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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.19312 Longitude -103.77993

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 411	Site Type Tank Battery
Date Release Discovered 07/08/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	28	24S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 2.37	Volume Recovered (bbls) 2.08
☒ Produced Water	Volume Released (bbls) 15.84	Volume Recovered (bbls) 13.92
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Sand and hydrocarbon buildup caused plugging in water meters and separator causing flow line to fail and release fluids to pad. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

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

NA

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator

Signature: 
Date: 07/15/2022

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

OCD Only

Received by: Jocelyn Harimon
Date: 07/15/2022

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:_____ Date: ____12/02/2022_____

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

OCD Only

Received by: _____Jocelyn Harimon_____ Date: 12/02/2022

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Garrrett Green Title: Environmental Coordinator

Signature:  Date: 12/2/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 12/02/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Garrrett Green Title: Environmental Coordinator

Signature:  Date: 12/2/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 12/02/2022

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Robert Hamlet Date: 3/6/2023

Incident ID	NAPP2219646774
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

[X] Description of remediation activities

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

Printed Name: Garrett Green Title: HSSE Coordinator

Signature: Scott Green Date: 8/22/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0749

OCD Only

Received by: Shelly Wells Date: 8/22/2023

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

Closure Approved by: Scott Rodgers Date: 02/12/2024

Printed Name: Scott Rodgers Title: Environmental Specialist Adv.

ENSOLUM

August 22, 2023

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

Re: Closure Request
Poker Lake Unit 411
Incident Number NAPP2219646774
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 groundwater assessment activites at the Poker Lake Unit 411 (Site) as proposed in the December 2, 2022 *Remediation Work Plan* (Appendix A). Based on observations during drilling activities to assess depth to groundwater and comparing exisitng laboratory analytical results to the appropriate Closure Criteria, XTO is submitting this *Closure Request* describing recent assesment actions and requesting no further action for Incident Number NAPP2219646774.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 28, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.19312°, -103.77993°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 8, 2022, sand and hydrocarbon buildup in water meters and a separator caused a flowline to fail, which resulted in the release of 15.84 barrels (bbls) of produced water and 2.37 bbls of crude oil onto the surface of the well pad near active production equipment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 13.92 bbls of produced water and 2.08 bbls of crude oil were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on July 15, 2022. The release was assigned Incident Number NAPP2219646774.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

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

- Benzene: 10 milligrams per kilogram (mg/kg)

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

Since the nearest water well is not within the NMOCD preferred ½-mile radius of the Site, XTO advanced soil boring C-04760 (BH01) to a depth of 108 feet below ground surface (bgs) on August 1, 2023 to confirm depth to groundwater. The soil boring was advanced approximately 245 feet from the western edge of the release and a field geologist logged and described soils continuously. Ensolum's geologist did not observe any moisture and/or saturated soil indicative of a groundwater table throughout the drilling process. The soil boring was backfilled following New Mexico Office of the State Engineer (OSE) approved procedures; specifically, drill cuttings and hydrated benonite chips were backfilled into the boring. All observations during drilling were recorded on a Lithologic / Soil Sampling Log, which is included in Appendix B. Below is photographic documentation of drilling activities for soil boring C-04760.

Photographic Documentation

Drilling of soil boring C-04760, view southeast.

Based on drilling activities to assess depth to groundwater beneath the Site, it was confirmed groundwater is deeper than 108 feet bgs. With the absence of any other sensitive receptors, the Closure Criteria summarized above appears to be the appropriate Closure Criteria for this Site. As documented in the December 2022 *Remediation Work Plan*, final excavation confirmation soil samples were all compliant with the Closure Criteria (Figure 2 and Table 1) and as such, no further actions appear necessary as they relate to this release.

CLOSURE REQUEST

Between September and October 2022, delineation and excavation activities were conducted at the Site to address the presence of impacted soil. Combined, the final excavation extents measured approximately 250 square feet. A total of approximately 13 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico. After the completion of confirmation sampling, the excavation areas were secured with fencing. Confirmation of depth to groundwater beneath the Site exceeding 100 feet bgs and verifying the Closure Criteria indicates remedial actions completed at the Site have been sufficient to address impacted soil resulting from the July 2022 produced water and crude oil release. XTO believes remedial actions have been protective of human health, the environment, and groundwater and as such, XTO respectfully requests no further action for Incident Number NAPP2219646774.

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

Sincerely,
Ensolum, LLC

Daniel R. Moir, PG
Senior Managing Geologist

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

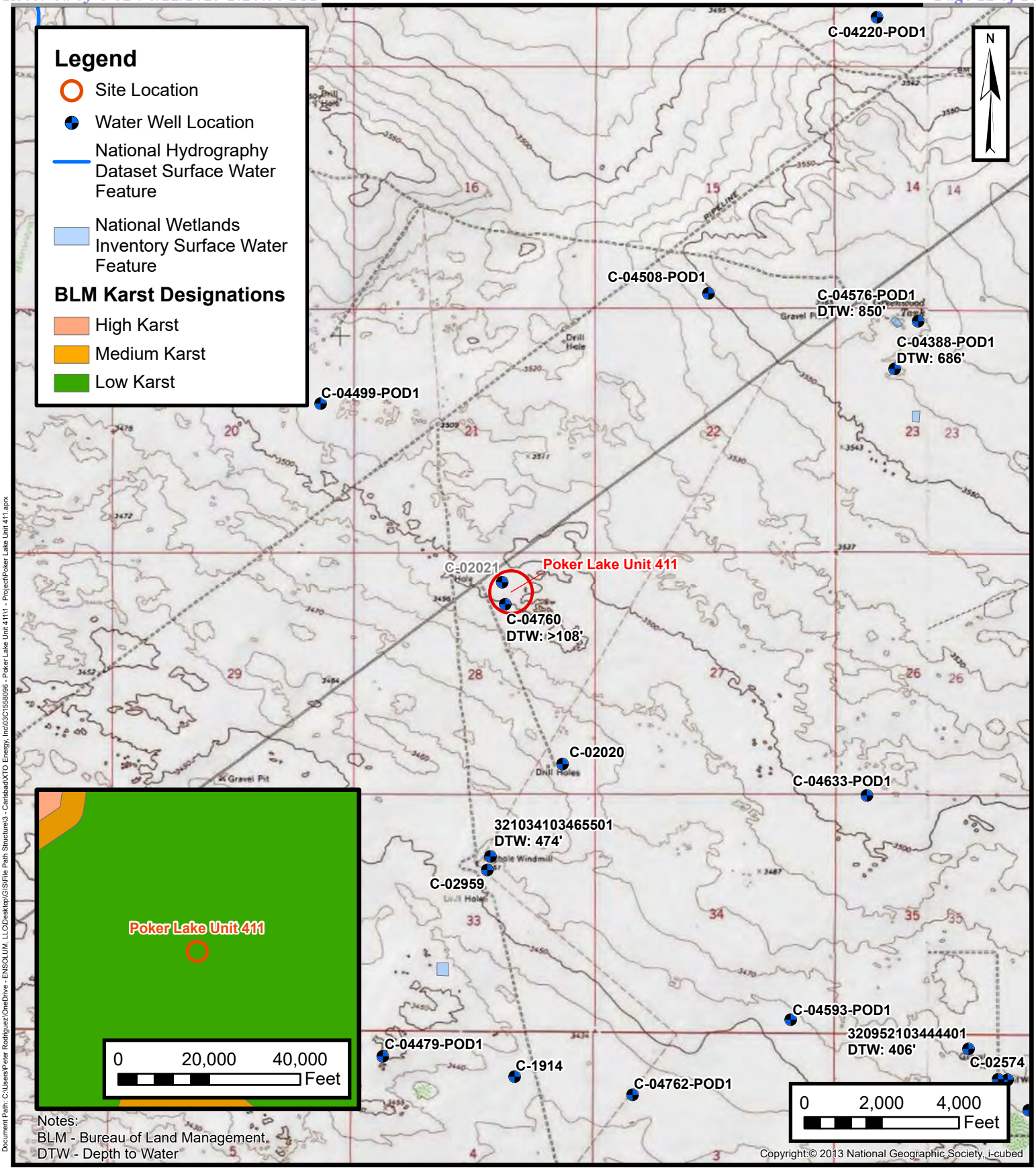
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	*Remediation Work Plan*
Appendix B	Lithologic / Soil Sampling Log

