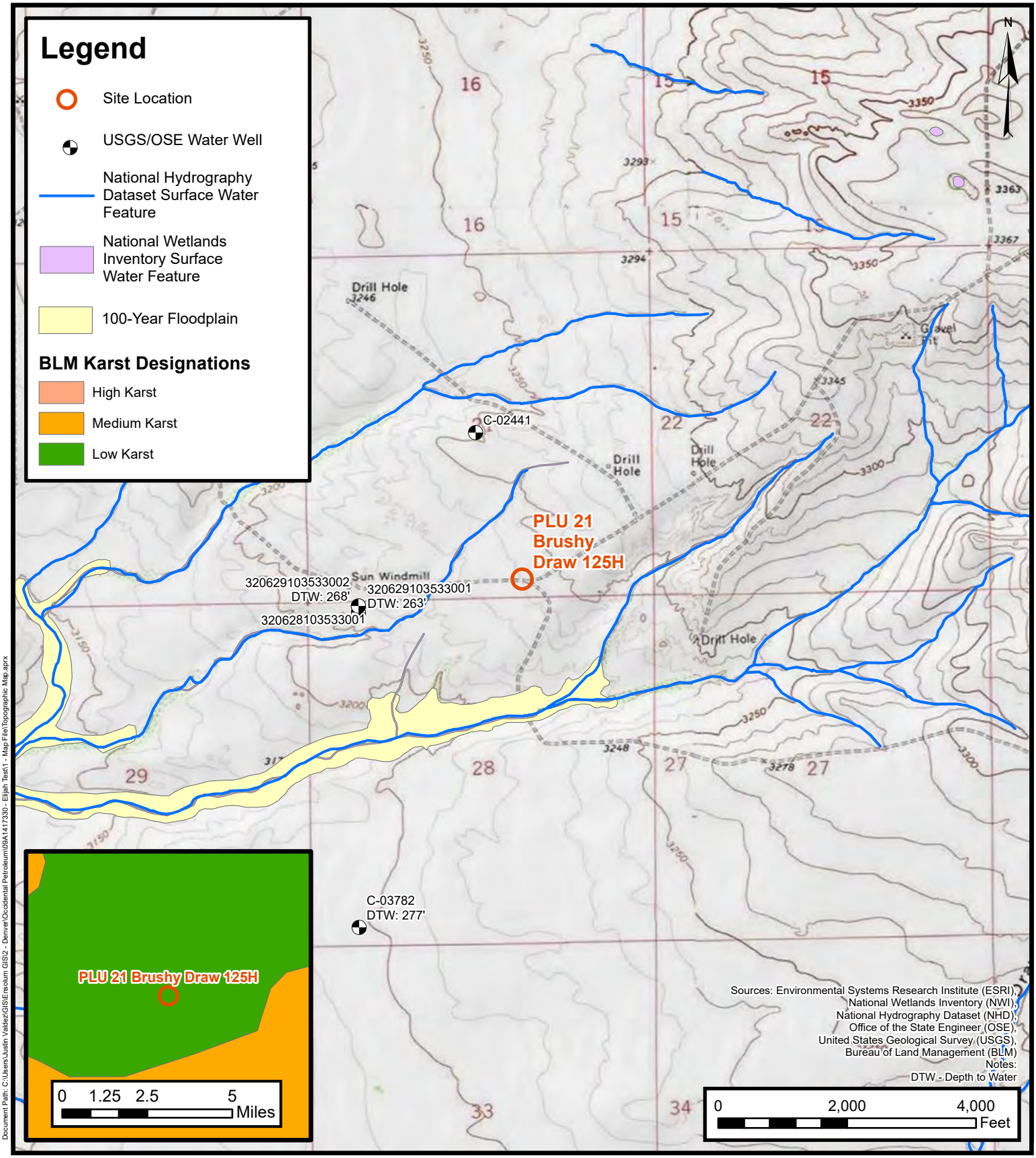
FIGURES



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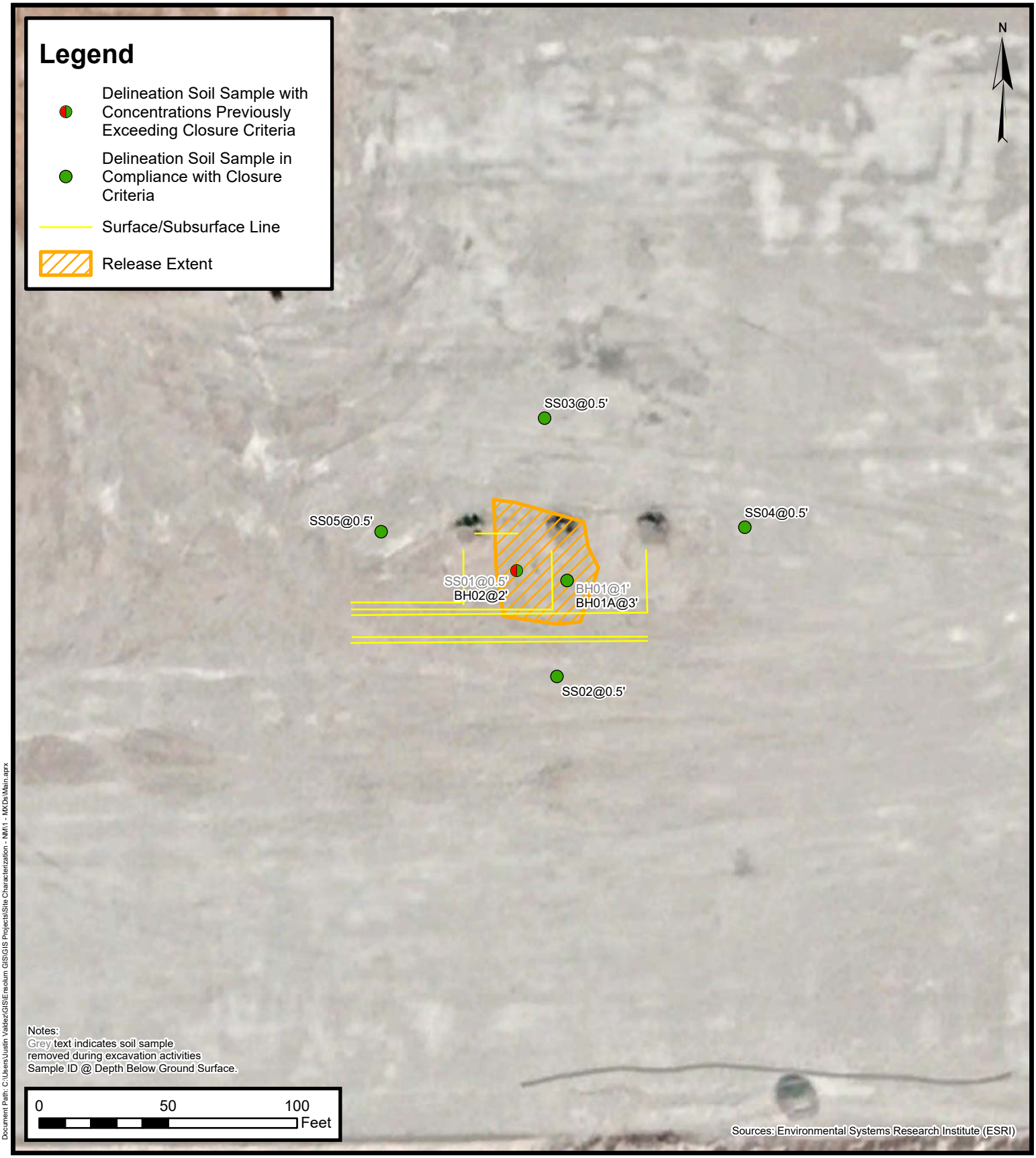
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
1



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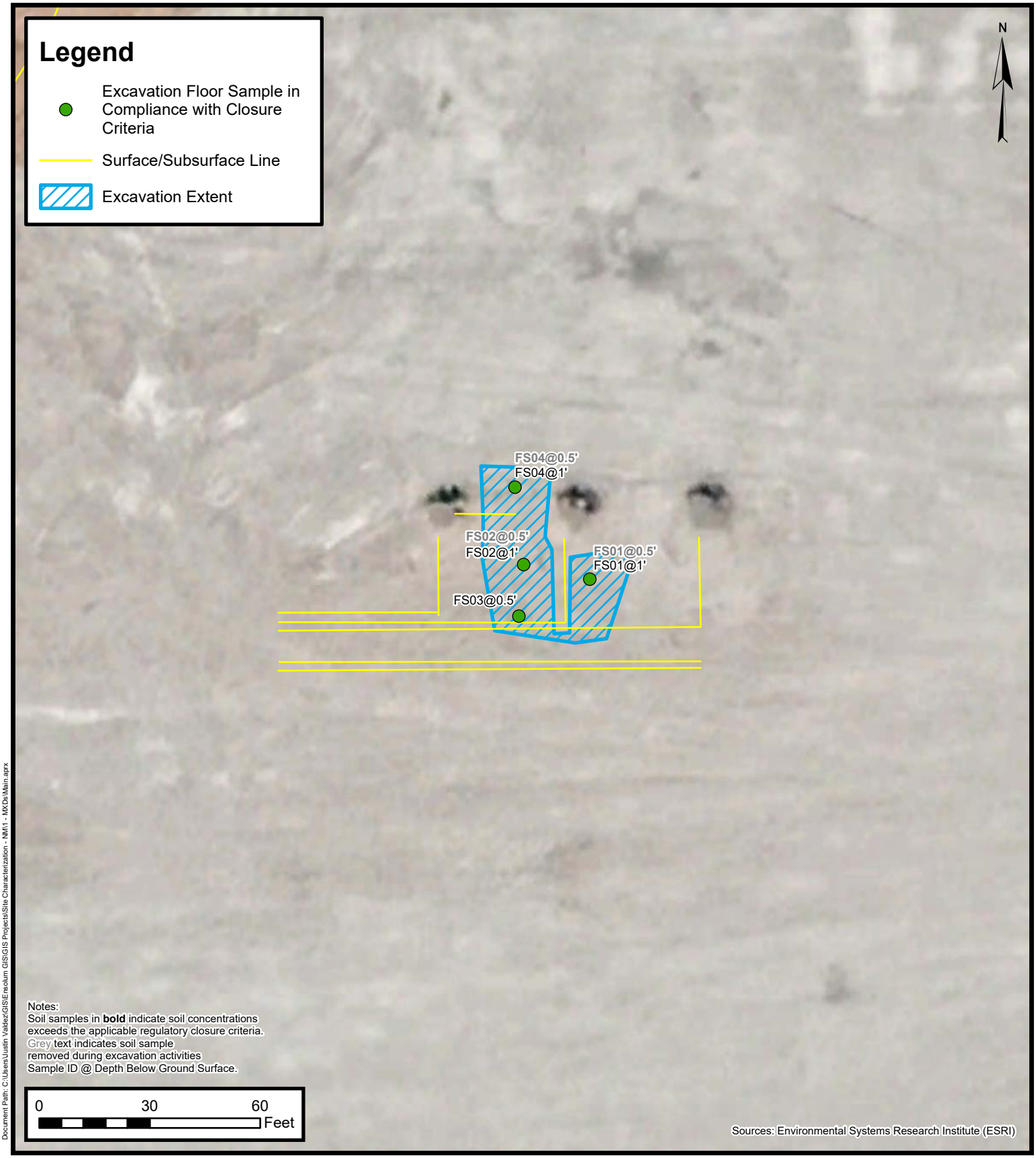
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
2



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\GIS Projects\Site Characterization - NM\1 - MXDs\Main.aprx

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO ENERGY, INC
PLU 21 Brushy Draw 125H
Incident ID: NAPP2229145683
Unit O, Section 21, T25S, R30E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 21 Brushy Draw 125H
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~~	~~11/17/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<249~~	~~13,500~~	~~1,950~~	~~**13,500**~~	~~**15,500**~~	~~4,170~~
BH02	02/15/2023	2	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	307
~~BH01~~	~~12/29/2022~~	~~1~~	~~<0.0398~~	~~<0.0797~~	~~<50.0~~	~~429~~	~~144~~	~~429~~	~~573~~	~~6,460~~
BH01A	12/29/2022	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	477
SS02	11/17/2022	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	79.3
SS03	11/17/2022	0.5	<0.00200	<0.00401	<50.0	64.8	<50.0	64.8	64.8	126
SS04	11/17/2022	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	202
SS05	11/17/2022	0.5	<0.00199	<0.00398	<49.9	60.3	<49.9	60.3	60.3	458
Excavation Soil Samples										
~~FS01~~	~~12/29/2022~~	~~0.5~~	~~<0.0401~~	~~<0.0802~~	~~<50.0~~	~~1,820~~	~~281~~	~~**1,820**~~	~~2,100~~	~~8,400~~
FS01	02/15/2023	1	<0.00200	<0.00400	<49.9	168	<49.9	168	168	2,650
~~FS02~~	~~12/29/2022~~	~~0.5~~	~~<0.0399~~	~~0.112~~	~~<49.9~~	~~1,970~~	~~305~~	~~**1,970**~~	~~2,280~~	~~5,610~~
FS02	02/15/2023	1	<0.00202	<0.00404	<50.0	138	<50.0	138	138	2,940
FS03	12/30/2022	0.5	<0.00201	<0.00402	<49.8	246	<49.8	246	246	2,760
~~FS04~~	~~12/30/2022~~	~~0.5~~	~~<0.0401~~	~~<0.0802~~	~~106~~	~~2,850~~	~~<50.0~~	~~**2,960**~~	~~**2,960**~~	~~5,340~~
FS04	02/15/2023	1	<0.0020	<0.00403	<49.9	115	<49.9	115	115	1,590

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

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

ENSOLUM

APPENDIX A

Referenced Well Records

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320628103533001

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

USGS 320628103533001 25S.30E.21.333424

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

Output formats

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

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

Explanation

Section	Code	Description

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

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APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 21 Brushy Draw 125H
NAPP2229145683

Photograph 1 Date: 11/17/2022
Description: Release extent area
View: North

Photograph 2 Date: 12/29/2022
Description: Delineation activities, BH01
View: Northwest

Photograph 3 Date: 2/15/2023
Description: Excavation activities
View: East

Photograph 4 Date: 2/15/2023
Description: Final excavation extent
View: Northeast

ENSOLUM

APPENDIX C

Lithologic/ Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Sample Name: BH01	Date: 12/29/2022
Site Name: PLU 21 Brushy Draw 125H	
Incident Number: NAPP2229145683	
Job Number: 03C1558142	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: MR	Method: Hand Auger
Coordinates: 32.109254, -103.88392	Hole Diameter: 4"
	Total Depth: 3'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1' CALICHE, tan/ medium brown, dry, poorly sorted, sub-rounded grains, stained, odorous
D	5812.8	35.8	N	BH01	1	1		1-3' CALICHE, medium brown, dry, poorly sorted, sub-rounded grains, no staining, odorous
D	2536.8	21.8	N			2		
D	358.4	1.3	N	BH01A	3	3		3' CALICHE, light brown, dry, poorly sorted, sub-rounded grains, no staining, no odor
							TD	Total Depth @ 3'

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: BH02	Date: 2/15/2023
	Site Name: PLU 21 Brushy Draw 125H	
	Incident Number: NAPP2229145683	
	Job Number: 03C1558142	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Hydrovac
Coordinates: 32.109274, -103.88398	Hole Diameter: NA	Total Depth: 2'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1' CALICHE, tan/ medium brown, dry, poorly sorted, sub-rounded grains, stained, odorous
D	520.8	1.5	N			1		1-2' CALICHE, medium brown, dry, poorly sorted, sub-rounded grains, no staining, some odor
D	280	0.4	N	BH02	2	2		2' CALICHE, light brown, dry, poorly sorted, sub-rounded grains, no staining, no odor
							TD	Total Depth @ 2' bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/20/2023 8:59:06 AM Revision 1

JOB DESCRIPTION

PLU 21 BRUSHY DRAW 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3526-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

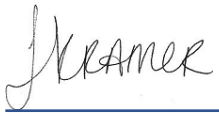
my EOL

Eurofins Carlsbad

Job Notes

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
3/20/2023 8:59:06 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Laboratory Job ID: 890-3526-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Qualifiers

GC VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Job ID: 890-3526-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3526-1

REVISION

The report being provided is a revision of the original report sent on 12/1/2022. The report (revision 1) is being revised due to Per client email, correcting project name to match COC.

Report revision history

Receipt
The sample was received on 11/18/2022 8:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA
Method 8021B: The absolute response for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene was greater than the method reporting limit (RL) in the following sample: (LCSD 880-40436/2-A). The instrument raw data has been manually reviewed and the result can be reported as ND.

Method 8021B: The matrix spike (MS) and/or matrix spike duplicate (MSD) recovery for preparation batch 880-40436 and analytical batch 880-40689 was outside control limits for the following analyte(s): Benzene and Toluene. Results may be biased high because this analyte is a common laboratory solvent and contaminant.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-40436 and analytical batch 880-40689 was outside the control limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-40343 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40343/2-A) and (LCSD 880-40343/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS05 (890-3526-1), (890-3525-A-1-B), (890-3525-A-1-C MS) and (890-3525-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-40343 and analytical batch 880-40262 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-40343 and analytical batch 880-40262 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40343 and analytical batch 880-40262 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Job ID: 890-3526-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Client Sample ID: SS05

Date Collected: 11/17/22 12:55
Date Received: 11/18/22 08:20
Sample Depth: 0.5

Lab Sample ID: 890-3526-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 03:16	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 03:16	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 03:16	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 03:16	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 03:16	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 03:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*11/28/22 11:21*	*12/01/22 03:16*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*11/28/22 11:21*	*12/01/22 03:16*	*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			12/01/22 13:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**60.3**		49.9		mg/Kg			11/28/22 11:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		11/23/22 15:04	11/23/22 23:17	1
Diesel Range Organics (Over C10-C28)	**60.3**		49.9		mg/Kg		11/23/22 15:04	11/23/22 23:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/23/22 15:04	11/23/22 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*11/23/22 15:04*	*11/23/22 23:17*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 23:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**458**	**F1**	4.99		mg/Kg			11/23/22 21:29	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

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)
890-3511-A-10-D MS	Matrix Spike	92	104
890-3511-A-10-E MSD	Matrix Spike Duplicate	101	95
890-3526-1	SS05	74	90
LCS 880-40436/1-A	Lab Control Sample	99	89
LCSD 880-40436/2-A	Lab Control Sample Dup	0 S1-	0 S1-
MB 880-40436/5-A	Method Blank	66 S1-	95

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)
890-3525-A-1-C MS	Matrix Spike	145 S1+	159 S1+
890-3525-A-1-D MSD	Matrix Spike Duplicate	147 S1+	164 S1+
890-3526-1	SS05	109	132 S1+
LCS 880-40343/2-A	Lab Control Sample	175 S1+	217 S1+
LCSD 880-40343/3-A	Lab Control Sample Dup	200 S1+	240 S1+
MB 880-40343/1-A	Method Blank	155 S1+	184 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40436/5-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40436

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*11/28/22 11:21*	*11/30/22 17:06*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*11/28/22 11:21*	*11/30/22 17:06*	*1*

Lab Sample ID: LCS 880-40436/1-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40436

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1127		mg/Kg		113	70 - 130		
Toluene			0.100	0.1182		mg/Kg		118	70 - 130		
Ethylbenzene			0.100	0.1070		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.2149		mg/Kg		107	70 - 130		
o-Xylene			0.100	0.1084		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: LCSD 880-40436/2-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40436

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
Toluene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
Ethylbenzene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
m-Xylene & p-Xylene			0.200	<0.00400	U *- *1	mg/Kg		0	70 - 130	200	35
o-Xylene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*0*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*0*	*S1-*	*70 - 130*

Lab Sample ID: 890-3511-A-10-D MS
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 *- *1	0.0996	0.1174		mg/Kg		118	70 - 130		
Toluene	<0.00201	U F1 *- *1	0.0996	0.1158		mg/Kg		116	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

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

Lab Sample ID: 890-3511-A-10-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40689 — **Prep Batch: 40436**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U *- *1	0.0996	0.09952		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00402	U *- *1	0.199	0.2008		mg/Kg		101	70 - 130
o-Xylene	<0.00201	U *- *1	0.0996	0.1059		mg/Kg		106	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3511-A-10-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40689 — **Prep Batch: 40436**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 *- *1	0.100	0.1370	F1	mg/Kg		136	70 - 130	15	35
Toluene	<0.00201	U F1 *- *1	0.100	0.1331	F1	mg/Kg		133	70 - 130	14	35
Ethylbenzene	<0.00201	U *- *1	0.100	0.1144		mg/Kg		114	70 - 130	14	35
m-Xylene & p-Xylene	<0.00402	U *- *1	0.201	0.2338		mg/Kg		116	70 - 130	15	35
o-Xylene	<0.00201	U *- *1	0.100	0.1220		mg/Kg		122	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-40343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/23/22 15:04	11/23/22 20:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/23/22 15:04	11/23/22 20:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*

Lab Sample ID: LCS 880-40343/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	949.0		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1030		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

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

Lab Sample ID: LCS 880-40343/2-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40343

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	175	S1+	70 - 130
o-Terphenyl	217	S1+	70 - 130

Lab Sample ID: LCSD 880-40343/3-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1193	*1	mg/Kg		119	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	200	S1+	70 - 130
o-Terphenyl	240	S1+	70 - 130

Lab Sample ID: 890-3525-A-1-C MS
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40343

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 *1	999	1143		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1303		mg/Kg		130	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	145	S1+	70 - 130
o-Terphenyl	159	S1+	70 - 130

Lab Sample ID: 890-3525-A-1-D MSD
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 40343

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 *1	998	1103		mg/Kg		111	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1360	F1	mg/Kg		136	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	147	S1+	70 - 130
o-Terphenyl	164	S1+	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.9		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-40010/3-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-1 MS
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: SS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	458	F1	250	669.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 890-3526-1 MSD
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: SS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

GC VOA

Prep Batch: 40436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	5035	
MB 880-40436/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40436/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40436/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3511-A-10-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3511-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	8021B	40436
MB 880-40436/5-A	Method Blank	Total/NA	Solid	8021B	40436
LCS 880-40436/1-A	Lab Control Sample	Total/NA	Solid	8021B	40436
LCSD 880-40436/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40436
890-3511-A-10-D MS	Matrix Spike	Total/NA	Solid	8021B	40436
890-3511-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40436

Analysis Batch: 40798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	8015B NM	40343
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015B NM	40343
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40343
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40343
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40343
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40343

Prep Batch: 40343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

HPLC/IC (Continued)

Leach Batch: 40010 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1 MS	SS05	Soluble	Solid	DI Leach	
890-3526-1 MSD	SS05	Soluble	Solid	DI Leach	

Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-1	SS05	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-1 MS	SS05	Soluble	Solid	300.0	40010
890-3526-1 MSD	SS05	Soluble	Solid	300.0	40010

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Client Sample ID: SS05

Date Collected: 11/17/22 12:55
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3526-1

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	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 03:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40798	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40445	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	40343	11/23/22 15:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 23:17	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 21:29	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	12-19-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

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 21 BRUSHY DRAW 125H

Job ID: 890-3526-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3526-1	SS05	Solid	11/17/22 12:55	11/18/22 08:20	0.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

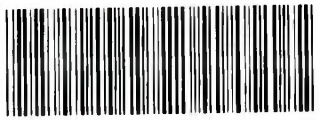
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 21 Brushy Draw 125H	Turn Around	Pres. Code
Project Number:	03E1558142	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.4
Total Containers:		Corrected Temperature:	4.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS05	S	11/17/22	1235	.5	G	1	✓	✓	✓


890-3526 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2229145683
Cost Center:
1666421001
AFE:

CW

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/18/22 0830	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3526-1
SDG Number: 03E1558142

Login Number: 3526
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3526-1
SDG Number: 03E1558142

Login Number: 3526
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/20/2023 9:00:57 AM Revision 1

JOB DESCRIPTION

PLU 21 BRUSHY DRAW 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3527-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

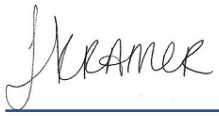
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

Authorization



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3/20/2023 9:00:57 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Laboratory Job ID: 890-3527-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Job ID: 890-3527-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3527-1

REVISION

The report being provided is a revision of the original report sent on 11/29/2022. The report (revision 1) is being revised due to Per client email, correcting project name to match COC.

Report revision history

Receipt
The sample was received on 11/18/2022 8:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-40465 and analytical batch 880-40503 was outside the upper control limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-40343 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40343/2-A) and (LCSD 880-40343/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS04 (890-3527-1), (890-3525-A-1-B), (890-3525-A-1-C MS) and (890-3525-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-40343 and analytical batch 880-40262 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-40343 and analytical batch 880-40262 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40343 and analytical batch 880-40262 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Job ID: 890-3527-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Client Sample ID: SS04

Date Collected: 11/17/22 12:50
Date Received: 11/18/22 08:20
Sample Depth: 0.5

Lab Sample ID: 890-3527-1

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		11/28/22 12:47	11/29/22 06:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:47	11/29/22 06:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:47	11/29/22 06:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 12:47	11/29/22 06:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:47	11/29/22 06:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 12:47	11/29/22 06:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/28/22 12:47*	*11/29/22 06:37*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/28/22 12:47*	*11/29/22 06:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/29/22 09:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/28/22 11:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		11/23/22 15:04	11/23/22 23:38	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/23/22 15:04	11/23/22 23:38	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/23/22 15:04	11/23/22 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*11/23/22 15:04*	*11/23/22 23:38*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 23:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**202**		4.97		mg/Kg			11/23/22 21:54	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21770-A-1-G MS	Matrix Spike	93	108
880-21770-A-1-H MSD	Matrix Spike Duplicate	90	98
890-3527-1	SS04	96	96
LCS 880-40465/1-A	Lab Control Sample	87	108
LCSD 880-40465/2-A	Lab Control Sample Dup	90	108
MB 880-40465/5-A	Method Blank	62 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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3525-A-1-C MS	Matrix Spike	145 S1+	159 S1+
890-3525-A-1-D MSD	Matrix Spike Duplicate	147 S1+	164 S1+
890-3527-1	SS04	112	136 S1+
LCS 880-40343/2-A	Lab Control Sample	175 S1+	217 S1+
LCSD 880-40343/3-A	Lab Control Sample Dup	200 S1+	240 S1+
MB 880-40343/1-A	Method Blank	155 S1+	184 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40465/5-A
Matrix: Solid
Analysis Batch: 40503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40465

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:47	11/28/22 20:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:47	11/28/22 20:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:47	11/28/22 20:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 12:47	11/28/22 20:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:47	11/28/22 20:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 12:47	11/28/22 20:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*11/28/22 12:47*	*11/28/22 20:27*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*11/28/22 12:47*	*11/28/22 20:27*	*1*

Lab Sample ID: LCS 880-40465/1-A
Matrix: Solid
Analysis Batch: 40503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09543		mg/Kg		95	70 - 130		
Toluene			0.100	0.09266		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.08841		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1754		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08922		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-40465/2-A
Matrix: Solid
Analysis Batch: 40503

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1066		mg/Kg		107	70 - 130	11	35
Toluene			0.100	0.09978		mg/Kg		100	70 - 130	7	35
Ethylbenzene			0.100	0.09260		mg/Kg		93	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1838		mg/Kg		92	70 - 130	5	35
o-Xylene			0.100	0.09332		mg/Kg		93	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-21770-A-1-G MS
Matrix: Solid
Analysis Batch: 40503