ENSOLUM

Figures



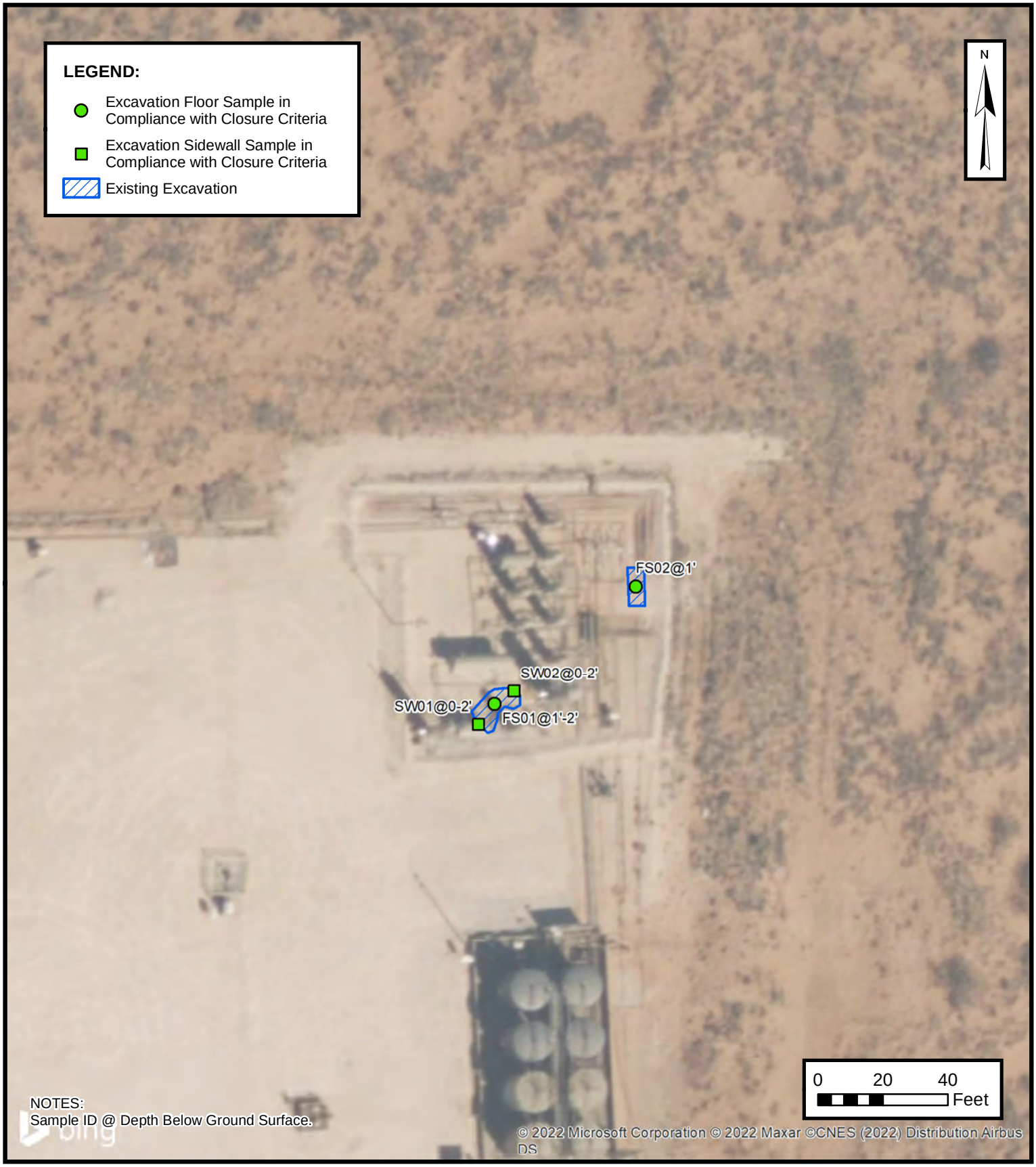
Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\XTO Energy, Inc\03C1558096 - Poker Lake Unit 411\1 - Project\Poker Lake Unit 411.aprx

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO ENERGY, INC
POKER LAKE UNIT 411
NAPP2219646774
Unit B, Sec 28, T24S, R31E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 411
NAPP2219646774
Unit B, Sec 28, T24S, R31E
Eddy County, New Mexico

FIGURE
3

ENSOLUM

Table

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Poker Lake Unit 411
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
~~SS01~~	~~08/18/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<50.0~~	~~5,420~~	~~1,140~~	~~**5,420**~~	~~**6,560**~~	~~2,990~~
~~PH01~~	~~09/29/2022~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~253~~
~~SS02~~	~~08/18/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<50.0~~	~~3,650~~	~~897~~	~~**3,650**~~	~~**4,550**~~	~~**21,100**~~
~~PH02~~	~~09/29/2022~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~484~~
SS03	08/18/2022	0.5	<0.00202	<0.00404	<50.0	128	<50.0	128	128	19,500
PH03	09/29/2022	1	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	33.1
PH03A	09/30/2022	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	48.9
PH04	09/29/2022	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	221
PH04A	09/29/2022	1	<0.00201	<0.00402	<50.0	60.7	<50.0	60.7	60.7	143
PH04B	09/30/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	290
SS04	08/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	57.9	<49.9	57.9	30.0
SS05	08/18/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	16.7
SS06	08/18/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	17.6
SS07	08/18/2022	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	12.7
Excavation Soil Samples										
FS01	09/30/2022	1 - 2	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	156
FS02	10/12/2022	1	<0.00201	0.00468	<49.9	<49.9	<49.9	<49.9	<49.9	2,460
SW01	09/30/2022	0 - 2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	93.4
SW02	09/30/2022	0 - 2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	703

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 1 Closure Criteria
~~grey~~ text indicates soil sample removed during excavation activities

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

ENSOLUM

APPENDIX A

Remediation Work Plan

ENSOLUM

December 2, 2022

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

Re: Remediation Work Plan
Poker Lake Unit 411
Incident Number NAPP2219646774
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Remediation Work Plan* to address impacted soil at the Poker Lake Unit 411 (Site). Soil was impacted due to a release of crude oil and produced water at the Site. Based on excavation activities and laboratory analytical results, XTO is submitting this Remediation Work Plan describing remediation actions completed to date and proposing to install a soil boring to investigate depth to groundwater to confirm the Closure Criteria for Incident Number NAPP2219646774.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 28, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.19312°N, 103.77993°W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 8, 2022, sand and hydrocarbon buildup in water meters and a separator caused a flowline to fail, which resulted in the release of 15.84 barrels (bbls) of produced water and 2.37 bbls of crude oil onto the surface of the well pad near active production equipment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 13.92 bbls of produced water and 2.08 bbls of crude oil were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on July 15, 2022. The release was assigned Incident Number NAPP2219646774.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearby groundwater well data. Based on the desktop review, the closest permitted groundwater well is New Mexico Office of the State Engineer (NMOSE) well C-02021, located approximately 290 feet northwest of the Site, however, depth to groundwater was not recorded. Field

verification is sometimes necessary to measure the distance of the water well from the Site. During the field assessment to verify the location of NMOSE well C-2021, Ensolum verified that the well does not currently exist in the location presented. Ensolum conducted a survey within a 1,000-foot radius of the release and did not identify any water wells.

The next closest permitted well with depth to water data is a soil boring (C-4499) drilled in December 2020 approximately 1.1 miles northwest of the Site. Soil boring C-4499 was drilled to a depth of 110 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activites. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 11,563 feet southwest 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).

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

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

SITE ASSESSMENT ACTIVITIES

On August 18, 2022, Ensolum personnel completed a Site assessment to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven delineation soil samples (SS01 through SS07) were collected within and around the release extent from a depth of approximately 0.5 feet bgs. Delineation soil samples SS01 through SS03 were collected within the release extent, and samples SS04 through SS07 were collected around the release extent to confirm the lateral exent. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site assessment and a photographic log 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

at or below 4 degrees Celsius (°C) 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.

Laboratory analytical results for delineation soil sample SS01 indicated TPH-GRO/TPH-DRO and TPH concentrations exceed the Closure Criteria. Laboratory analytical results for delineation soil sample SS02 indicated TPH-GRO/TPH-DRO, TPH, and chloride concentrations exceed the Closure Criteria. Laboratory analytical results for delineation soil sample SS03 through SS07 indicated all COC concentrations were compliant with the Closure Criteria. Based on laboratory analytical results for the delineation soil samples, additional delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION ACTIVITIES

Between September 29, 2022 and October 12, 2022, delineation and excavation activities were conducted at the Site to address the presence of impacted soil. Four potholes (PH01 through PH04) were advanced by use of hydrovacuum truck and hand auger. Potholes PH01 and PH02 were advanced to a depth of approximately 1-foot bgs and were collected in the vicinity of delineation soil samples SS01 and SS02, respectively. Pothole PH03 was advanced to a depth of approximately 2 feet bgs and was collected in the vicinity of delineation soil sample SS03. Pothole PH04 was advanced to a depth of approximately 2 feet bgs. Discrete delineation soil samples were collected from each pothole and borehole at depths ranging from 0.5 feet to 2 feet bgs. Soil from all potholes was field screened and handled as described above. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by laboratory analytical results from the delineation soil samples. Excavation activities were performed by use of a hydrovacuum truck. The excavation occurred around active production equipment on the well pad. To direct excavation activities, Ensolum personnel field screened soil as described above.