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.08481		mg/Kg		85	70 - 130		
Toluene	<0.00200	U	0.0996	0.08454		mg/Kg		85	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

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

Lab Sample ID: 880-21770-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40503 — **Prep Batch: 40465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.07697		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1546		mg/Kg		78	70 - 130
o-Xylene	<0.00200	U	0.0996	0.07769		mg/Kg		78	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-21770-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40503 — **Prep Batch: 40465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.08061		mg/Kg		81	70 - 130	5	35
Toluene	<0.00200	U	0.0994	0.07752		mg/Kg		78	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.0994	0.06982		mg/Kg		70	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1390		mg/Kg		70	70 - 130	11	35
o-Xylene	<0.00200	U	0.0994	0.07102		mg/Kg		71	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-40343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*

Lab Sample ID: LCS 880-40343/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	949.0		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1030		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

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

Lab Sample ID: LCS 880-40343/2-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40343

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	175	S1+	70 - 130
o-Terphenyl	217	S1+	70 - 130

Lab Sample ID: LCSD 880-40343/3-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1193	*1	mg/Kg		119	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	200	S1+	70 - 130
o-Terphenyl	240	S1+	70 - 130

Lab Sample ID: 890-3525-A-1-C MS
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40343

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 *1	999	1143		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1303		mg/Kg		130	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	145	S1+	70 - 130
o-Terphenyl	159	S1+	70 - 130

Lab Sample ID: 890-3525-A-1-D MSD
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 40343

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 *1	998	1103		mg/Kg		111	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1360	F1	mg/Kg		136	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	147	S1+	70 - 130
o-Terphenyl	164	S1+	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.9		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-40010/3-A
Matrix: Solid
Analysis Batch: 40325

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-A-1-B MS
Matrix: Solid
Analysis Batch: 40325

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	458	F1	250	669.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 890-3526-A-1-C MSD
Matrix: Solid
Analysis Batch: 40325

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	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

GC VOA

Prep Batch: 40465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	5035	
MB 880-40465/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40465/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40465/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21770-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
880-21770-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	8021B	40465
MB 880-40465/5-A	Method Blank	Total/NA	Solid	8021B	40465
LCS 880-40465/1-A	Lab Control Sample	Total/NA	Solid	8021B	40465
LCSD 880-40465/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40465
880-21770-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	40465
880-21770-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40465

Analysis Batch: 40579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	8015B NM	40343
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015B NM	40343
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40343
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40343
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40343
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40343

Prep Batch: 40343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

HPLC/IC (Continued)

Leach Batch: 40010 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3527-1	SS04	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40010
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40010

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Client Sample ID: SS04
Date Collected: 11/17/22 12:50
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3527-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	40465	11/28/22 12:47	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40503	11/29/22 06:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40579	11/29/22 09:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			40446	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	40343	11/23/22 15:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/23/22 23:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 21:54	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	12-19-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

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 21 BRUSHY DRAW 125H

Job ID: 890-3527-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3527-1	SS04	Solid	11/17/22 12:50	11/18/22 08:20	0.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 21 Brushy Draw 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558142	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IPM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.4
Total Containers:		Corrected Temperature:	4.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS04	S	11/17/22	12:50	.5	G	1		✓	✓	✓

Parameters

890-3527 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2229145663
Cost Center:
1666421001
AFE:

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/18/22 0820	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3527-1
SDG Number: 03E1558142

Login Number: 3527
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3527-1
SDG Number: 03E1558142

Login Number: 3527
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/29/2022 8:58:21 AM

JOB DESCRIPTION

PLU 21 BRUSHY DRAW 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3528-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

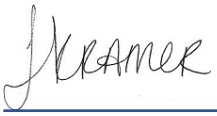
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
11/29/2022 8:58:21 AM

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

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Laboratory Job ID: 890-3528-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3528-1
Project/Site: PLU 21 BRUSHY DRAW 125H SDG: 03E1558142

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Job ID: 890-3528-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3528-1

Receipt
The sample was received on 11/18/2022 8:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-3528-1).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40466 and analytical batch 880-40361 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21941-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS03 (890-3528-1) and (880-21941-A-1-F). 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 surrogate recovery for the blank associated with preparation batch 880-40343 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40343/2-A) and (LCSD 880-40343/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS03 (890-3528-1), (890-3525-A-1-B), (890-3525-A-1-C MS) and (890-3525-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-40343 and analytical batch 880-40262 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-40343 and analytical batch 880-40262 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40343 and analytical batch 880-40262 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 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.

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Job ID: 890-3528-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Client Sample ID: SS03

Date Collected: 11/17/22 12:45
Date Received: 11/18/22 08:20
Sample Depth: 0.5

Lab Sample ID: 890-3528-1

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		11/28/22 12:53	11/29/22 01:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 01:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 01:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/28/22 12:53	11/29/22 01:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 01:55	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/28/22 12:53	11/29/22 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*11/28/22 12:53*	*11/29/22 01:55*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/28/22 12:53*	*11/29/22 01:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/29/22 09:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**64.8**		50.0		mg/Kg			11/28/22 11:40	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	<50.0	U *1	50.0		mg/Kg		11/23/22 15:04	11/24/22 00:00	1
Diesel Range Organics (Over C10-C28)	**64.8**		50.0		mg/Kg		11/23/22 15:04	11/24/22 00:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/24/22 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*11/23/22 15:04*	*11/24/22 00:00*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/24/22 00:00*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**126**		4.98		mg/Kg			11/23/22 22:02	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21941-A-1-D MS	Matrix Spike	76	105
880-21941-A-1-E MSD	Matrix Spike Duplicate	69 S1-	102
890-3528-1	SS03	65 S1-	109
LCS 880-40466/1-A	Lab Control Sample	84	111
LCSD 880-40466/2-A	Lab Control Sample Dup	82	94
MB 880-40412/5-A	Method Blank	74	110
MB 880-40466/5-A	Method Blank	73	97

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3525-A-1-C MS	Matrix Spike	145 S1+	159 S1+
890-3525-A-1-D MSD	Matrix Spike Duplicate	147 S1+	164 S1+
890-3528-1	SS03	111	133 S1+
LCS 880-40343/2-A	Lab Control Sample	175 S1+	217 S1+
LCSD 880-40343/3-A	Lab Control Sample Dup	200 S1+	240 S1+
MB 880-40343/1-A	Method Blank	155 S1+	184 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40412/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40412

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*

Lab Sample ID: MB 880-40466/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*

Lab Sample ID: LCS 880-40466/1-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1040		mg/Kg		104	70 - 130		
Toluene			0.100	0.1006		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09217		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1598		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.07997		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-40466/2-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08207		mg/Kg		82	70 - 130	24	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

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

Lab Sample ID: LCSD 880-40466/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	9	35
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130	20	35
m-Xylene & p-Xylene			0.200	0.2024		mg/Kg		101	70 - 130	24	35
o-Xylene			0.100	0.09966		mg/Kg		100	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-21941-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.03139	F1	mg/Kg		32	70 - 130
Toluene	<0.00200	U F1	0.0996	0.02826	F1	mg/Kg		28	70 - 130
Ethylbenzene	<0.00200	U F1	0.0996	0.02733	F1	mg/Kg		27	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04741	F1	mg/Kg		24	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.02598	F1	mg/Kg		26	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-21941-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

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	0.03831	F1	mg/Kg		38	70 - 130	20	35
Toluene	<0.00200	U F1	0.0996	0.02919	F1	mg/Kg		29	70 - 130	3	35
Ethylbenzene	<0.00200	U F1	0.0996	0.02670	F1	mg/Kg		27	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04101	F1	mg/Kg		21	70 - 130	14	35
o-Xylene	<0.00200	U F1	0.0996	0.02211	F1	mg/Kg		22	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-40343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

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

Lab Sample ID: MB 880-40343/1-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40343

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		11/23/22 15:04	11/23/22 20:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*

Lab Sample ID: LCS 880-40343/2-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	949.0		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1030		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*175*	*S1+*	*70 - 130*
o-Terphenyl	*217*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-40343/3-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1193	*1	mg/Kg		119	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*200*	*S1+*	*70 - 130*
o-Terphenyl	*240*	*S1+*	*70 - 130*

Lab Sample ID: 890-3525-A-1-C MS
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40343

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 *1	999	1143		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1303		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*145*	*S1+*	*70 - 130*
o-Terphenyl	*159*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

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

Lab Sample ID: 890-3525-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

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 *1	998	1103		mg/Kg		111	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1360	F1	mg/Kg		136	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*164*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.9		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-40010/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	458	F1	250	669.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 890-3526-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

GC VOA

Analysis Batch: 40361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	8021B	40466
MB 880-40412/5-A	Method Blank	Total/NA	Solid	8021B	40412
MB 880-40466/5-A	Method Blank	Total/NA	Solid	8021B	40466
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	8021B	40466
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40466
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	40466
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40466

Prep Batch: 40412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40412/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 40466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	5035	
MB 880-40466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	8015B NM	40343
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015B NM	40343
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40343
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40343
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40343
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40343

Prep Batch: 40343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3528-1	SS03	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40010
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40010

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Client Sample ID: SS03

Date Collected: 11/17/22 12:45
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3528-1

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			4.99 g	5 mL	40466	11/28/22 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40361	11/29/22 01:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40567	11/29/22 09:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			40447	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	40343	11/23/22 15:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/24/22 00:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 22:02	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3528-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3528-1	SS03	Solid	11/17/22 12:45	11/18/22 08:20	0.5

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 21 Brushy Draw 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558142	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TMm-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.4
Total Containers:		Corrected Temperature:	4.2

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

890-3528 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS03	S	11/17/22	12:45	.5	G	1	✓	✓	✓

Sample Comments

Incident ID: nAPP2229145683
Cost Center: 1666421001
AFE:

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

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

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3528-1
SDG Number: 03E1558142

Login Number: 3528
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3528-1
SDG Number: 03E1558142

Login Number: 3528
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/20/2023 9:01:51 AM Revision 1

JOB DESCRIPTION

PLU 21 BRUSHY DRAW 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3529-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

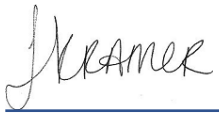
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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3/20/2023 9:01:51 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Laboratory Job ID: 890-3529-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Job ID: 890-3529-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3529-1

REVISION

The report being provided is a revision of the original report sent on 11/29/2022. The report (revision 1) is being revised due to Per client email, correcting project name to match COC.

Report revision history

Receipt
The sample was received on 11/18/2022 8:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40466 and analytical batch 880-40361 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21941-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21941-A-1-F). 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 surrogate recovery for the blank associated with preparation batch 880-40343 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40343/2-A) and (LCSD 880-40343/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS02 (890-3529-1), (890-3525-A-1-B), (890-3525-A-1-C MS) and (890-3525-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-40343 and analytical batch 880-40262 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-40343 and analytical batch 880-40262 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40343 and analytical batch 880-40262 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.

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Job ID: 890-3529-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Client Sample ID: SS02

Date Collected: 11/17/22 12:40
Date Received: 11/18/22 08:20
Sample Depth: 0.5

Lab Sample ID: 890-3529-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/28/22 12:53	11/29/22 02:16	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/28/22 12:53	11/29/22 02:16	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/28/22 12:53	11/29/22 02:16	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/28/22 12:53	11/29/22 02:16	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/28/22 12:53	11/29/22 02:16	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/28/22 12:53	11/29/22 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*11/28/22 12:53*	*11/29/22 02:16*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/28/22 12:53*	*11/29/22 02:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/29/22 09:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/28/22 11:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		11/23/22 15:04	11/24/22 00:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/23/22 15:04	11/24/22 00:21	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/23/22 15:04	11/24/22 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*11/23/22 15:04*	*11/24/22 00:21*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/24/22 00:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.3**		5.04		mg/Kg			11/23/22 22:26	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21941-A-1-D MS	Matrix Spike	76	105
880-21941-A-1-E MSD	Matrix Spike Duplicate	69 S1-	102
890-3529-1	SS02	84	103
LCS 880-40466/1-A	Lab Control Sample	84	111
LCSD 880-40466/2-A	Lab Control Sample Dup	82	94
MB 880-40412/5-A	Method Blank	74	110
MB 880-40466/5-A	Method Blank	73	97

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3525-A-1-C MS	Matrix Spike	145 S1+	159 S1+
890-3525-A-1-D MSD	Matrix Spike Duplicate	147 S1+	164 S1+
890-3529-1	SS02	111	134 S1+
LCS 880-40343/2-A	Lab Control Sample	175 S1+	217 S1+
LCSD 880-40343/3-A	Lab Control Sample Dup	200 S1+	240 S1+
MB 880-40343/1-A	Method Blank	155 S1+	184 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40412/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40412

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*

Lab Sample ID: MB 880-40466/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*

Lab Sample ID: LCS 880-40466/1-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1040		mg/Kg		104	70 - 130		
Toluene			0.100	0.1006		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09217		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1598		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.07997		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-40466/2-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08207		mg/Kg		82	70 - 130	24	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

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

Lab Sample ID: LCSD 880-40466/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	9	35
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130	20	35
m-Xylene & p-Xylene			0.200	0.2024		mg/Kg		101	70 - 130	24	35
o-Xylene			0.100	0.09966		mg/Kg		100	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-21941-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.03139	F1	mg/Kg		32	70 - 130
Toluene	<0.00200	U F1	0.0996	0.02826	F1	mg/Kg		28	70 - 130
Ethylbenzene	<0.00200	U F1	0.0996	0.02733	F1	mg/Kg		27	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04741	F1	mg/Kg		24	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.02598	F1	mg/Kg		26	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-21941-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

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	0.03831	F1	mg/Kg		38	70 - 130	20	35
Toluene	<0.00200	U F1	0.0996	0.02919	F1	mg/Kg		29	70 - 130	3	35
Ethylbenzene	<0.00200	U F1	0.0996	0.02670	F1	mg/Kg		27	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04101	F1	mg/Kg		21	70 - 130	14	35
o-Xylene	<0.00200	U F1	0.0996	0.02211	F1	mg/Kg		22	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-40343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

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

Lab Sample ID: MB 880-40343/1-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40343

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		11/23/22 15:04	11/23/22 20:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*

Lab Sample ID: LCS 880-40343/2-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	949.0		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1030		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*175*	*S1+*	*70 - 130*
o-Terphenyl	*217*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-40343/3-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1193	*1	mg/Kg		119	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*200*	*S1+*	*70 - 130*
o-Terphenyl	*240*	*S1+*	*70 - 130*

Lab Sample ID: 890-3525-A-1-C MS
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40343

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 *1	999	1143		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1303		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*145*	*S1+*	*70 - 130*
o-Terphenyl	*159*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

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

Lab Sample ID: 890-3525-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

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 *1	998	1103		mg/Kg		111	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1360	F1	mg/Kg		136	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*164*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.9		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-40010/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	458	F1	250	669.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 890-3526-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

GC VOA

Analysis Batch: 40361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	8021B	40466
MB 880-40412/5-A	Method Blank	Total/NA	Solid	8021B	40412
MB 880-40466/5-A	Method Blank	Total/NA	Solid	8021B	40466
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	8021B	40466
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40466
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	40466
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40466

Prep Batch: 40412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40412/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 40466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	5035	
MB 880-40466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	8015B NM	40343
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015B NM	40343
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40343
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40343
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40343
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40343

Prep Batch: 40343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3529-1	SS02	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40010
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40010

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Client Sample ID: SS02

Date Collected: 11/17/22 12:40
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3529-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	40466	11/28/22 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40361	11/29/22 02:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40568	11/29/22 09:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			40448	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	40343	11/23/22 15:04	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40262	11/24/22 00:21	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40325	11/23/22 22:26	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	12-19-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

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 21 BRUSHY DRAW 125H

Job ID: 890-3529-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3529-1	SS02	Solid	11/17/22 12:40	11/18/22 08:20	0.5

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 21 Brushy Draw 125H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558142	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.4	
Total Containers:		Corrected Temperature:	4.2	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS02	S	11/17/22	12:40	.5	G	1		/	/	/
									CW	

890-3529 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2229145683
Cost Center:
1666421001
AFE:

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	11/18/22 0830	2		
3			4		
5			6		

Revised Date: 0 20 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3529-1
SDG Number: 03E1558142

Login Number: 3529
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3529-1
SDG Number: 03E1558142

Login Number: 3529
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/20/2023 9:02:46 AM Revision 1

JOB DESCRIPTION

PLU 21 BRUSHY DRAW 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3530-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

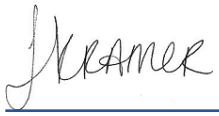
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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3/20/2023 9:02:46 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Laboratory Job ID: 890-3530-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Job ID: 890-3530-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3530-1

REVISION

The report being provided is a revision of the original report sent on 11/29/2022. The report (revision 1) is being revised due to Per client email, correcting project name to match COC.

Report revision history

Receipt
The sample was received on 11/18/2022 8:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40466 and analytical batch 880-40361 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21941-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21941-A-1-F). 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 surrogate recovery for the blank associated with preparation batch 880-40343 and analytical batch 880-40262 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40343/2-A) and (LCSD 880-40343/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-3525-A-1-B), (890-3525-A-1-C MS) and (890-3525-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS01 (890-3530-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-40343 and analytical batch 880-40262 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-40343 and analytical batch 880-40262 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-40343 and analytical batch 880-40262 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Job ID: 890-3530-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-40010 and analytical batch 880-40325 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Client Sample ID: SS01
Date Collected: 11/17/22 12:30
Date Received: 11/18/22 08:20
Sample Depth: 0.5

Lab Sample ID: 890-3530-1
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		11/28/22 12:53	11/29/22 02:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:53	11/29/22 02:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:53	11/29/22 02:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/28/22 12:53	11/29/22 02:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/28/22 12:53	11/29/22 02:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/28/22 12:53	11/29/22 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*11/28/22 12:53*	*11/29/22 02:36*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*11/28/22 12:53*	*11/29/22 02:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/29/22 09:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15500**		249		mg/Kg			11/28/22 11:40	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	<249	U *1	249		mg/Kg		11/23/22 15:04	11/24/22 05:45	5
Diesel Range Organics (Over C10-C28)	**13500**		249		mg/Kg		11/23/22 15:04	11/24/22 05:45	5
Oil Range Organics (Over C28-C36)	**1950**		249		mg/Kg		11/23/22 15:04	11/24/22 05:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*11/23/22 15:04*	*11/24/22 05:45*	*5*
o-Terphenyl	*259*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/24/22 05:45*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4170**		50.4		mg/Kg			11/23/22 22:34	10

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21941-A-1-D MS	Matrix Spike	76	105
880-21941-A-1-E MSD	Matrix Spike Duplicate	69 S1-	102
890-3530-1	SS01	90	124
LCS 880-40466/1-A	Lab Control Sample	84	111
LCSD 880-40466/2-A	Lab Control Sample Dup	82	94
MB 880-40412/5-A	Method Blank	74	110
MB 880-40466/5-A	Method Blank	73	97

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3525-A-1-C MS	Matrix Spike	145 S1+	159 S1+
890-3525-A-1-D MSD	Matrix Spike Duplicate	147 S1+	164 S1+
890-3530-1	SS01	118	259 S1+
LCS 880-40343/2-A	Lab Control Sample	175 S1+	217 S1+
LCSD 880-40343/3-A	Lab Control Sample Dup	200 S1+	240 S1+
MB 880-40343/1-A	Method Blank	155 S1+	184 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40412/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40412

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 10:23	11/28/22 12:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 10:23	11/28/22 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/28/22 10:23*	*11/28/22 12:29*	*1*

Lab Sample ID: MB 880-40466/5-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 12:53	11/29/22 00:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 12:53	11/29/22 00:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*11/28/22 12:53*	*11/29/22 00:05*	*1*

Lab Sample ID: LCS 880-40466/1-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1040		mg/Kg		104	70 - 130		
Toluene			0.100	0.1006		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09217		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1598		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.07997		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-40466/2-A
Matrix: Solid
Analysis Batch: 40361

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08207		mg/Kg		82	70 - 130	24	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

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

Lab Sample ID: LCSD 880-40466/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	9	35
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130	20	35
m-Xylene & p-Xylene			0.200	0.2024		mg/Kg		101	70 - 130	24	35
o-Xylene			0.100	0.09966		mg/Kg		100	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-21941-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.03139	F1	mg/Kg		32	70 - 130
Toluene	<0.00200	U F1	0.0996	0.02826	F1	mg/Kg		28	70 - 130
Ethylbenzene	<0.00200	U F1	0.0996	0.02733	F1	mg/Kg		27	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04741	F1	mg/Kg		24	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.02598	F1	mg/Kg		26	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-21941-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40361 — **Prep Batch: 40466**

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	0.03831	F1	mg/Kg		38	70 - 130	20	35
Toluene	<0.00200	U F1	0.0996	0.02919	F1	mg/Kg		29	70 - 130	3	35
Ethylbenzene	<0.00200	U F1	0.0996	0.02670	F1	mg/Kg		27	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.04101	F1	mg/Kg		21	70 - 130	14	35
o-Xylene	<0.00200	U F1	0.0996	0.02211	F1	mg/Kg		22	70 - 130	16	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-40343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

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

Lab Sample ID: MB 880-40343/1-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40343

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		11/23/22 15:04	11/23/22 20:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/23/22 15:04	11/23/22 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*155*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*11/23/22 15:04*	*11/23/22 20:46*	*1*

Lab Sample ID: LCS 880-40343/2-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	949.0		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1030		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*175*	*S1+*	*70 - 130*
o-Terphenyl	*217*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-40343/3-A
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1193	*1	mg/Kg		119	70 - 130	23	20
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*200*	*S1+*	*70 - 130*
o-Terphenyl	*240*	*S1+*	*70 - 130*

Lab Sample ID: 890-3525-A-1-C MS
Matrix: Solid
Analysis Batch: 40262

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40343

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 *1	999	1143		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1303		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*145*	*S1+*	*70 - 130*
o-Terphenyl	*159*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

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

Lab Sample ID: 890-3525-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40262 — **Prep Batch: 40343**

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 *1	998	1103		mg/Kg		111	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1360	F1	mg/Kg		136	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*147*	*S1+*	*70 - 130*
o-Terphenyl	*164*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40010/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/23/22 19:11	1

Lab Sample ID: LCS 880-40010/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.9		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-40010/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-3526-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	458	F1	250	669.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 890-3526-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 40325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	458	F1	250	670.8	F1	mg/Kg		85	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

GC VOA

Analysis Batch: 40361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	8021B	40466
MB 880-40412/5-A	Method Blank	Total/NA	Solid	8021B	40412
MB 880-40466/5-A	Method Blank	Total/NA	Solid	8021B	40466
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	8021B	40466
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40466
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	40466
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40466

Prep Batch: 40412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-40412/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 40466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	5035	
MB 880-40466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21941-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21941-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	8015B NM	40343
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015B NM	40343
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40343
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40343
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	40343
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40343

Prep Batch: 40343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-40343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3525-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3525-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 40010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Soluble	Solid	DI Leach	
MB 880-40010/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3530-1	SS01	Soluble	Solid	300.0	40010
MB 880-40010/1-A	Method Blank	Soluble	Solid	300.0	40010
LCS 880-40010/2-A	Lab Control Sample	Soluble	Solid	300.0	40010
LCSD 880-40010/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40010
890-3526-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	40010
890-3526-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40010

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Client Sample ID: SS01
Date Collected: 11/17/22 12:30
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3530-1
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	40466	11/28/22 12:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40361	11/29/22 02:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40569	11/29/22 09:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			40452	11/28/22 11:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	40343	11/23/22 15:04	AM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	40262	11/24/22 05:45	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	40010	11/20/22 12:21	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	40325	11/23/22 22:34	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	12-19-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

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 21 BRUSHY DRAW 125H

Job ID: 890-3530-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3530-1	SS01	Solid	11/17/22 12:30	11/18/22 08:20	0.5

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Chain of Custody

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

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Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 21 Brushy Draw 125H	Turn Around	☐ Routine ☐ Rush
Project Number:	03E1558142	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	Tmm-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.4
Total Containers:		Corrected Temperature:	4.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	11/17/22	12:30	.5	G	1		✓	✓	✓

Parameters

890-3530 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2229145683
Cost Center:
1666421001
AFE:

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

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

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

Revised Date: 0 20 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3530-1
SDG Number: 03E1558142

Login Number: 3530
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3530-1
SDG Number: 03E1558142

Login Number: 3530
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

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JOB DESCRIPTION

PLU 21 Brushy Draw 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3726-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

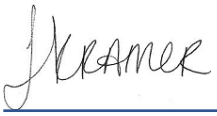
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Laboratory Job ID: 890-3726-1
SDG: 03E1558142

Table of Contents

Eurofins Carlsbad
1/6/2023

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Job ID: 890-3726-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3726-1

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

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3726-1) and FS02 (890-3726-2).

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

GC Semi VOA
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 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Client Sample ID: FS01

Lab Sample ID: 890-3726-1
Matrix: Solid
Date Collected: 12/29/22 09:20
Date Received: 12/30/22 09:30
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U	0.0401		mg/Kg		01/04/23 14:24	01/06/23 15:24	20
Toluene	<0.0401	U	0.0401		mg/Kg		01/04/23 14:24	01/06/23 15:24	20
Ethylbenzene	<0.0401	U	0.0401		mg/Kg		01/04/23 14:24	01/06/23 15:24	20
m-Xylene & p-Xylene	<0.0802	U	0.0802		mg/Kg		01/04/23 14:24	01/06/23 15:24	20
o-Xylene	<0.0401	U	0.0401		mg/Kg		01/04/23 14:24	01/06/23 15:24	20
Xylenes, Total	<0.0802	U	0.0802		mg/Kg		01/04/23 14:24	01/06/23 15:24	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:24*	*20*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:24*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0802	U	0.0802		mg/Kg			01/06/23 17:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2100**		50.0		mg/Kg			01/05/23 10:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 18:45	1
Diesel Range Organics (Over C10-C28)	**1820**		50.0		mg/Kg		01/04/23 08:24	01/04/23 18:45	1
Oil Range Organics (Over C28-C36)	**281**		50.0		mg/Kg		01/04/23 08:24	01/04/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*01/04/23 08:24*	*01/04/23 18:45*	*1*
o-Terphenyl	*96*		*70 - 130*	*01/04/23 08:24*	*01/04/23 18:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8400**		100		mg/Kg			01/04/23 06:24	20

Client Sample ID: FS02

Lab Sample ID: 890-3726-2
Matrix: Solid
Date Collected: 12/29/22 11:10
Date Received: 12/30/22 09:30
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399		mg/Kg		01/04/23 14:24	01/06/23 15:44	20
Toluene	<0.0399	U	0.0399		mg/Kg		01/04/23 14:24	01/06/23 15:44	20
Ethylbenzene	**0.112**		0.0399		mg/Kg		01/04/23 14:24	01/06/23 15:44	20
m-Xylene & p-Xylene	<0.0798	U	0.0798		mg/Kg		01/04/23 14:24	01/06/23 15:44	20
o-Xylene	<0.0399	U	0.0399		mg/Kg		01/04/23 14:24	01/06/23 15:44	20
Xylenes, Total	<0.0798	U	0.0798		mg/Kg		01/04/23 14:24	01/06/23 15:44	20

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Client Sample ID: FS02

Date Collected: 12/29/22 11:10
Date Received: 12/30/22 09:30
Sample Depth: 0.5

Lab Sample ID: 890-3726-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:44*	*20*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:44*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.112**		0.0798	mg/Kg			01/06/23 17:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2280**		49.9	mg/Kg			01/05/23 10:36	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		01/04/23 08:24	01/04/23 19:05	1
Diesel Range Organics (Over C10-C28)	**1970**		49.9	mg/Kg		01/04/23 08:24	01/04/23 19:05	1
Oil Range Organics (Over C28-C36)	**305**		49.9	mg/Kg		01/04/23 08:24	01/04/23 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:05*	*1*
o-Terphenyl	*91*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:05*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5610**		49.6	mg/Kg			01/04/23 06:29	10