Following removal of impacted soil, Ensolum personnel collected 5-point composite soil samples representing 200 square feet from the floor of two separate excavations. 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. The excavation included two separate areas; impacted soil from delineation soil sample SS01 was removed in the southwestern area of the release extent, and impacted soil from delineation soil sample SS02 was removed in the eastern area of the release extent. Excavation soil sample FS01 was collected from the floor of the southwest excavation area at depths ranging from 1-foot to 2 feet bgs. Excavation soil samples SW01 and SW02 were collected from the sidewall of the southwestern excavation area at depths ranging from ground surface to 2 feet bgs. Excavation soil sample FS02 was collected from the floor of the eastern excavation area at a depth of 1-foot bgs. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into the floor sample, FS02. All excavation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

Combined, the final excavation extents measured approximately 250 square feet. A total of approximately 13 cubic yards of impacted soil was removed during the excavation activities. The

impacted soil was transported and properly disposed of at the R360 Landfill Facility in Hobbs, New Mexico. After the completion of confirmation sampling, the excavation areas were secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all excavation soil samples indicated that all COC concentrations were compliant with the Closure Criteria. Additionally, laboratory analytical results from delineation soil samples PH01 through PH04B and SS04 through SS07, and excavation soil samples FS01, SW01, and SW02 indicate all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

PROPOSED REMEDIATION WORK PLAN

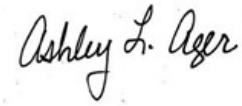
Since the location of soil boring C-4499 is not within the NMOCD preferred ½-mile radius of the Site, XTO proposes to advance a soil boring to a depth of 105 feet bgs to confirm depth to groundwater. The soil boring will be located within ½ mile of the Site and a field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following NMOSE approved procedures. A well record or soil boring log will be included in the follow up Closure Report.

XTO will complete the depth to water soil boring will be completed as soon as possible following approval from the BLM, receipt of the NMOSE drilling permit, and scheduling with a driller.

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

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Project Geologist



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

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

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results

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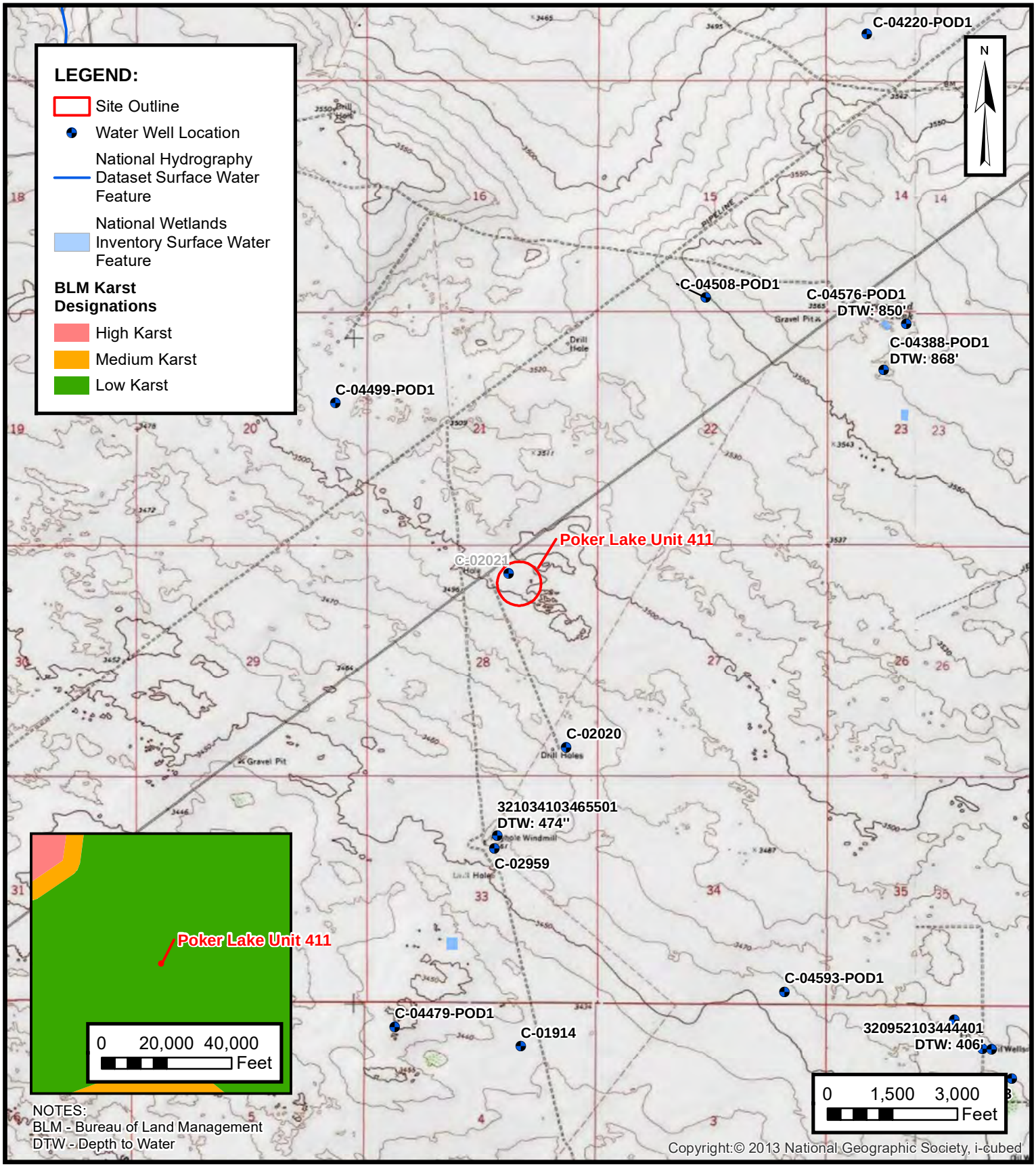
FIGURES



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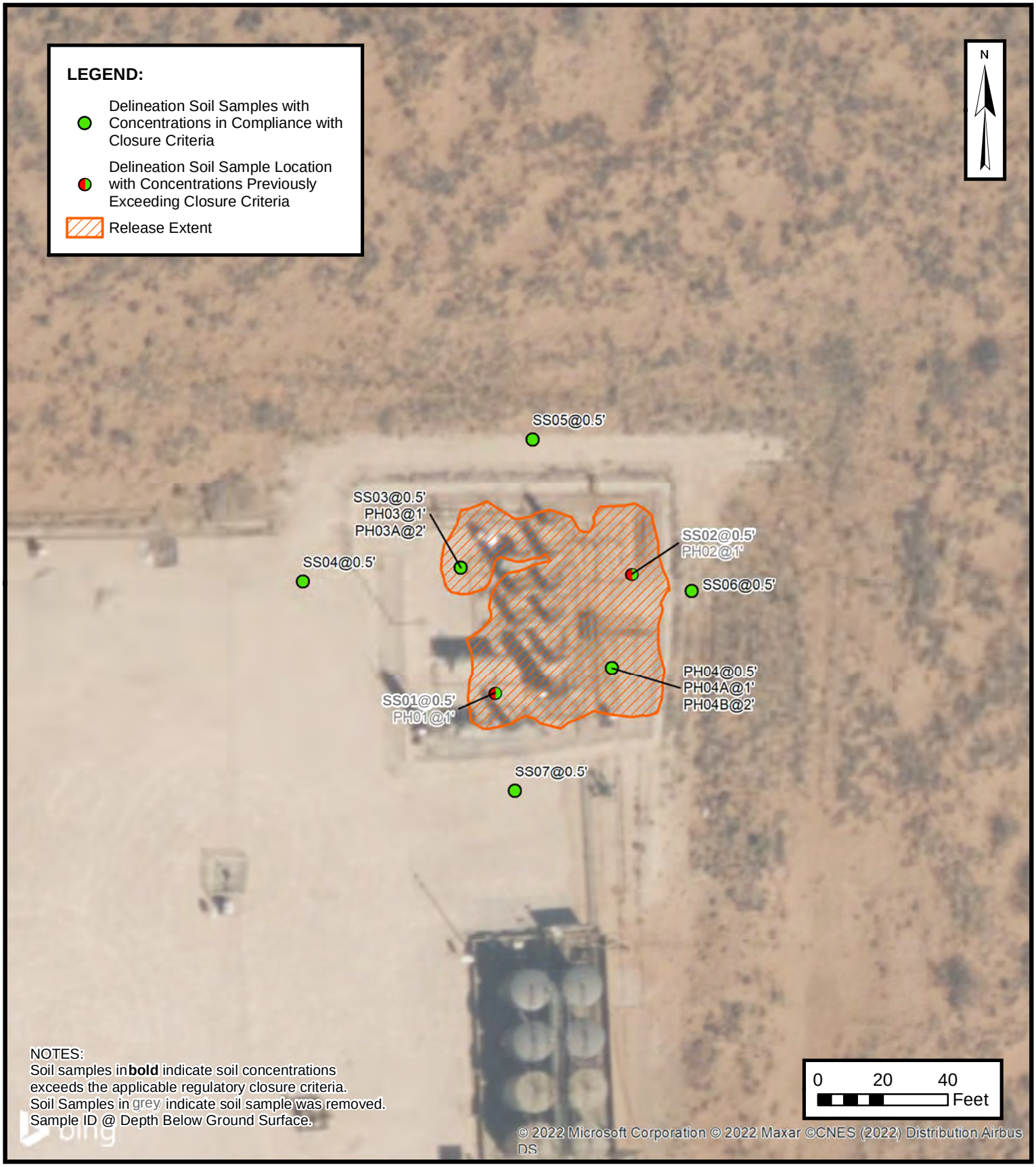
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
POKER LAKE UNIT 411
NAPP2219646774
Unit B, Sec 28, T24S, R31E
Eddy County, New Mexico