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3726-1	FS01	93	75
890-3726-2	FS02	121	91
890-3738-A-1-E MS	Matrix Spike	99	105
890-3738-A-1-F MSD	Matrix Spike Duplicate	105	109
LCS 880-43171/1-A	Lab Control Sample	104	106
LCSD 880-43171/2-A	Lab Control Sample Dup	102	107
MB 880-43171/5-A	Method Blank	99	105

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3726-1	FS01	109	96
890-3726-2	FS02	105	91
890-3753-A-1-B MS	Matrix Spike	103	81
890-3753-A-1-C MSD	Matrix Spike Duplicate	101	79
LCS 880-43112/2-A	Lab Control Sample	113	93
LCSD 880-43112/3-A	Lab Control Sample Dup	112	92
MB 880-43112/1-A	Method Blank	121	114

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43171/5-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43171

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/04/23 14:24	01/06/23 11:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/04/23 14:24*	*01/06/23 11:51*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/04/23 14:24*	*01/06/23 11:51*	*1*

Lab Sample ID: LCS 880-43171/1-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43171

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07559		mg/Kg		76	70 - 130		
Toluene			0.100	0.07256		mg/Kg		73	70 - 130		
Ethylbenzene			0.100	0.07155		mg/Kg		72	70 - 130		
m-Xylene & p-Xylene			0.200	0.1466		mg/Kg		73	70 - 130		
o-Xylene			0.100	0.07250		mg/Kg		73	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-43171/2-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43171

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07746		mg/Kg		77	70 - 130	2	35
Toluene			0.100	0.07295		mg/Kg		73	70 - 130	1	35
Ethylbenzene			0.100	0.07137		mg/Kg		71	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.1500		mg/Kg		75	70 - 130	2	35
o-Xylene			0.100	0.07359		mg/Kg		74	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3738-A-1-E MS
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09220		mg/Kg		92	70 - 130		
Toluene	<0.00201	U	0.100	0.08852		mg/Kg		88	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

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

Lab Sample ID: 890-3738-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43326 — **Prep Batch: 43171**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.08473		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1759		mg/Kg		88	70 - 130
o-Xylene	<0.00201	U	0.100	0.08390		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-3738-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43326 — **Prep Batch: 43171**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.1018		mg/Kg		103	70 - 130	10	35
Toluene	<0.00201	U	0.0990	0.09453		mg/Kg		95	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.09255		mg/Kg		93	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1923		mg/Kg		97	70 - 130	9	35
o-Xylene	<0.00201	U	0.0990	0.09249		mg/Kg		93	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-43112/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43104 — **Prep Batch: 43112**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*01/04/23 08:24*	*01/04/23 09:14*	*1*
o-Terphenyl	*114*		*70 - 130*	*01/04/23 08:24*	*01/04/23 09:14*	*1*

Lab Sample ID: LCS 880-43112/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43104 — **Prep Batch: 43112**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	937.8		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)			1000	851.1		mg/Kg		85	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

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

Lab Sample ID: LCS 880-43112/2-A
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43112

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: LCSD 880-43112/3-A
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	957.7		mg/Kg		96	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	876.0		mg/Kg		88	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 890-3753-A-1-B MS
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	960.7		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	799.8		mg/Kg		80	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-3753-A-1-C MSD
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	965.7		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	788.5		mg/Kg		79	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	79		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43076/1-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/04/23 05:18	1

Lab Sample ID: LCS 880-43076/2-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-43076/3-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	264.0		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3724-A-1-C MS
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	287		250	547.7		mg/Kg		104	90 - 110		

Lab Sample ID: 890-3724-A-1-D MSD
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	287		250	548.5		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

GC VOA

Prep Batch: 43171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	5035	
890-3726-2	FS02	Total/NA	Solid	5035	
MB 880-43171/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43171/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43171/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3738-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3738-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	8021B	43171
890-3726-2	FS02	Total/NA	Solid	8021B	43171
MB 880-43171/5-A	Method Blank	Total/NA	Solid	8021B	43171
LCS 880-43171/1-A	Lab Control Sample	Total/NA	Solid	8021B	43171
LCSD 880-43171/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43171
890-3738-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	43171
890-3738-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43171

Analysis Batch: 43446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	Total BTEX	
890-3726-2	FS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	8015B NM	43112
890-3726-2	FS02	Total/NA	Solid	8015B NM	43112
MB 880-43112/1-A	Method Blank	Total/NA	Solid	8015B NM	43112
LCS 880-43112/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43112
LCSD 880-43112/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43112
890-3753-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	43112
890-3753-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43112

Prep Batch: 43112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	8015NM Prep	
890-3726-2	FS02	Total/NA	Solid	8015NM Prep	
MB 880-43112/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43112/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43112/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3753-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3753-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Total/NA	Solid	8015 NM	
890-3726-2	FS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 43076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Soluble	Solid	DI Leach	
890-3726-2	FS02	Soluble	Solid	DI Leach	
MB 880-43076/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3724-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3724-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3726-1	FS01	Soluble	Solid	300.0	43076
890-3726-2	FS02	Soluble	Solid	300.0	43076
MB 880-43076/1-A	Method Blank	Soluble	Solid	300.0	43076
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	300.0	43076
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43076
890-3724-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	43076
890-3724-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43076

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Client Sample ID: FS01

Date Collected: 12/29/22 09:20
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3726-1

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			4.99 g	5 mL	43171	01/04/23 14:24	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	43326	01/06/23 15:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43446	01/06/23 17:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			43233	01/05/23 10:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43112	01/04/23 08:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43104	01/04/23 18:45	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		20			43096	01/04/23 06:24	CH	EET MID

Client Sample ID: FS02

Date Collected: 12/29/22 11:10
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3726-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43171	01/04/23 14:24	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	43326	01/06/23 15:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43446	01/06/23 17:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			43233	01/05/23 10:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43112	01/04/23 08:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43104	01/04/23 19:05	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		10			43096	01/04/23 06:29	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3726-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3726-1	FS01	Solid	12/29/22 09:20	12/30/22 09:30	0.5
890-3726-2	FS02	Solid	12/29/22 11:10	12/30/22 09:30	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, 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:	817.683.2503	Email:	kjennings@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 21 Bursey Draw 25H	Turn Around	
Project Number:	03E1558142	☑ Routine ☐ Rush	
Project Location:	32.109254, -103.88392	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:	TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

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

890-3726 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Chlorides	Sample Comments
FS01	S	12/29/22	0920	0.5'	C	1		X	X	X	Incident #: nAPP2229145685
FS02	S	12/29/22	1110	0.5'	C	1		X	X	X	
											Cost Center: 1666421001

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12/30/22 900am	2		12.30.2230
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3726-1
SDG Number: 03E1558142

Login Number: 3726
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3726-1
SDG Number: 03E1558142

Login Number: 3726
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/03/23 09:51 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/6/2023 2:42:41 PM

JOB DESCRIPTION

PLU 21 Brushy Draw 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3727-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

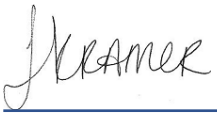
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Laboratory Job ID: 890-3727-1
SDG: 03E1558142

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3727-1
Project/Site: PLU 21 Brushy Draw 125H SDG: 03E1558142

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Job ID: 890-3727-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3727-1

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

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

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43076 and analytical batch 880-43096 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Client Sample ID: BH01

Lab Sample ID: 890-3727-1
Matrix: Solid
Date Collected: 12/29/22 13:20
Date Received: 12/30/22 09:30
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		01/04/23 14:24	01/06/23 15:04	20
Toluene	<0.0398	U	0.0398		mg/Kg		01/04/23 14:24	01/06/23 15:04	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		01/04/23 14:24	01/06/23 15:04	20
m-Xylene & p-Xylene	<0.0797	U	0.0797		mg/Kg		01/04/23 14:24	01/06/23 15:04	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		01/04/23 14:24	01/06/23 15:04	20
Xylenes, Total	<0.0797	U	0.0797		mg/Kg		01/04/23 14:24	01/06/23 15:04	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:04*	*20*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*01/04/23 14:24*	*01/06/23 15:04*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0797	U	0.0797		mg/Kg			01/06/23 15:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**573**		50.0		mg/Kg			01/05/23 10:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 19:26	1
Diesel Range Organics (Over C10-C28)	**429**		50.0		mg/Kg		01/04/23 08:24	01/04/23 19:26	1
Oil Range Organics (Over C28-C36)	**144**		50.0		mg/Kg		01/04/23 08:24	01/04/23 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:26*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:26*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6460**		49.6		mg/Kg			01/04/23 06:34	10

Client Sample ID: BH01A

Lab Sample ID: 890-3727-2
Matrix: Solid
Date Collected: 12/29/22 13:45
Date Received: 12/30/22 09:30
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 14:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 14:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 14:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/04/23 14:24	01/06/23 14:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 14:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/04/23 14:24	01/06/23 14:43	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Client Sample ID: BH01A

Date Collected: 12/29/22 13:45
Date Received: 12/30/22 09:30
Sample Depth: 3

Lab Sample ID: 890-3727-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*01/04/23 14:24*	*01/06/23 14:43*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*01/04/23 14:24*	*01/06/23 14:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			01/06/23 15:28	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			01/05/23 10:36	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		01/04/23 08:24	01/04/23 19:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/04/23 08:24	01/04/23 19:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/04/23 08:24	01/04/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:45*	*1*
o-Terphenyl	*96*		*70 - 130*	*01/04/23 08:24*	*01/04/23 19:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**477**	**F1**	4.95	mg/Kg			01/04/23 06:38	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3727-1	BH01	89	84
890-3727-2	BH01A	108	106
890-3738-A-1-E MS	Matrix Spike	99	105
890-3738-A-1-F MSD	Matrix Spike Duplicate	105	109
LCS 880-43171/1-A	Lab Control Sample	104	106
LCSD 880-43171/2-A	Lab Control Sample Dup	102	107
MB 880-43171/5-A	Method Blank	99	105

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3727-1	BH01	118	105
890-3727-2	BH01A	105	96
890-3753-A-1-B MS	Matrix Spike	103	81
890-3753-A-1-C MSD	Matrix Spike Duplicate	101	79
LCS 880-43112/2-A	Lab Control Sample	113	93
LCSD 880-43112/3-A	Lab Control Sample Dup	112	92
MB 880-43112/1-A	Method Blank	121	114

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43171/5-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43171

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/04/23 14:24	01/06/23 11:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/04/23 14:24	01/06/23 11:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/04/23 14:24*	*01/06/23 11:51*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/04/23 14:24*	*01/06/23 11:51*	*1*

Lab Sample ID: LCS 880-43171/1-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43171

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07559		mg/Kg		76	70 - 130		
Toluene			0.100	0.07256		mg/Kg		73	70 - 130		
Ethylbenzene			0.100	0.07155		mg/Kg		72	70 - 130		
m-Xylene & p-Xylene			0.200	0.1466		mg/Kg		73	70 - 130		
o-Xylene			0.100	0.07250		mg/Kg		73	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-43171/2-A
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43171

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07746		mg/Kg		77	70 - 130	2	35
Toluene			0.100	0.07295		mg/Kg		73	70 - 130	1	35
Ethylbenzene			0.100	0.07137		mg/Kg		71	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.1500		mg/Kg		75	70 - 130	2	35
o-Xylene			0.100	0.07359		mg/Kg		74	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3738-A-1-E MS
Matrix: Solid
Analysis Batch: 43326

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09220		mg/Kg		92	70 - 130		
Toluene	<0.00201	U	0.100	0.08852		mg/Kg		88	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

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

Lab Sample ID: 890-3738-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43326 — **Prep Batch: 43171**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.08473		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1759		mg/Kg		88	70 - 130
o-Xylene	<0.00201	U	0.100	0.08390		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-3738-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43326 — **Prep Batch: 43171**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.1018		mg/Kg		103	70 - 130	10	35
Toluene	<0.00201	U	0.0990	0.09453		mg/Kg		95	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.09255		mg/Kg		93	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1923		mg/Kg		97	70 - 130	9	35
o-Xylene	<0.00201	U	0.0990	0.09249		mg/Kg		93	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-43112/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43104 — **Prep Batch: 43112**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/04/23 08:24	01/04/23 09:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*01/04/23 08:24*	*01/04/23 09:14*	*1*
o-Terphenyl	*114*		*70 - 130*	*01/04/23 08:24*	*01/04/23 09:14*	*1*

Lab Sample ID: LCS 880-43112/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43104 — **Prep Batch: 43112**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	937.8		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)			1000	851.1		mg/Kg		85	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

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

Lab Sample ID: LCS 880-43112/2-A
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43112

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: LCSD 880-43112/3-A
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43112

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	957.7		mg/Kg		96	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	876.0		mg/Kg		88	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 890-3753-A-1-B MS
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43112

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	960.7		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	799.8		mg/Kg		80	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-3753-A-1-C MSD
Matrix: Solid
Analysis Batch: 43104

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	965.7		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	788.5		mg/Kg		79	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	79		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43076/1-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/04/23 05:18	1

Lab Sample ID: LCS 880-43076/2-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-43076/3-A
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	264.0		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3727-2 MS
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: BH01A
Prep Type: Soluble

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

Lab Sample ID: 890-3727-2 MSD
Matrix: Solid
Analysis Batch: 43096

Client Sample ID: BH01A
Prep Type: Soluble

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

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

GC VOA

Prep Batch: 43171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	5035	
890-3727-2	BH01A	Total/NA	Solid	5035	
MB 880-43171/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43171/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43171/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3738-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3738-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	8021B	43171
890-3727-2	BH01A	Total/NA	Solid	8021B	43171
MB 880-43171/5-A	Method Blank	Total/NA	Solid	8021B	43171
LCS 880-43171/1-A	Lab Control Sample	Total/NA	Solid	8021B	43171
LCSD 880-43171/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43171
890-3738-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	43171
890-3738-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43171