FIGURE
1



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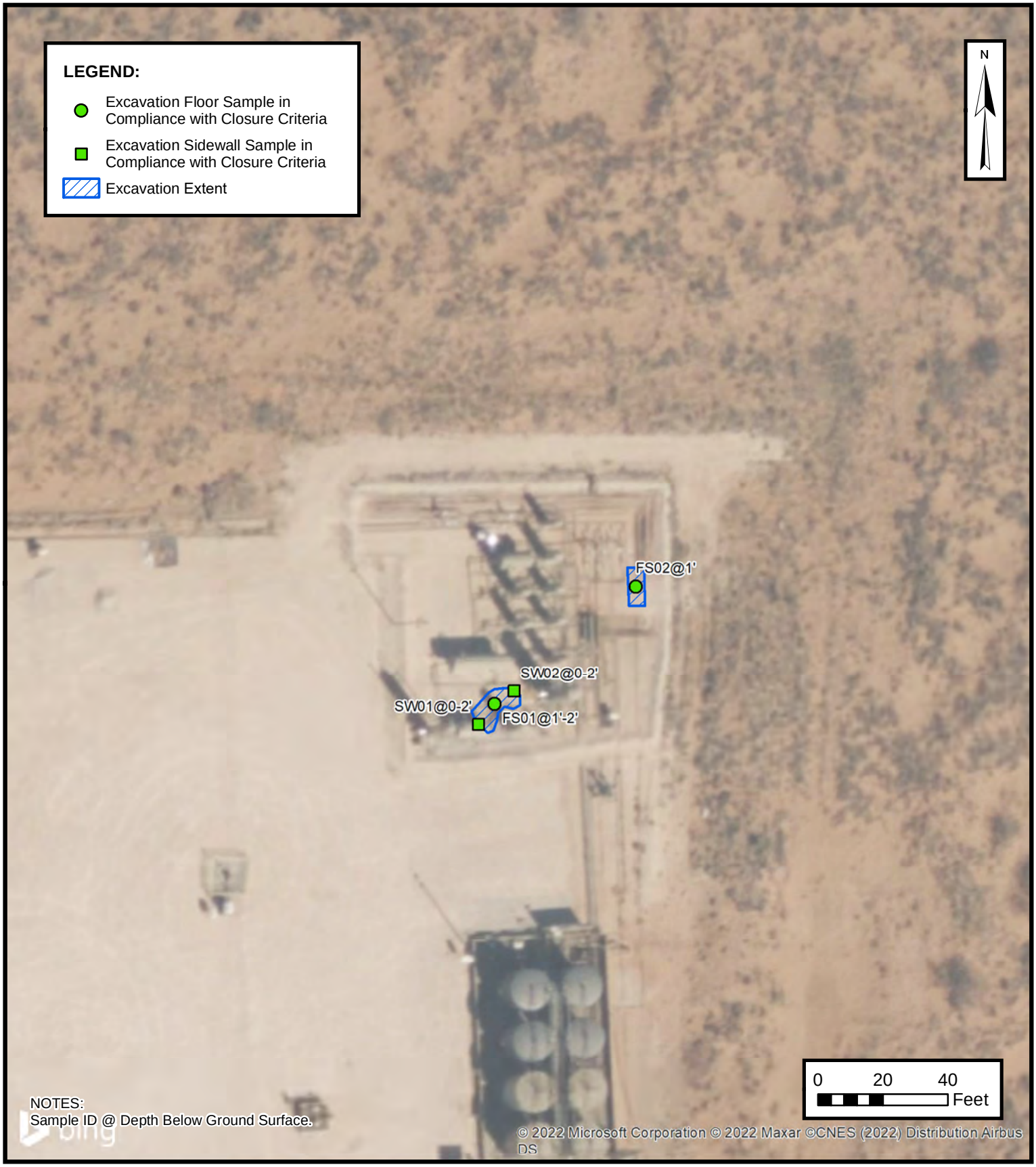
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 411
NAPP2219646774
Unit B, Sec 28, T24S, R31E
Eddy County, New Mexico

FIGURE
2



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EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 411
NAPP2219646774
Unit B, Sec 28, T24S, R31E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Poker Lake Unit 411
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
~~SS01~~	~~08/18/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<50.0~~	~~5,420~~	~~1,140~~	~~**5,420**~~	~~**6,560**~~	~~2,990~~
~~PH01~~	~~09/29/2022~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~253~~
~~SS02~~	~~08/18/2022~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<50.0~~	~~3,650~~	~~897~~	~~**3,650**~~	~~**4,550**~~	~~**21,100**~~
~~PH02~~	~~09/29/2022~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~<50.0~~	~~484~~
SS03	08/18/2022	0.5	<0.00202	<0.00404	<50.0	128	<50.0	128	128	19,500
PH03	09/29/2022	1	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	33.1
PH03A	09/30/2022	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	48.9
PH04	09/29/2022	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	221
PH04A	09/29/2022	1	<0.00201	<0.00402	<50.0	60.7	<50.0	60.7	60.7	143
PH04B	09/30/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	290
SS04	08/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	57.9	<49.9	57.9	30.0
SS05	08/18/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	16.7
SS06	08/18/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	17.6
SS07	08/18/2022	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	12.7
Excavation Soil Samples										
FS01	09/30/2022	1 - 2	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	156
FS02	10/12/2022	1	<0.00201	0.00468	<49.9	<49.9	<49.9	<49.9	<49.9	2,460
SW01	09/30/2022	0 - 2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	93.4
SW02	09/30/2022	0 - 2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	703

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 1 Closure Criteria
~~grey~~ text indicates soil sample removed during excavation activities

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (MW-1)	n/a	C-4499

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	12'	15.89"	N
	LONGITUDE	-103°	47'	36.29"	W

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

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

SE NE Sec. 20 T24S R31E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/30/2020	12/30/2020	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

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

FILE NO. C-4499	POD NO. 1	TRN NO. 682532
LOCATION 24S.31E.20.243	WELL TAG ID NO. —	PAGE 1 OF 2

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4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	6	6	SAND, well graded, fine-to-large grain particles red-brown, dry	~~Y~~ ✓ N	
6	8	2	SAND, poorly graded, fine grained little clay mod. plasitcity, red-brown, moist	Y ✓ N	
8	11	3	CALICHE, mod. consolidated, some sand, medium /fine grain, white-tan, dry	Y ✓ N	
11	46	35	CALICHE, mod. consolidated, some sand, medium to fine grain, white-tan, dry.	Y ✓ N	
46	74	28	SAND, well-graded, medium grain,caliche gravel (1-4mm), light brown, dry.	Y ✓ N	
74	110	36	SAND, well-graded, fine/large grain, few clay, cohesive, red-brown, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 01/15/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4499	POD NO. 1	TRN NO. 682532
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

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APPENDIX B

Photographic Log

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Photographic Log
XTO Energy, Inc
Poker Lake Unit 411
Incident Number NAPP2219646774

Photograph 1 Date: 9/29/2022
Description: Release extent area near SS01/PH01; facing east.

Photograph 2 Date: 9/30/2022
Description: Release extent area near SS02/PH02; facing southwest.

Photograph 3 Date: 9/30/2022
Description: Excavation area near SS01/PH01; facing northeast.

Photograph 4 Date: 10/12/2022
Description: Excavation area near SS02/PH02; facing southwest.

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APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: PH01	Date: 9/29/2022
	Site Name: Poker Lake Unit 411	
	Incident Number: nAPP2219646774	
	Job Number: 03E1558096	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hydrovac
Coordinates: 32.19312,-103.77993	Hole Diameter: 6"	Total Depth: 1'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	5,062	9.4	Y	SS01	0.5	0	CCHE (fill)	0-1', CALICHE, moist, light brown-tan, poorly consolidated, light brown surface staining, no odor, fill.
M	414	0.0	N	PH01	1	1		@ 1', no stain, no odor.
							TD	Total Depth at 1-foot bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: PH02	Date: 9/29/2022
	Site Name: Poker Lake Unit 411	
	Incident Number: nAPP2219646774	
	Job Number: 03E1558096	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hydrovac
Coordinates: 32.19312,-103.77993	Hole Diameter: 6"	Total Depth: 1'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	19,790	2.5	Y	SS02	0.5	0	CCHE (fill)	0-1', CALICHE, moist, light brown-tan, poorly consolidated, light brown surface staining, no odor, fill.
M	520	0.0	N	PH02	1	1		@ 1', no stain, no odor.
							TD	Total Depth at 1-foot bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: PH03	Date: 9/29/22 - 9/30/22
	Site Name: Poker Lake Unit 411	
	Incident Number: nAPP2219646774	
	Job Number: 03E1558096	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hydrovac
Coordinates: 32.19312,-103.77993	Hole Diameter: 6"	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	24,035	1.3	N	SS03	0.5	0	CCHE (fill)	0-1', CALICHE, moist, light brown-tan, poorly consolidated, no stain, no odor, fill.
M	<168	0.0	N	PH03	1	1	SP	1'-2', SAND, moist, reddish brown, poorly graded fine grain, trace caliche gravel, no stain, no odor
M	<168	0.0	N	PH03A	2	2	TD	Total depth at 2 feet bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Sample Name: PH04	Date: 9/29/22 - 9/30/22	
Site Name: Poker Lake Unit 411		
Incident Number: nAPP2219646774		
Job Number: 03E1558096		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW	Method: Hand Auger
Coordinates: 32.19312,-103.77993	Hole Diameter: 3.5"	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168	0.0	N	PH04	0.5	0	CCHE (fill)	0-1', CALICHE, moist, light brown-tan, poorly consolidated, no stain, no odor, fill.
M	<168	0.0	N	PH04A	1	1	SP	1'-2', SAND, moist, reddish brown, poorly graded fine grain, trace caliche gravel, no stain, no odor
M	<168	0.0	N	PH04B	2	2	TD	Total depth at 2 feet bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

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APPENDIX D

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2783-1
Laboratory Sample Delivery Group: 03E1558096
Client Project/Site: PLU 411

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

Attn: Ben Belill

JKramer

Authorized for release by:
9/2/2022 10:48:23 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU 411

Laboratory Job ID: 890-2783-1
SDG: 03E1558096

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
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 411

Job ID: 890-2783-1
SDG: 03E1558096

Job ID: 890-2783-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2783-1

Receipt
The samples were received on 8/18/2022 4:15 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 21.6°C

Receipt Exceptions
The following samples were received at the laboratory outside the required temperature criteria: SS01 (890-2783-1), SS02 (890-2783-2), SS03 (890-2783-3), SS04 (890-2783-4), SS05 (890-2783-5), SS06 (890-2783-6) and SS07 (890-2783-7). This does not meet regulatory requirements. The client was contacted regarding this issue, and the laboratory was instructed to <CHOOSE_ONE> proceed with/cancel analysis. Samples received out of temp range21.8/21.6 client wanted to proceed with testing

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-2789-A-1-E), (890-2789-A-1-F MS) and (890-2789-A-1-G 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 samples were outside control limits: SS01 (890-2783-1), SS02 (890-2783-2), SS03 (890-2783-3), SS04 (890-2783-4), SS05 (890-2783-5), SS06 (890-2783-6) and SS07 (890-2783-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-32608 and analytical batch 880-32586 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-32608 and analytical batch 880-32586 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
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 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS01

Date Collected: 08/18/22 12:35
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/30/22 11:43	08/31/22 20:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/30/22 11:43	08/31/22 20:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/30/22 11:43	08/31/22 20:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/30/22 11:43	08/31/22 20:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/30/22 11:43	08/31/22 20:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/30/22 11:43	08/31/22 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/30/22 11:43*	*08/31/22 20:58*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*08/30/22 11:43*	*08/31/22 20:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**6560**		50.0		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 17:31	1
Diesel Range Organics (Over C10-C28)	**5420**		50.0		mg/Kg		08/22/22 09:31	08/22/22 17:31	1
Oil Range Organics (Over C28-C36)	**1140**		50.0		mg/Kg		08/22/22 09:31	08/22/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*65*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 17:31*	*1*
o-Terphenyl	*81*		*70 - 130*	*08/22/22 09:31*	*08/22/22 17:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2990**		24.9		mg/Kg			08/29/22 02:46	5

Client Sample ID: SS02

Date Collected: 08/18/22 12:40
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/22 09:38	09/01/22 15:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/22 09:38	09/01/22 15:40	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/22 09:38	09/01/22 15:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/31/22 09:38	09/01/22 15:40	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/31/22 09:38	09/01/22 15:40	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/31/22 09:38	09/01/22 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*08/31/22 09:38*	*09/01/22 15:40*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/31/22 09:38*	*09/01/22 15:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS02

Date Collected: 08/18/22 12:40
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4550**		50.0		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 17:53	1
Diesel Range Organics (Over C10-C28)	**3650**		50.0		mg/Kg		08/22/22 09:31	08/22/22 17:53	1
Oil Range Organics (Over C28-C36)	**897**		50.0		mg/Kg		08/22/22 09:31	08/22/22 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*70*		*70 - 130*	*08/22/22 09:31*	*08/22/22 17:53*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 17:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21100**		248		mg/Kg			08/29/22 03:09	50

Client Sample ID: SS03

Date Collected: 08/18/22 12:45
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 21:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 21:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 21:50	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		08/30/22 11:43	08/31/22 21:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 21:50	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		08/30/22 11:43	08/31/22 21:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*08/30/22 11:43*	*08/31/22 21:50*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/30/22 11:43*	*08/31/22 21:50*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**128**		50.0		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 18:37	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS03

Date Collected: 08/18/22 12:45
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	**128**		50.0		mg/Kg		08/22/22 09:31	08/22/22 18:37	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*63*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 18:37*	*1*
o-Terphenyl	*65*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 18:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19500**		250		mg/Kg			08/29/22 03:17	50

Client Sample ID: SS04

Date Collected: 08/18/22 12:50
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/30/22 11:43	08/31/22 22:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/30/22 11:43	08/31/22 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*08/30/22 11:43*	*08/31/22 22:16*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/30/22 11:43*	*08/31/22 22:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**57.9**		49.9		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 18:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 18:59	1
Oll Range Organics (Over C28-C36)	**57.9**		49.9		mg/Kg		08/22/22 09:31	08/22/22 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*64*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 18:59*	*1*
o-Terphenyl	*73*		*70 - 130*	*08/22/22 09:31*	*08/22/22 18:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**30.0**		4.98		mg/Kg			08/29/22 03:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS05

Date Collected: 08/18/22 12:55
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/30/22 11:43	08/31/22 22:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 22:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/30/22 11:43	08/31/22 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/30/22 11:43*	*08/31/22 22:42*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/30/22 11:43*	*08/31/22 22:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 19:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 19:20	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*49*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 19:20*	*1*
o-Terphenyl	*58*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 19:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.7**		5.02		mg/Kg			08/29/22 03:33	1

Client Sample ID: SS06

Date Collected: 08/18/22 13:00
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 23:07	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 23:07	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 23:07	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/30/22 11:43	08/31/22 23:07	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/30/22 11:43	08/31/22 23:07	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/30/22 11:43	08/31/22 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*08/30/22 11:43*	*08/31/22 23:07*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/30/22 11:43*	*08/31/22 23:07*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS06

Date Collected: 08/18/22 13:00
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-6
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 19:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 19:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*52*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 19:42*	*1*
o-Terphenyl	*61*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 19:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.6**		5.05		mg/Kg			08/29/22 03:56	1

Client Sample ID: SS07

Date Collected: 08/18/22 13:05
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/30/22 11:43	08/31/22 23:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/30/22 11:43	08/31/22 23:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/30/22 11:43	08/31/22 23:33	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/30/22 11:43	08/31/22 23:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/30/22 11:43	08/31/22 23:33	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/30/22 11:43	08/31/22 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/30/22 11:43*	*08/31/22 23:33*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/30/22 11:43*	*08/31/22 23:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/01/22 12:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/23/22 11:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 20:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 20:04	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS07
Date Collected: 08/18/22 13:05
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/22/22 09:31	08/22/22 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*44*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 20:04*	*1*
o-Terphenyl	*48*	*S1-*	*70 - 130*	*08/22/22 09:31*	*08/22/22 20:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.7		4.97		mg/Kg			08/29/22 04:04	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