Analysis Batch: 43423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	Total BTEX	
890-3727-2	BH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	8015B NM	43112
890-3727-2	BH01A	Total/NA	Solid	8015B NM	43112
MB 880-43112/1-A	Method Blank	Total/NA	Solid	8015B NM	43112
LCS 880-43112/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43112
LCSD 880-43112/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43112
890-3753-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	43112
890-3753-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43112

Prep Batch: 43112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	8015NM Prep	
890-3727-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-43112/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43112/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43112/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3753-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3753-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Total/NA	Solid	8015 NM	
890-3727-2	BH01A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 43076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Soluble	Solid	DI Leach	
890-3727-2	BH01A	Soluble	Solid	DI Leach	
MB 880-43076/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3727-2 MS	BH01A	Soluble	Solid	DI Leach	
890-3727-2 MSD	BH01A	Soluble	Solid	DI Leach	

Analysis Batch: 43096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3727-1	BH01	Soluble	Solid	300.0	43076
890-3727-2	BH01A	Soluble	Solid	300.0	43076
MB 880-43076/1-A	Method Blank	Soluble	Solid	300.0	43076
LCS 880-43076/2-A	Lab Control Sample	Soluble	Solid	300.0	43076
LCSD 880-43076/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43076
890-3727-2 MS	BH01A	Soluble	Solid	300.0	43076
890-3727-2 MSD	BH01A	Soluble	Solid	300.0	43076

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Client Sample ID: BH01

Date Collected: 12/29/22 13:20
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3727-1

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	43171	01/04/23 14:24	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	43326	01/06/23 15:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43423	01/06/23 15:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			43234	01/05/23 10:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43112	01/04/23 08:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43104	01/04/23 19:26	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		10			43096	01/04/23 06:34	CH	EET MID

Client Sample ID: BH01A

Date Collected: 12/29/22 13:45
Date Received: 12/30/22 09:30

Lab Sample ID: 890-3727-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43171	01/04/23 14:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43326	01/06/23 14:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43423	01/06/23 15:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			43234	01/05/23 10:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43112	01/04/23 08:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43104	01/04/23 19:45	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	43076	01/03/23 12:06	KS	EET MID
Soluble	Analysis	300.0		1			43096	01/04/23 06:38	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3727-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3727-1	BH01	Solid	12/29/22 13:20	12/30/22 09:30	1
890-3727-2	BH01A	Solid	12/29/22 13:45	12/30/22 09:30	3

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	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:	817-683-2503	Email:	kjennings@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 21 Brushy Draw 125H	Turn Around	
Project Number:	D3E155842	☑ Routine ☐ Rush	
Project Location:	32.109254, -103.88392	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides	Sample Comments
BH01	S	12/29/22	1320	1'	G	1		X	X	X	Incident #: nAPP2229145183
BH01A	S	12/29/22	1345	3'	G	1		X	X	X	

890-3727 Chain of Custody

Cost Center: 1666421001

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12/30/22 900am	2		12.30.22 930
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3727-1
SDG Number: 03E1558142

Login Number: 3727
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3727-1
SDG Number: 03E1558142

Login Number: 3727
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/03/23 09:51 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/9/2023 3:32:51 PM

JOB DESCRIPTION

PLU 21 Brushy Draw 125H
SDG NUMBER 03E1558142

JOB NUMBER

890-3754-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

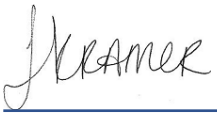
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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1/9/2023 3:32:51 PM

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

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Laboratory Job ID: 890-3754-1
SDG: 03E1558142

Table of Contents

Eurofins Carlsbad
1/9/2023

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Job ID: 890-3754-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3754-1

Receipt
The samples were received on 12/30/2022 1:48 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS03 (890-3754-1) and FS04 (890-3754-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-43278 and analytical batch 880-43470 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3757-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-43226 and analytical batch 880-43376 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43226 and analytical batch 880-43376 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Client Sample ID: FS03

Lab Sample ID: 890-3754-1
Matrix: Solid
Date Collected: 12/30/22 09:10
Date Received: 12/30/22 13:48
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 F2 F1 *- *1	0.00201		mg/Kg		01/05/23 14:02	01/09/23 12:22	1
Toluene	<0.00201	U F2 F1	0.00201		mg/Kg		01/05/23 14:02	01/09/23 12:22	1
Ethylbenzene	<0.00201	U F2 F1	0.00201		mg/Kg		01/05/23 14:02	01/09/23 12:22	1
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.00402		mg/Kg		01/05/23 14:02	01/09/23 12:22	1
o-Xylene	<0.00201	U F2 F1	0.00201		mg/Kg		01/05/23 14:02	01/09/23 12:22	1
Xylenes, Total	<0.00402	U F2 F1	0.00402		mg/Kg		01/05/23 14:02	01/09/23 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*01/05/23 14:02*	*01/09/23 12:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*01/05/23 14:02*	*01/09/23 12:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/09/23 14:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**246**		49.8		mg/Kg			01/06/23 13:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		01/05/23 11:23	01/06/23 02:33	1
Diesel Range Organics (Over C10-C28)	**246**		49.8		mg/Kg		01/05/23 11:23	01/06/23 02:33	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		01/05/23 11:23	01/06/23 02:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*01/05/23 11:23*	*01/06/23 02:33*	*1*
o-Terphenyl	*117*		*70 - 130*	*01/05/23 11:23*	*01/06/23 02:33*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2760**		25.0		mg/Kg			01/06/23 23:53	5

Client Sample ID: FS04

Lab Sample ID: 890-3754-2
Matrix: Solid
Date Collected: 12/30/22 09:20
Date Received: 12/30/22 13:48
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U *- *1	0.0401		mg/Kg		01/05/23 14:02	01/09/23 14:45	20
Toluene	<0.0401	U	0.0401		mg/Kg		01/05/23 14:02	01/09/23 14:45	20
Ethylbenzene	<0.0401	U	0.0401		mg/Kg		01/05/23 14:02	01/09/23 14:45	20
m-Xylene & p-Xylene	<0.0802	U	0.0802		mg/Kg		01/05/23 14:02	01/09/23 14:45	20
o-Xylene	**0.0492**		0.0401		mg/Kg		01/05/23 14:02	01/09/23 14:45	20
Xylenes, Total	<0.0802	U	0.0802		mg/Kg		01/05/23 14:02	01/09/23 14:45	20

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Client Sample ID: FS04

Date Collected: 12/30/22 09:20
Date Received: 12/30/22 13:48
Sample Depth: 0.5

Lab Sample ID: 890-3754-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*01/05/23 14:02*	*01/09/23 14:45*	*20*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*01/05/23 14:02*	*01/09/23 14:45*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0802	U	0.0802	mg/Kg			01/09/23 15:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2960**		50.0	mg/Kg			01/06/23 13:03	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	**106**		50.0	mg/Kg		01/05/23 11:23	01/06/23 02:54	1
Diesel Range Organics (Over C10-C28)	**2850**		50.0	mg/Kg		01/05/23 11:23	01/06/23 02:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/05/23 11:23	01/06/23 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*01/05/23 11:23*	*01/06/23 02:54*	*1*
o-Terphenyl	*117*		*70 - 130*	*01/05/23 11:23*	*01/06/23 02:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5340**		25.0	mg/Kg			01/06/23 23:59	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
890-3754-1	FS03	101	95										
890-3754-1 MS	FS03	112	108										
890-3754-1 MSD	FS03	108	97										
890-3754-2	FS04	108	78										
LCS 880-43278/1-A	Lab Control Sample	97	3 S1-										
LCSD 880-43278/2-A	Lab Control Sample Dup	98	104										
MB 880-43278/5-A	Method Blank	99	105										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
890-3754-1	FS03	126	117										
890-3754-2	FS04	126	117										
890-3757-A-1-C MS	Matrix Spike	112	85										
890-3757-A-1-D MSD	Matrix Spike Duplicate	114	88										
LCS 880-43251/2-A	Lab Control Sample	104	98										
LCSD 880-43251/3-A	Lab Control Sample Dup	118	110										
MB 880-43251/1-A	Method Blank	113	109										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43278/5-A
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43278

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/05/23 14:02	01/09/23 11:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/05/23 14:02	01/09/23 11:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/05/23 14:02	01/09/23 11:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/05/23 14:02	01/09/23 11:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/05/23 14:02	01/09/23 11:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/05/23 14:02	01/09/23 11:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/05/23 14:02*	*01/09/23 11:53*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/05/23 14:02*	*01/09/23 11:53*	*1*

Lab Sample ID: LCS 880-43278/1-A
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43278

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	<0.00200	U *-	mg/Kg		0.01	70 - 130		
Toluene			0.100	0.09058		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.08861		mg/Kg		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1816		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.08741		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*3*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-43278/2-A
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43278

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09786	*1	mg/Kg		98	70 - 130	200	35
Toluene			0.100	0.09409		mg/Kg		94	70 - 130	4	35
Ethylbenzene			0.100	0.09315		mg/Kg		93	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130	6	35
o-Xylene			0.100	0.09182		mg/Kg		92	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3754-1 MS
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 43278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F2 F1 *- *1	0.101	0.002879	F1	mg/Kg		2	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

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

Lab Sample ID: 890-3754-1 MS
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 43278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00201	U F2 F1	0.101	0.004331	F1	mg/Kg		4	70 - 130
Ethylbenzene	<0.00201	U F2 F1	0.101	0.005925	F1	mg/Kg		6	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.202	0.005616	F1	mg/Kg		2	70 - 130
o-Xylene	<0.00201	U F2 F1	0.101	0.01014	F1	mg/Kg		9	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-3754-1 MSD
Matrix: Solid
Analysis Batch: 43470

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 43278

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1 *-*1	0.0990	<0.00198	U F2 F1	mg/Kg		0.1	70 - 130	120	35
Toluene	<0.00201	U F2 F1	0.0990	0.002376	F2 F1	mg/Kg		2	70 - 130	58	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.002880	F2 F1	mg/Kg		3	70 - 130	69	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.198	<0.00396	U F2 F1	mg/Kg		0.5	70 - 130	77	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.002131	F2 F1	mg/Kg		1	70 - 130	131	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-43251/1-A
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43251

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/05/23 11:23	01/05/23 19:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/05/23 11:23	01/05/23 19:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/05/23 11:23	01/05/23 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*01/05/23 11:23*	*01/05/23 19:47*	*1*
o-Terphenyl	*109*		*70 - 130*	*01/05/23 11:23*	*01/05/23 19:47*	*1*

Lab Sample ID: LCS 880-43251/2-A
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	978.5		mg/Kg		98	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

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

Lab Sample ID: LCS 880-43251/2-A
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43251

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics (Over C10-C28)			1000	924.6		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: LCSD 880-43251/3-A
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43251

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1009		mg/Kg		101	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	999.4		mg/Kg		100	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: 890-3757-A-1-C MS
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	750.7		mg/Kg		70	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	885.9		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: 890-3757-A-1-D MSD
Matrix: Solid
Analysis Batch: 43191

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	826.1		mg/Kg		78	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	913.9		mg/Kg		90	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43226/1-A
Matrix: Solid
Analysis Batch: 43376

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/06/23 22:14	1

Lab Sample ID: LCS 880-43226/2-A
Matrix: Solid
Analysis Batch: 43376

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.5		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-43226/3-A
Matrix: Solid
Analysis Batch: 43376

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.6		mg/Kg		106	90 - 110	3	20

Lab Sample ID: 890-3754-2 MS
Matrix: Solid
Analysis Batch: 43376

Client Sample ID: FS04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5340		1250	7588	E 4	mg/Kg		180	90 - 110		

Lab Sample ID: 890-3754-2 MSD
Matrix: Solid
Analysis Batch: 43376

Client Sample ID: FS04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5340		1250	7214	4	mg/Kg		150	90 - 110	NC	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

GC VOA

Prep Batch: 43278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	5035	
890-3754-2	FS04	Total/NA	Solid	5035	
MB 880-43278/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43278/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43278/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3754-1 MS	FS03	Total/NA	Solid	5035	
890-3754-1 MSD	FS03	Total/NA	Solid	5035	

Analysis Batch: 43470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	8021B	43278
890-3754-2	FS04	Total/NA	Solid	8021B	43278
MB 880-43278/5-A	Method Blank	Total/NA	Solid	8021B	43278
LCS 880-43278/1-A	Lab Control Sample	Total/NA	Solid	8021B	43278
LCSD 880-43278/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43278
890-3754-1 MS	FS03	Total/NA	Solid	8021B	43278
890-3754-1 MSD	FS03	Total/NA	Solid	8021B	43278

Analysis Batch: 43569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	Total BTEX	
890-3754-2	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	8015B NM	43251
890-3754-2	FS04	Total/NA	Solid	8015B NM	43251
MB 880-43251/1-A	Method Blank	Total/NA	Solid	8015B NM	43251
LCS 880-43251/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43251
LCSD 880-43251/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43251
890-3757-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	43251
890-3757-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43251

Prep Batch: 43251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	8015NM Prep	
890-3754-2	FS04	Total/NA	Solid	8015NM Prep	
MB 880-43251/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43251/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43251/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3757-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3757-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Total/NA	Solid	8015 NM	
890-3754-2	FS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

HPLC/IC

Leach Batch: 43226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Soluble	Solid	DI Leach	
890-3754-2	FS04	Soluble	Solid	DI Leach	
MB 880-43226/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43226/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43226/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3754-2 MS	FS04	Soluble	Solid	DI Leach	
890-3754-2 MSD	FS04	Soluble	Solid	DI Leach	