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)
880-18581-A-1-K MS	Matrix Spike	114	102
880-18581-A-1-L MSD	Matrix Spike Duplicate	109	97
880-18581-A-21-E MS	Matrix Spike	101	104
880-18581-A-21-F MSD	Matrix Spike Duplicate	110	108
890-2783-1	SS01	112	81
890-2783-2	SS02	120	91
890-2783-3	SS03	130	94
890-2783-4	SS04	104	89
890-2783-5	SS05	111	93
890-2783-6	SS06	109	94
890-2783-7	SS07	116	96
LCS 880-33353/1-A	Lab Control Sample	107	106
LCS 880-33416/1-A	Lab Control Sample	122	105
LCSD 880-33353/2-A	Lab Control Sample Dup	101	101
LCSD 880-33416/2-A	Lab Control Sample Dup	106	102
MB 880-33353/5-A	Method Blank	74	82
MB 880-33416/5-A	Method Blank	77	80

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)
890-2783-1	SS01	65 S1-	81
890-2783-2	SS02	70	67 S1-
890-2783-3	SS03	63 S1-	65 S1-
890-2783-4	SS04	64 S1-	73
890-2783-5	SS05	49 S1-	58 S1-
890-2783-6	SS06	52 S1-	61 S1-
890-2783-7	SS07	44 S1-	48 S1-
890-2789-A-1-F MS	Matrix Spike	72	67 S1-
890-2789-A-1-G MSD	Matrix Spike Duplicate	62 S1-	58 S1-
LCS 880-32608/2-A	Lab Control Sample	72	74
LCSD 880-32608/3-A	Lab Control Sample Dup	86	91
MB 880-32608/1-A	Method Blank	63 S1-	68 S1-

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33353/5-A
Matrix: Solid
Analysis Batch: 33469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33353

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 20:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 20:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 20:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/30/22 11:43	08/31/22 20:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/22 11:43	08/31/22 20:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/30/22 11:43	08/31/22 20:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*08/30/22 11:43*	*08/31/22 20:07*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*08/30/22 11:43*	*08/31/22 20:07*	*1*

Lab Sample ID: LCS 880-33353/1-A
Matrix: Solid
Analysis Batch: 33469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1082		mg/Kg		108	70 - 130		
Ethylbenzene			0.100	0.1049		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.2121		mg/Kg		106	70 - 130		
o-Xylene			0.100	0.1197		mg/Kg		120	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-33353/2-A
Matrix: Solid
Analysis Batch: 33469

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09634		mg/Kg		96	70 - 130	14	35
Toluene			0.100	0.09803		mg/Kg		98	70 - 130	10	35
Ethylbenzene			0.100	0.09504		mg/Kg		95	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1926		mg/Kg		96	70 - 130	10	35
o-Xylene			0.100	0.1063		mg/Kg		106	70 - 130	12	35

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

Lab Sample ID: 880-18581-A-21-E MS
Matrix: Solid
Analysis Batch: 33469

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33353

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.1065		mg/Kg		105	70 - 130		
Toluene	<0.00199	U	0.101	0.1017		mg/Kg		101	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

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

Lab Sample ID: 880-18581-A-21-E MS | **Client Sample ID: Matrix Spike**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 33469 | **Prep Batch: 33353**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.09276		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1866		mg/Kg		92	70 - 130
o-Xylene	<0.00199	U	0.101	0.1040		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-18581-A-21-F MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 33469 | **Prep Batch: 33353**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1162		mg/Kg		116	70 - 130	9	35
Toluene	<0.00199	U	0.100	0.1098		mg/Kg		110	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.100	0.1011		mg/Kg		101	70 - 130	9	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2022		mg/Kg		101	70 - 130	8	35
o-Xylene	<0.00199	U	0.100	0.1134		mg/Kg		113	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-33416/5-A | **Client Sample ID: Method Blank**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 33496 | **Prep Batch: 33416**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/31/22 09:38	09/01/22 11:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/31/22 09:38	09/01/22 11:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/31/22 09:38	09/01/22 11:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/31/22 09:38	09/01/22 11:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/31/22 09:38	09/01/22 11:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/31/22 09:38	09/01/22 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/31/22 09:38*	*09/01/22 11:24*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/31/22 09:38*	*09/01/22 11:24*	*1*

Lab Sample ID: LCS 880-33416/1-A | **Client Sample ID: Lab Control Sample**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 33496 | **Prep Batch: 33416**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1121		mg/Kg		112	70 - 130
Toluene	0.100	0.1069		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1139		mg/Kg		114	70 - 130
m-Xylene & p-Xylene	0.200	0.2296		mg/Kg		115	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

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

Lab Sample ID: LCS 880-33416/1-A
Matrix: Solid
Analysis Batch: 33496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33416

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1276		mg/Kg		128	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-33416/2-A
Matrix: Solid
Analysis Batch: 33496

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33416

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08760		mg/Kg		88	70 - 130	25	35
Toluene			0.100	0.09256		mg/Kg		93	70 - 130	14	35
Ethylbenzene			0.100	0.09249		mg/Kg		92	70 - 130	21	35
m-Xylene & p-Xylene			0.200	0.1860		mg/Kg		93	70 - 130	21	35
o-Xylene			0.100	0.1031		mg/Kg		103	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-18581-A-1-K MS
Matrix: Solid
Analysis Batch: 33496

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.08964		mg/Kg		90	70 - 130		
Toluene	<0.00201	U	0.0998	0.08837		mg/Kg		89	70 - 130		
Ethylbenzene	<0.00201	U	0.0998	0.08726		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1744		mg/Kg		87	70 - 130		
o-Xylene	<0.00201	U	0.0998	0.09787		mg/Kg		98	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-18581-A-1-L MSD
Matrix: Solid
Analysis Batch: 33496

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09556		mg/Kg		96	70 - 130	6	35
Toluene	<0.00201	U	0.0996	0.09620		mg/Kg		97	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0996	0.09230		mg/Kg		93	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1864		mg/Kg		94	70 - 130	7	35
o-Xylene	<0.00201	U	0.0996	0.1024		mg/Kg		103	70 - 130	5	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

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

Lab Sample ID: 880-18581-A-1-L MSD
Matrix: Solid
Analysis Batch: 33496

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33416

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

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

Lab Sample ID: MB 880-32608/1-A
Matrix: Solid
Analysis Batch: 32586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32608

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 11:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 11:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/22/22 09:31	08/22/22 11:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	63	S1-	70 - 130	08/22/22 09:31	08/22/22 11:08	1
o-Terphenyl	68	S1-	70 - 130	08/22/22 09:31	08/22/22 11:08	1

Lab Sample ID: LCS 880-32608/2-A
Matrix: Solid
Analysis Batch: 32586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32608

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	708.2		mg/Kg		71	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	764.5		mg/Kg		76	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	72		70 - 130
o-Terphenyl	74		70 - 130

Lab Sample ID: LCSD 880-32608/3-A
Matrix: Solid
Analysis Batch: 32586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32608

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	744.7		mg/Kg		74	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	846.7		mg/Kg		85	70 - 130	10	20

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

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

Lab Sample ID: 890-2789-A-1-F MS
Matrix: Solid
Analysis Batch: 32586

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32608

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	862.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	712.0		mg/Kg		71	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*72*		*70 - 130*
o-Terphenyl	*67*	*S1-*	*70 - 130*

Lab Sample ID: 890-2789-A-1-G MSD
Matrix: Solid
Analysis Batch: 32586

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32608

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	747.4		mg/Kg		75	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	626.3	F1	mg/Kg		63	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*62*	*S1-*	*70 - 130*
o-Terphenyl	*58*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32582/1-A
Matrix: Solid
Analysis Batch: 33167

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			08/29/22 02:22	1

Lab Sample ID: LCS 880-32582/2-A
Matrix: Solid
Analysis Batch: 33167

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	248.2		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-32582/3-A
Matrix: Solid
Analysis Batch: 33167

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	249.1		mg/Kg		100	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2783-1 MS
Matrix: Solid
Analysis Batch: 33167

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2990		1240	4313		mg/Kg		107	90 - 110		

Lab Sample ID: 890-2783-1 MSD
Matrix: Solid
Analysis Batch: 33167

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2990		1240	4333		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

GC VOA

Prep Batch: 33353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	5035	
890-2783-3	SS03	Total/NA	Solid	5035	
890-2783-4	SS04	Total/NA	Solid	5035	
890-2783-5	SS05	Total/NA	Solid	5035	
890-2783-6	SS06	Total/NA	Solid	5035	
890-2783-7	SS07	Total/NA	Solid	5035	
MB 880-33353/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33353/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33353/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18581-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-18581-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 33416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-2	SS02	Total/NA	Solid	5035	
MB 880-33416/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33416/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33416/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18581-A-1-K MS	Matrix Spike	Total/NA	Solid	5035	
880-18581-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 33469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	8021B	33353
890-2783-3	SS03	Total/NA	Solid	8021B	33353
890-2783-4	SS04	Total/NA	Solid	8021B	33353
890-2783-5	SS05	Total/NA	Solid	8021B	33353
890-2783-6	SS06	Total/NA	Solid	8021B	33353
890-2783-7	SS07	Total/NA	Solid	8021B	33353
MB 880-33353/5-A	Method Blank	Total/NA	Solid	8021B	33353
LCS 880-33353/1-A	Lab Control Sample	Total/NA	Solid	8021B	33353
LCSD 880-33353/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33353
880-18581-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	33353
880-18581-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33353

Analysis Batch: 33496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-2	SS02	Total/NA	Solid	8021B	33416
MB 880-33416/5-A	Method Blank	Total/NA	Solid	8021B	33416
LCS 880-33416/1-A	Lab Control Sample	Total/NA	Solid	8021B	33416
LCSD 880-33416/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33416
880-18581-A-1-K MS	Matrix Spike	Total/NA	Solid	8021B	33416
880-18581-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33416

Analysis Batch: 33547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	Total BTEX	
890-2783-2	SS02	Total/NA	Solid	Total BTEX	
890-2783-3	SS03	Total/NA	Solid	Total BTEX	
890-2783-4	SS04	Total/NA	Solid	Total BTEX	
890-2783-5	SS05	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

GC VOA (Continued)

Analysis Batch: 33547 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-6	SS06	Total/NA	Solid	Total BTEX	
890-2783-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 32586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	8015B NM	32608
890-2783-2	SS02	Total/NA	Solid	8015B NM	32608
890-2783-3	SS03	Total/NA	Solid	8015B NM	32608
890-2783-4	SS04	Total/NA	Solid	8015B NM	32608
890-2783-5	SS05	Total/NA	Solid	8015B NM	32608
890-2783-6	SS06	Total/NA	Solid	8015B NM	32608
890-2783-7	SS07	Total/NA	Solid	8015B NM	32608
MB 880-32608/1-A	Method Blank	Total/NA	Solid	8015B NM	32608
LCS 880-32608/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32608
LCSD 880-32608/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32608
890-2789-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	32608
890-2789-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	32608

Prep Batch: 32608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	8015NM Prep	
890-2783-2	SS02	Total/NA	Solid	8015NM Prep	
890-2783-3	SS03	Total/NA	Solid	8015NM Prep	
890-2783-4	SS04	Total/NA	Solid	8015NM Prep	
890-2783-5	SS05	Total/NA	Solid	8015NM Prep	
890-2783-6	SS06	Total/NA	Solid	8015NM Prep	
890-2783-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-32608/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32608/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32608/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2789-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2789-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 32778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Total/NA	Solid	8015 NM	
890-2783-2	SS02	Total/NA	Solid	8015 NM	
890-2783-3	SS03	Total/NA	Solid	8015 NM	
890-2783-4	SS04	Total/NA	Solid	8015 NM	
890-2783-5	SS05	Total/NA	Solid	8015 NM	
890-2783-6	SS06	Total/NA	Solid	8015 NM	
890-2783-7	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 32582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Soluble	Solid	DI Leach	
890-2783-2	SS02	Soluble	Solid	DI Leach	
890-2783-3	SS03	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

HPLC/IC (Continued)

Leach Batch: 32582 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-4	SS04	Soluble	Solid	DI Leach	
890-2783-5	SS05	Soluble	Solid	DI Leach	
890-2783-6	SS06	Soluble	Solid	DI Leach	
890-2783-7	SS07	Soluble	Solid	DI Leach	
MB 880-32582/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32582/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32582/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2783-1 MS	SS01	Soluble	Solid	DI Leach	
890-2783-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 33167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2783-1	SS01	Soluble	Solid	300.0	32582
890-2783-2	SS02	Soluble	Solid	300.0	32582
890-2783-3	SS03	Soluble	Solid	300.0	32582
890-2783-4	SS04	Soluble	Solid	300.0	32582
890-2783-5	SS05	Soluble	Solid	300.0	32582
890-2783-6	SS06	Soluble	Solid	300.0	32582
890-2783-7	SS07	Soluble	Solid	300.0	32582
MB 880-32582/1-A	Method Blank	Soluble	Solid	300.0	32582
LCS 880-32582/2-A	Lab Control Sample	Soluble	Solid	300.0	32582
LCSD 880-32582/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32582
890-2783-1 MS	SS01	Soluble	Solid	300.0	32582
890-2783-1 MSD	SS01	Soluble	Solid	300.0	32582

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS01
Date Collected: 08/18/22 12:35
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-1
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	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 20:58	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 17:31	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		5	0 mL	0 mL	33167	08/29/22 02:46	CH	EET MID

Client Sample ID: SS02
Date Collected: 08/18/22 12:40
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	33416	08/31/22 09:38	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33496	09/01/22 15:40	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 17:53	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		50	0 mL	0 mL	33167	08/29/22 03:09	CH	EET MID

Client Sample ID: SS03
Date Collected: 08/18/22 12:45
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-3
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			4.95 g	5 mL	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 21:50	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 18:37	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		50	0 mL	0 mL	33167	08/29/22 03:17	CH	EET MID

Client Sample ID: SS04
Date Collected: 08/18/22 12:50
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-4
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			5.01 g	5 mL	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 22:16	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS04

Date Collected: 08/18/22 12:50
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-4
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			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 18:59	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	33167	08/29/22 03:25	CH	EET MID

Client Sample ID: SS05

Date Collected: 08/18/22 12:55
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 22:42	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 19:20	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	33167	08/29/22 03:33	CH	EET MID

Client Sample ID: SS06

Date Collected: 08/18/22 13:00
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 23:07	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 19:42	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	33167	08/29/22 03:56	CH	EET MID

Client Sample ID: SS07

Date Collected: 08/18/22 13:05
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	33353	08/30/22 11:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33469	08/31/22 23:33	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33547	09/01/22 12:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			32778	08/23/22 11:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32608	08/22/22 09:31	AM	EET MID
Total/NA	Analysis	8015B NM		1			32586	08/22/22 20:04	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-2783-1
SDG: 03E1558096

Client Sample ID: SS07
Date Collected: 08/18/22 13:05
Date Received: 08/18/22 16:15

Lab Sample ID: 890-2783-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	32582	08/21/22 19:23	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	33167	08/29/22 04:04	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 411

Job ID: 890-2783-1
SDG: 03E1558096

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 411

Job ID: 890-2783-1
SDG: 03E1558096

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 411

Job ID: 890-2783-1
SDG: 03E1558096

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2783-1	SS01	Solid	08/18/22 12:35	08/18/22 16:15
890-2783-2	SS02	Solid	08/18/22 12:40	08/18/22 16:15
890-2783-3	SS03	Solid	08/18/22 12:45	08/18/22 16:15
890-2783-4	SS04	Solid	08/18/22 12:50	08/18/22 16:15
890-2783-5	SS05	Solid	08/18/22 12:55	08/18/22 16:15
890-2783-6	SS06	Solid	08/18/22 13:00	08/18/22 16:15
890-2783-7	SS07	Solid	08/18/22 13:05	08/18/22 16:15

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 411	Turn Around	
Project Number:	03E1558096	☑ Routine ☐ Rush	
Project Location:	32.1931,-103.7799	Due Date:	
Sampler's Name:	Kase Parker	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-M.007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	21.8	
Total Containers:		Corrected Temperature:	21.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	8/18/2022	12:35	0.5'			x	x	x
SS02	S	8/18/2022	12:40	0.5'			x	x	x
SS03	S	8/18/2022	12:45	0.5'			x	x	x
SS04	S	8/18/2022	12:50	0.5'			x	x	x
SS05	S	8/18/2022	12:55	0.5'			x	x	x
SS06	S	8/18/2022	13:00	0.5'			x	x	x
SS07	S	8/18/2022	13:05	0.5'			x	x	x

890-2783 Chain of Custody

Sample Comments

Incident ID: nAPP2219646774
Cost Center: 2159981001
AFE:

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			8.10.22 1615			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2783-1
SDG Number: 03E1558096

Login Number: 2783
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2783-1
SDG Number: 03E1558096

Login Number: 2783
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/22/22 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

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

Laboratory Job ID: 890-3127-1
Laboratory Sample Delivery Group: 03E1558096
Client Project/Site: PLU 411

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

Attn: Ben Belill

JKramer

Authorized for release by:
10/11/2022 12:53:13 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU 411

Laboratory Job ID: 890-3127-1
SDG: 03E1558096

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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 411

Job ID: 890-3127-1
SDG: 03E1558096

Job ID: 890-3127-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3127-1

Receipt
The samples were received on 10/3/2022 1:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