Analysis Batch: 43376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3754-1	FS03	Soluble	Solid	300.0	43226
890-3754-2	FS04	Soluble	Solid	300.0	43226
MB 880-43226/1-A	Method Blank	Soluble	Solid	300.0	43226
LCS 880-43226/2-A	Lab Control Sample	Soluble	Solid	300.0	43226
LCSD 880-43226/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43226
890-3754-2 MS	FS04	Soluble	Solid	300.0	43226
890-3754-2 MSD	FS04	Soluble	Solid	300.0	43226

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Client Sample ID: FS03

Date Collected: 12/30/22 09:10
Date Received: 12/30/22 13:48

Lab Sample ID: 890-3754-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	43278	01/05/23 14:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43470	01/09/23 12:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43569	01/09/23 14:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43395	01/06/23 13:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43251	01/05/23 11:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43191	01/06/23 02:33	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43226	01/05/23 10:27	KS	EET MID
Soluble	Analysis	300.0		5			43376	01/06/23 23:53	CH	EET MID

Client Sample ID: FS04

Date Collected: 12/30/22 09:20
Date Received: 12/30/22 13:48

Lab Sample ID: 890-3754-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43278	01/05/23 14:02	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	43470	01/09/23 14:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43569	01/09/23 15:23	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43395	01/06/23 13:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43251	01/05/23 11:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43191	01/06/23 02:54	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43226	01/05/23 10:27	KS	EET MID
Soluble	Analysis	300.0		5			43376	01/06/23 23:59	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 21 Brushy Draw 125H

Job ID: 890-3754-1
SDG: 03E1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3754-1	FS03	Solid	12/30/22 09:10	12/30/22 13:48	0.5
890-3754-2	FS04	Solid	12/30/22 09:20	12/30/22 13:48	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, 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:	817.683.2503	Email:	kjennings@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 21 Brushy Draw 125H	Turn Around	
Project Number:	03E1558142	☑ Routine ☐ Rush	
Project Location:	32.109254, -103.88392	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:	TVM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	Chlorides
FS03	S	12/30/22	0910	0.5'	C	1	X	X	X
FS04	S	12/30/22	0920	0.5'	C	1	X	X	X

ANALYSIS REQUEST

890-3754 Chain of Custody

Preservative Codes

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

Sample Comments

Incident #:
nAPP2229145683

Cost Center:
1666421001

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			12-30-22 1348	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3754-1
SDG Number: 03E1558142

Login Number: 3754
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3754-1
SDG Number: 03E1558142

Login Number: 3754
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/04/23 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/22/2023 3:53:00 PM

JOB DESCRIPTION

PLU 21 BD 125H
SDG NUMBER 03C1558142

JOB NUMBER

890-4113-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

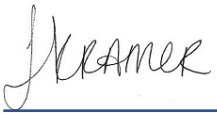
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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2/22/2023 3:53:00 PM

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

Client: Ensolum
Project/Site: PLU 21 BD 125H

Laboratory Job ID: 890-4113-1
SDG: 03C1558142

Table of Contents

Eurofins Carlsbad
2/22/2023

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Job ID: 890-4113-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4113-1

Receipt
The samples were received on 2/15/2023 3:45 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4113-1), FS02 (890-4113-2), FS04 (890-4113-3) and BH02 (890-4113-4).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (890-4113-1), FS02 (890-4113-2), FS04 (890-4113-3), BH02 (890-4113-4), (LCS 880-46606/1-A), (LCSD 880-46606/2-A), (880-24215-A-5-A MB), (880-24215-A-6-A MDLV), (880-24755-A-11-E), (880-24755-A-11-C MS) and (880-24755-A-11-D 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-46824/1-A). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: FS01

Lab Sample ID: 890-4113-1
Matrix: Solid
Date Collected: 02/15/23 12:45
Date Received: 02/15/23 15:45
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 07:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 07:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 07:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/17/23 14:40	02/18/23 07:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 07:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/17/23 14:40	02/18/23 07:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*02/17/23 14:40*	*02/18/23 07:05*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*02/17/23 14:40*	*02/18/23 07:05*	*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			02/20/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**168**		49.9		mg/Kg			02/22/23 16:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/21/23 08:40	02/21/23 10:56	1
Diesel Range Organics (Over C10-C28)	**168**		49.9		mg/Kg		02/21/23 08:40	02/21/23 10:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/21/23 08:40	02/21/23 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*02/21/23 08:40*	*02/21/23 10:56*	*1*
o-Terphenyl	*122*		*70 - 130*	*02/21/23 08:40*	*02/21/23 10:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2650**		50.2		mg/Kg			02/21/23 08:42	10

Client Sample ID: FS02

Lab Sample ID: 890-4113-2
Matrix: Solid
Date Collected: 02/15/23 13:20
Date Received: 02/15/23 15:45
Sample Depth: 1

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		02/17/23 14:40	02/18/23 07:26	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:26	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:26	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		02/17/23 14:40	02/18/23 07:26	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:26	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		02/17/23 14:40	02/18/23 07:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*	*02/17/23 14:40*	*02/18/23 07:26*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: FS02

Lab Sample ID: 890-4113-2
Matrix: Solid
Date Collected: 02/15/23 13:20
Date Received: 02/15/23 15:45
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*02/17/23 14:40*	*02/18/23 07:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			02/20/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**138**		50.0		mg/Kg			02/22/23 16:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/21/23 08:40	02/21/23 12:01	1
Diesel Range Organics (Over C10-C28)	**138**		50.0		mg/Kg		02/21/23 08:40	02/21/23 12:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/21/23 08:40	02/21/23 12:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:01*	*1*
o-Terphenyl	*108*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2940**		50.2		mg/Kg			02/21/23 09:01	10

Client Sample ID: FS04

Lab Sample ID: 890-4113-3
Matrix: Solid
Date Collected: 02/15/23 14:00
Date Received: 02/15/23 15:45
Sample Depth: 1

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		02/17/23 14:40	02/18/23 07:46	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:46	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		02/17/23 14:40	02/18/23 07:46	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:40	02/18/23 07:46	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		02/17/23 14:40	02/18/23 07:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*	*S1+*	*70 - 130*	*02/17/23 14:40*	*02/18/23 07:46*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/17/23 14:40*	*02/18/23 07:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/20/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**115**		49.9		mg/Kg			02/22/23 16:26	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: FS04

Lab Sample ID: 890-4113-3
Matrix: Solid
Date Collected: 02/15/23 14:00
Date Received: 02/15/23 15:45
Sample Depth: 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		02/21/23 08:40	02/21/23 12:23	1
Diesel Range Organics (Over C10-C28)	**115**		49.9		mg/Kg		02/21/23 08:40	02/21/23 12:23	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/21/23 08:40	02/21/23 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:23*	*1*
o-Terphenyl	*118*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1590**		25.0		mg/Kg			02/21/23 09:07	5

Client Sample ID: BH02

Lab Sample ID: 890-4113-4
Matrix: Solid
Date Collected: 02/15/23 09:55
Date Received: 02/15/23 15:45
Sample Depth: 2

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		02/17/23 14:40	02/18/23 08:07	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/17/23 14:40	02/18/23 08:07	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/17/23 14:40	02/18/23 08:07	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/17/23 14:40	02/18/23 08:07	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/17/23 14:40	02/18/23 08:07	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/17/23 14:40	02/18/23 08:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*02/17/23 14:40*	*02/18/23 08:07*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*02/17/23 14:40*	*02/18/23 08:07*	*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			02/20/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/22/23 16:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/21/23 08:40	02/21/23 12:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/21/23 08:40	02/21/23 12:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/21/23 08:40	02/21/23 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:45*	*1*
o-Terphenyl	*108*		*70 - 130*	*02/21/23 08:40*	*02/21/23 12:45*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: BH02
Date Collected: 02/15/23 09:55
Date Received: 02/15/23 15:45
Sample Depth: 2

Lab Sample ID: 890-4113-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	307		5.05		mg/Kg			02/21/23 09:13	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

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)
880-24755-A-11-C MS	Matrix Spike	132 S1+	106
880-24755-A-11-D MSD	Matrix Spike Duplicate	132 S1+	97
890-4113-1	FS01	138 S1+	109
890-4113-2	FS02	141 S1+	106
890-4113-3	FS04	142 S1+	101
890-4113-4	BH02	144 S1+	105
LCS 880-46606/1-A	Lab Control Sample	131 S1+	105
LCSD 880-46606/2-A	Lab Control Sample Dup	131 S1+	102
MB 880-46606/5-A	Method Blank	127	100

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)
890-4113-1	FS01	114	122
890-4113-1 MS	FS01	118	112
890-4113-1 MSD	FS01	128	125
890-4113-2	FS02	101	108
890-4113-3	FS04	112	118
890-4113-4	BH02	100	108
LCS 880-46824/2-A	Lab Control Sample	83	90
LCSD 880-46824/3-A	Lab Control Sample Dup	82	91
MB 880-46824/1-A	Method Blank	137 S1+	156 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46606/5-A
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46606

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 01:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 01:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 01:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/17/23 14:40	02/18/23 01:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:40	02/18/23 01:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/17/23 14:40	02/18/23 01:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*02/17/23 14:40*	*02/18/23 01:43*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/17/23 14:40*	*02/18/23 01:43*	*1*

Lab Sample ID: LCS 880-46606/1-A
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46606

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1185		mg/Kg		118	70 - 130		
Toluene			0.100	0.1111		mg/Kg		111	70 - 130		
Ethylbenzene			0.100	0.1141		mg/Kg		114	70 - 130		
m-Xylene & p-Xylene			0.200	0.2420		mg/Kg		121	70 - 130		
o-Xylene			0.100	0.1184		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-46606/2-A
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46606

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1254		mg/Kg		125	70 - 130	6	35
Toluene			0.100	0.1195		mg/Kg		120	70 - 130	7	35
Ethylbenzene			0.100	0.1190		mg/Kg		119	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2526		mg/Kg		126	70 - 130	4	35
o-Xylene			0.100	0.1229		mg/Kg		123	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-24755-A-11-C MS
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46606

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1268		mg/Kg		126	70 - 130		
Toluene	<0.00202	U	0.101	0.1202		mg/Kg		119	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

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

Lab Sample ID: 880-24755-A-11-C MS
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46606

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1192		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2517		mg/Kg		125	70 - 130
o-Xylene	<0.00202	U	0.101	0.1232		mg/Kg		122	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-24755-A-11-D MSD
Matrix: Solid
Analysis Batch: 46567

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46606

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.1080		mg/Kg		108	70 - 130	16	35
Toluene	<0.00202	U	0.0996	0.1133		mg/Kg		114	70 - 130	6	35
Ethylbenzene	<0.00202	U	0.0996	0.1146		mg/Kg		115	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.2433		mg/Kg		122	70 - 130	3	35
o-Xylene	<0.00202	U	0.0996	0.1194		mg/Kg		119	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-46824/1-A
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46824

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		02/21/23 08:40	02/21/23 08:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/21/23 08:40	02/21/23 08:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/21/23 08:40	02/21/23 08:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*02/21/23 08:40*	*02/21/23 08:17*	*1*
o-Terphenyl	*156*	*S1+*	*70 - 130*	*02/21/23 08:40*	*02/21/23 08:17*	*1*

Lab Sample ID: LCS 880-46824/2-A
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46824

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1084		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1170		mg/Kg		117	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

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

Lab Sample ID: LCS 880-46824/2-A
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46824

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-46824/3-A
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46824

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1130		mg/Kg		113	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-4113-1 MS
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 46824

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1190		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)	168		997	1295		mg/Kg		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: 890-4113-1 MSD
Matrix: Solid
Analysis Batch: 46831

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 46824

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1240		mg/Kg		122	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	168		999	1413		mg/Kg		125	70 - 130	9	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	125		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46600/1-A
Matrix: Solid
Analysis Batch: 46816

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			02/21/23 08:24	1

Lab Sample ID: LCS 880-46600/2-A
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-46600/3-A
Matrix: Solid
Analysis Batch: 46816

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	235.4		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-4113-1 MS
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2650		2510	5231		mg/Kg		103	90 - 110		

Lab Sample ID: 890-4113-1 MSD
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2650		2510	5235		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

GC VOA

Analysis Batch: 46567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	8021B	46606
890-4113-2	FS02	Total/NA	Solid	8021B	46606
890-4113-3	FS04	Total/NA	Solid	8021B	46606
890-4113-4	BH02	Total/NA	Solid	8021B	46606
MB 880-46606/5-A	Method Blank	Total/NA	Solid	8021B	46606
LCS 880-46606/1-A	Lab Control Sample	Total/NA	Solid	8021B	46606
LCSD 880-46606/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46606
880-24755-A-11-C MS	Matrix Spike	Total/NA	Solid	8021B	46606
880-24755-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46606

Prep Batch: 46606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	5035	
890-4113-2	FS02	Total/NA	Solid	5035	
890-4113-3	FS04	Total/NA	Solid	5035	
890-4113-4	BH02	Total/NA	Solid	5035	
MB 880-46606/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46606/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46606/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24755-A-11-C MS	Matrix Spike	Total/NA	Solid	5035	
880-24755-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 46739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	Total BTEX	
890-4113-2	FS02	Total/NA	Solid	Total BTEX	
890-4113-3	FS04	Total/NA	Solid	Total BTEX	
890-4113-4	BH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 46824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	8015NM Prep	
890-4113-2	FS02	Total/NA	Solid	8015NM Prep	
890-4113-3	FS04	Total/NA	Solid	8015NM Prep	
890-4113-4	BH02	Total/NA	Solid	8015NM Prep	
MB 880-46824/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46824/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46824/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4113-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-4113-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 46831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	8015B NM	46824
890-4113-2	FS02	Total/NA	Solid	8015B NM	46824
890-4113-3	FS04	Total/NA	Solid	8015B NM	46824
890-4113-4	BH02	Total/NA	Solid	8015B NM	46824
MB 880-46824/1-A	Method Blank	Total/NA	Solid	8015B NM	46824
LCS 880-46824/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46824

QC Association Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

GC Semi VOA (Continued)

Analysis Batch: 46831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-46824/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46824
890-4113-1 MS	FS01	Total/NA	Solid	8015B NM	46824
890-4113-1 MSD	FS01	Total/NA	Solid	8015B NM	46824

Analysis Batch: 46974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Total/NA	Solid	8015 NM	
890-4113-2	FS02	Total/NA	Solid	8015 NM	
890-4113-3	FS04	Total/NA	Solid	8015 NM	
890-4113-4	BH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Soluble	Solid	DI Leach	
890-4113-2	FS02	Soluble	Solid	DI Leach	
890-4113-3	FS04	Soluble	Solid	DI Leach	
890-4113-4	BH02	Soluble	Solid	DI Leach	
MB 880-46600/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46600/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46600/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4113-1 MS	FS01	Soluble	Solid	DI Leach	
890-4113-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 46816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4113-1	FS01	Soluble	Solid	300.0	46600
890-4113-2	FS02	Soluble	Solid	300.0	46600
890-4113-3	FS04	Soluble	Solid	300.0	46600
890-4113-4	BH02	Soluble	Solid	300.0	46600
MB 880-46600/1-A	Method Blank	Soluble	Solid	300.0	46600
LCS 880-46600/2-A	Lab Control Sample	Soluble	Solid	300.0	46600
LCSD 880-46600/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46600
890-4113-1 MS	FS01	Soluble	Solid	300.0	46600
890-4113-1 MSD	FS01	Soluble	Solid	300.0	46600

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: FS01
Date Collected: 02/15/23 12:45
Date Received: 02/15/23 15:45

Lab Sample ID: 890-4113-1
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			5.00 g	5 mL	46606	02/17/23 14:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46567	02/18/23 07:05	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46739	02/20/23 14:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46974	02/22/23 16:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46824	02/21/23 08:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46831	02/21/23 10:56	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		10			46816	02/21/23 08:42	CH	EET MID

Client Sample ID: FS02
Date Collected: 02/15/23 13:20
Date Received: 02/15/23 15:45

Lab Sample ID: 890-4113-2
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			4.95 g	5 mL	46606	02/17/23 14:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46567	02/18/23 07:26	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46739	02/20/23 14:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46974	02/22/23 16:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46824	02/21/23 08:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46831	02/21/23 12:01	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		10			46816	02/21/23 09:01	CH	EET MID

Client Sample ID: FS04
Date Collected: 02/15/23 14:00
Date Received: 02/15/23 15:45

Lab Sample ID: 890-4113-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	46606	02/17/23 14:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46567	02/18/23 07:46	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46739	02/20/23 14:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46974	02/22/23 16:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46824	02/21/23 08:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46831	02/21/23 12:23	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		5			46816	02/21/23 09:07	CH	EET MID

Client Sample ID: BH02
Date Collected: 02/15/23 09:55
Date Received: 02/15/23 15:45

Lab Sample ID: 890-4113-4
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			5.05 g	5 mL	46606	02/17/23 14:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46567	02/18/23 08:07	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46739	02/20/23 14:09	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Client Sample ID: BH02

Date Collected: 02/15/23 09:55
Date Received: 02/15/23 15:45

Lab Sample ID: 890-4113-4

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			46974	02/22/23 16:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46824	02/21/23 08:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46831	02/21/23 12:45	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 09:13	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

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 21 BD 125H

Job ID: 890-4113-1
SDG: 03C1558142

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4113-1	FS01	Solid	02/15/23 12:45	02/15/23 15:45	1
890-4113-2	FS02	Solid	02/15/23 13:20	02/15/23 15:45	1
890-4113-3	FS04	Solid	02/15/23 14:00	02/15/23 15:45	1
890-4113-4	BH02	Solid	02/15/23 09:55	02/15/23 15:45	2

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 21 BD 125H	Turn Around	Pres. Code
Project Number:	D3C1558142	☑ Routine ☐ Rush	
Project Location:	32.109254, -103.883924	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:	TMM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	Chlorides	TPH	Sample Comments
FS01	S	2/15/23	1245	1'	C	1	X	X	X	Incident #:
FS02	↓	↓	1320	↓	↓	↓	↓	↓	↓	NAPP2229145683
FS04			1400							
BH02			0955	2'	G					Cost Center: 1166621001
										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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2.15.23 1545	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4113-1
SDG Number: 03C1558142

Login Number: 4113
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4113-1
SDG Number: 03C1558142

Login Number: 4113
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/17/23 11:14 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Ben Belill

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, December 22, 2022 2:01 PM
To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Billings, Bradford, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM; Ben Belill; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 12/27/22 - 12/30/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Dec 27, 2022.

- PLU 21 BD 125H / nAPP2229145683
- PLU 21 Brushy Draw Pad B / NAPP2210553504
- Pickett Draw Federal #001 / NAB1919955454
- PLU 428 CTB

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From: Enviro, OCD, EMNRD
To: Green, Garrett J; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Cc: Tacoma Morrissey
Subject: RE: [EXTERNAL] XTO - Sampling Notification (Week of 2/13/23 - 2/17/23)
Date: Thursday, February 9, 2023 10:20:24 AM

[**EXTERNAL EMAIL**]

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, February 9, 2023 8:24 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 2/13/23 - 2/17/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO plans to complete final sampling activities at the following sites the week of Feb 13, 2023.

- ADU 641 / nAPP2302355577
- Remuda 4-24-30 CTB / nAPP2233351770
- PLU 21 BD 125H / nAPP2229145683

Thank you,

ENSOLUM

APPENDIX B

Photographic Log

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Photographic Log
XTO Energy, Inc
PLU 21 Brushy Draw 125H
Incident Number NAPP2229145683

Photograph: 1 Date: 3/4/2024
Description: Site conditions during sampling activities
View: Northeast

Photograph: 2 Date: 3/4/2024
Description: Site conditions during sampling activities
View: Northwest

Photograph: 3 Date: 3/4/2024
Description: Site conditions during sampling activities
View: Northwest

Photograph: 4 Date: 3/4/2024
Description: Site conditions during sampling activities
View: Southwest

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 08, 2024

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 21 BD 125H

Enclosed are the results of analyses for samples received by the laboratory on 03/05/24 14:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	03/05/2024	Sampling Date:	03/04/2024
Reported:	03/08/2024	Sampling Type:	Soil
Project Name:	PLU 21 BD 125H	Sampling Condition:	Cool & Intact
Project Number:	03C1558142	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SW 01 0-1 (H241079-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2024	ND	2.43	122	2.00	5.45	
Toluene*	<0.050	0.050	03/07/2024	ND	2.28	114	2.00	2.92	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.27	114	2.00	0.0454	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	6.76	113	6.00	0.923	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	03/07/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2024	ND	202	101	200	0.965	
DRO >C10-C28*	<10.0	10.0	03/06/2024	ND	176	87.8	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	03/06/2024	ND					

Surrogate: 1-Chlorooctane *99.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	03/05/2024	Sampling Date:	03/04/2024
Reported:	03/08/2024	Sampling Type:	Soil
Project Name:	PLU 21 BD 125H	Sampling Condition:	Cool & Intact
Project Number:	03C1558142	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 07 0.5 (H241079-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2024	ND	2.43	122	2.00	5.45	
Toluene*	<0.050	0.050	03/07/2024	ND	2.28	114	2.00	2.92	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.27	114	2.00	0.0454	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	6.76	113	6.00	0.923	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	03/07/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2024	ND	202	101	200	0.965	
DRO >C10-C28*	<10.0	10.0	03/06/2024	ND	176	87.8	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	03/06/2024	ND					

Surrogate: 1-Chlorooctane *88.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *87.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	03/05/2024	Sampling Date:	03/04/2024
Reported:	03/08/2024	Sampling Type:	Soil
Project Name:	PLU 21 BD 125H	Sampling Condition:	Cool & Intact
Project Number:	03C1558142	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 08 0.5 (H241079-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2024	ND	2.43	122	2.00	5.45	
Toluene*	<0.050	0.050	03/07/2024	ND	2.28	114	2.00	2.92	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.27	114	2.00	0.0454	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	6.76	113	6.00	0.923	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	03/07/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2024	ND	202	101	200	0.965	
DRO >C10-C28*	<10.0	10.0	03/06/2024	ND	176	87.8	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	03/06/2024	ND					

Surrogate: 1-Chlorooctane *90.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *87.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	03/05/2024	Sampling Date:	03/04/2024
Reported:	03/08/2024	Sampling Type:	Soil
Project Name:	PLU 21 BD 125H	Sampling Condition:	Cool & Intact
Project Number:	03C1558142	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 09 0.5 (H241079-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2024	ND	2.43	122	2.00	5.45	
Toluene*	<0.050	0.050	03/07/2024	ND	2.28	114	2.00	2.92	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.27	114	2.00	0.0454	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	6.76	113	6.00	0.923	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	03/07/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2024	ND	202	101	200	0.965	
DRO >C10-C28*	<10.0	10.0	03/06/2024	ND	176	87.8	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	03/06/2024	ND					

Surrogate: 1-Chlorooctane *76.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	03/05/2024	Sampling Date:	03/04/2024
Reported:	03/08/2024	Sampling Type:	Soil
Project Name:	PLU 21 BD 125H	Sampling Condition:	Cool & Intact
Project Number:	03C1558142	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

Sample ID: SS 10 0.5 (H241079-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2024	ND	2.43	122	2.00	5.45	
Toluene*	<0.050	0.050	03/07/2024	ND	2.28	114	2.00	2.92	
Ethylbenzene*	<0.050	0.050	03/07/2024	ND	2.27	114	2.00	0.0454	
Total Xylenes*	<0.150	0.150	03/07/2024	ND	6.76	113	6.00	0.923	
Total BTEX	<0.300	0.300	03/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	03/07/2024	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2024	ND	202	101	200	0.965	
DRO >C10-C28*	<10.0	10.0	03/06/2024	ND	176	87.8	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	03/06/2024	ND					

Surrogate: 1-Chlorooctane *88.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.8 %* *49.1-148*

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Tacoma Morrissey	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc.
City: Carlsbad State: NM Zip: 88220	Attn: Amy Ruth
Phone #: 337 257-8307 Fax #:	Address: 3104 E. Green St.
Project #: 03C1558142 Project Owner: XTO	City: Carlsbad
Project Name: PLU 21 BD 125H	State: NM Zip: 88220
Project Location:	Phone #:
Sampler Name: Connor Whitman	Fax #:

FOR LAB USE ONLY					MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST													
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH	BTEX	Chloride												
H241079																														
1	SW 01	0-1	C	1			✓					✓		3/4/24	10:05	✓	✓	✓												
2	SS07	.5	G	1			✓					✓		3/4/24	10:35	✓	✓	✓												
3	SS08	.5	G	1			✓					✓		3/4/24	10:40	✓	✓	✓												
4	SS09	.5	G	1			✓					✓		3/4/24	10:45	✓	✓	✓												
5	SS10	.5	G	1			✓					✓		3/4/24	10:50	✓	✓	✓												
																		CW												

Relinquished By:	Date: 3-5-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1435		All Results are emailed. Please provide Email address: TMorrissey@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS: nAPP2229145683
	Time:		Cost Center: 1666421001

Delivered By: (Circle One)	Observed Temp. °C 1.3	Sample Condition Cool ☑ Intact ☐	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C	☑ Yes ☐ Yes ☐ No ☐ No		Thermometer ID #113 Correction Factor -0.5°C #140

Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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

QUESTIONS

Action 431347

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2229145683**
Incident Name	**NAPP2229145683 PLU 21 BRUSHY DRAW 125H @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU 21 BRUSHY DRAW 125H
Date Release Discovered	10/04/2022
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
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	Cause: Equipment Failure | Other (Specify) | Crude Oil | Released: 1 BBL | Recovered: 1 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Other (Specify) | Produced Water | Released: 4 BBL | Recovered: 4 BBL | Lost: 0 BBL.
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	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Seal failure on a sand knock out.

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	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)	**More info needed to determine if this will be treated as 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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/12/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	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 100 and 500 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
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 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 500 and 1000 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 500 and 1000 (ft.)
Any other fresh water well or spring	Between 500 and 1000 (ft.)
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	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1000 (ft.) and ½ (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)	8400
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	15500
GRO+DRO (EPA SW-846 Method 8015M)	13500
BTEX (EPA SW-846 Method 8021B or 8260B)	0.1
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	11/17/2022
On what date will (or did) the final sampling or liner inspection occur	03/04/2024
On what date will (or was) the remediation complete(d)	03/04/2024
What is the estimated surface area (in square feet) that will be reclaimed	775
What is the estimated volume (in cubic yards) that will be reclaimed	57
What is the estimated surface area (in square feet) that will be remediated	775
What is the estimated volume (in cubic yards) that will be remediated	29
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.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/12/2025
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.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	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

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**318726**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**03/04/2024**
What was the (estimated) number of samples that were to be gathered	**10**
What was the sampling surface area in square feet	**2000**

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	775
What was the total volume (cubic yards) remediated	29
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	775
What was the total volume (in cubic yards) reclaimed	29
Summarize any additional remediation activities not included by answers (above)	"Soil sampling activities were conducted at the Site to address the October 4, 2022, crude oil and produced water release. Laboratory analytical results from all samples collected from the final excavation extent and release area, indicated that all COC concentrations were in compliance with the Closure Criteria. Based on laboratory analytical results, impacted soil exceeding the Site Closure Criteria has been excavated and no further remediation is required at this time. However, soil on the well pad exceeding the reclamation requirements of NMAC 19.15.29.13.D (1) will be removed during the final reclamation of the well pad. The excavation was backfilled with material purchased locally and the surface recontoured to match pre-existing Site conditions. Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. "
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/12/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431347
	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

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Phone: (505) 476-3441

General Information
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Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 431347
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2229145683 PLU 21 BRUSHY DRAW 125H, thank you. This Remediation Closure Report is approved.	2/18/2025