Receipt Exceptions
The following samples analyzed for method <FRACTION_METHOD> were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3127-1), PH02 (890-3127-2), PH03 (890-3127-3), PH03A (890-3127-4), PH04 (890-3127-5), PH04A (890-3127-6) and PH04B (890-3127-7). THE SAMPLES WERE RECEIVED IN UNPRESERVED BULK SOLID

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-19920-A-7-H). 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 880-36053 and analytical batch 880-36023 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH03 (890-3127-3). 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: PH04A (890-3127-6). 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36154 and analytical batch 880-36309 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36287 and analytical batch 880-36379 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 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH01

Date Collected: 09/29/22 13:30
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-1
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		10/10/22 08:19	10/10/22 17:00	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:00	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/10/22 08:19	10/10/22 17:00	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:00	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/10/22 08:19	10/10/22 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:00*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/11/22 10:15	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 15:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 15:26	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*10/04/22 12:00*	*10/04/22 15:26*	*1*
o-Terphenyl	*113*		*70 - 130*	*10/04/22 12:00*	*10/04/22 15:26*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**253**		5.04		mg/Kg			10/07/22 03:05	1

Client Sample ID: PH02

Date Collected: 09/29/22 12:20
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/10/22 08:19	10/10/22 17:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/10/22 08:19	10/10/22 17:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/10/22 08:19	10/10/22 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:20*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH02

Date Collected: 09/29/22 12:20
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/11/22 10:15	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/04/22 12:00	10/04/22 15:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/04/22 12:00	10/04/22 15:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/04/22 12:00	10/04/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*10/04/22 12:00*	*10/04/22 15:48*	*1*
o-Terphenyl	*115*		*70 - 130*	*10/04/22 12:00*	*10/04/22 15:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**484**		4.97	mg/Kg			10/07/22 03:13	1

Client Sample ID: PH03

Date Collected: 09/29/22 12:30
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/10/22 08:19	10/10/22 17:41	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/10/22 08:19	10/10/22 17:41	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/10/22 08:19	10/10/22 17:41	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		10/10/22 08:19	10/10/22 17:41	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/10/22 08:19	10/10/22 17:41	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		10/10/22 08:19	10/10/22 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:41*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*10/10/22 08:19*	*10/10/22 17:41*	*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			10/11/22 10:15	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			10/05/22 09:29	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH03

Date Collected: 09/29/22 12:30
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 16:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 16:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*10/04/22 12:00*	*10/04/22 16:09*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*10/04/22 12:00*	*10/04/22 16:09*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.1**		4.98		mg/Kg			10/07/22 03:21	1

Client Sample ID: PH03A

Date Collected: 09/30/22 10:15
Date Received: 10/03/22 13:04
Sample Depth: 2

Lab Sample ID: 890-3127-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:19	10/10/22 18:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:19	10/10/22 18:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:19	10/10/22 18:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 08:19	10/10/22 18:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:19	10/10/22 18:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 08:19	10/10/22 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/10/22 08:19*	*10/10/22 18:01*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 08:19*	*10/10/22 18:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/11/22 10:15	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 16:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 16:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*10/04/22 12:00*	*10/04/22 16:50*	*1*
o-Terphenyl	*129*		*70 - 130*	*10/04/22 12:00*	*10/04/22 16:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH03A

Lab Sample ID: 890-3127-4
Matrix: Solid
Date Collected: 09/30/22 10:15
Date Received: 10/03/22 13:04
Sample Depth: 2

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.9		4.95		mg/Kg			10/07/22 03:29	1

Client Sample ID: PH04

Lab Sample ID: 890-3127-5
Matrix: Solid
Date Collected: 09/29/22 12:55
Date Received: 10/03/22 13:04
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:19	10/10/22 18:22	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:19	10/10/22 18:22	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:19	10/10/22 18:22	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		10/10/22 08:19	10/10/22 18:22	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:19	10/10/22 18:22	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		10/10/22 08:19	10/10/22 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 08:19*	*10/10/22 18:22*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/10/22 08:19*	*10/10/22 18:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			10/11/22 10:15	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 17:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 17:10	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/04/22 12:00	10/04/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*10/04/22 12:00*	*10/04/22 17:10*	*1*
o-Terphenyl	*123*		*70 - 130*	*10/04/22 12:00*	*10/04/22 17:10*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	221		4.96		mg/Kg			10/07/22 03:36	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH04A

Date Collected: 09/29/22 13:05
Date Received: 10/03/22 13:04
Sample Depth: 1

Lab Sample ID: 890-3127-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/11/22 08:09	10/11/22 12:23	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/11/22 08:09	10/11/22 12:23	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/11/22 08:09	10/11/22 12:23	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/11/22 08:09	10/11/22 12:23	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/11/22 08:09	10/11/22 12:23	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/11/22 08:09	10/11/22 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/11/22 08:09*	*10/11/22 12:23*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*10/11/22 08:09*	*10/11/22 12:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/11/22 10:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**60.7**		50.0		mg/Kg			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 17:30	1
Diesel Range Organics (Over C10-C28)	**60.7**		50.0		mg/Kg		10/04/22 12:00	10/04/22 17:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*10/04/22 12:00*	*10/04/22 17:30*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*10/04/22 12:00*	*10/04/22 17:30*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**143**		5.01		mg/Kg			10/07/22 03:44	1

Client Sample ID: PH04B

Date Collected: 09/30/22 10:30
Date Received: 10/03/22 13:04
Sample Depth: 2

Lab Sample ID: 890-3127-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/11/22 08:09	10/11/22 12:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/11/22 08:09	10/11/22 12:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/11/22 08:09	10/11/22 12:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/11/22 08:09	10/11/22 12:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/11/22 08:09	10/11/22 12:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/11/22 08:09	10/11/22 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/11/22 08:09*	*10/11/22 12:44*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH04B
Date Collected: 09/30/22 10:30
Date Received: 10/03/22 13:04
Sample Depth: 2

Lab Sample ID: 890-3127-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/11/22 08:09*	*10/11/22 12:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/11/22 10:15	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 17:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 17:51	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*10/04/22 12:00*	*10/04/22 17:51*	*1*
o-Terphenyl	*128*		*70 - 130*	*10/04/22 12:00*	*10/04/22 17:51*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		4.97	mg/Kg			10/07/22 14:30	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

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)
880-19920-A-7-F MS	Matrix Spike	99	95
880-19920-A-7-G MSD	Matrix Spike Duplicate	94	93
890-3114-A-33-D MS	Matrix Spike	116	99
890-3114-A-33-E MSD	Matrix Spike Duplicate	120	100
890-3127-1	PH01	93	96
890-3127-2	PH02	95	98
890-3127-3	PH03	87	86
890-3127-4	PH03A	93	96
890-3127-5	PH04	96	91
890-3127-6	PH04A	107	98
890-3127-7	PH04B	107	95
LCS 880-36502/1-A	Lab Control Sample	105	99
LCS 880-36628/1-A	Lab Control Sample	89	92
LCSD 880-36502/2-A	Lab Control Sample Dup	110	88
LCSD 880-36628/2-A	Lab Control Sample Dup	88	93
MB 880-36502/5-A	Method Blank	84	94
MB 880-36628/5-A	Method Blank	106	84

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-19906-A-8-D MS	Matrix Spike	91	84
880-19906-A-8-E MSD	Matrix Spike Duplicate	91	82
890-3127-1	PH01	102	113
890-3127-2	PH02	103	115
890-3127-3	PH03	117	131 S1+
890-3127-4	PH03A	119	129
890-3127-5	PH04	113	123
890-3127-6	PH04A	119	131 S1+
890-3127-7	PH04B	115	128
LCS 880-36053/2-A	Lab Control Sample	106	120
LCSD 880-36053/3-A	Lab Control Sample Dup	107	120
MB 880-36053/1-A	Method Blank	127	142 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36502/5-A
Matrix: Solid
Analysis Batch: 36576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36502

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:19	10/10/22 14:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:19	10/10/22 14:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:19	10/10/22 14:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 08:19	10/10/22 14:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:19	10/10/22 14:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 08:19	10/10/22 14:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*10/10/22 08:19*	*10/10/22 14:09*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 08:19*	*10/10/22 14:09*	*1*

Lab Sample ID: LCS 880-36502/1-A
Matrix: Solid
Analysis Batch: 36576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36502

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08498		mg/Kg		85	70 - 130		
Toluene			0.100	0.08913		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.09110		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			0.200	0.1988		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1122		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-36502/2-A
Matrix: Solid
Analysis Batch: 36576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36502

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08520		mg/Kg		85	70 - 130	0	35
Toluene			0.100	0.08986		mg/Kg		90	70 - 130	1	35
Ethylbenzene			0.100	0.08939		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1958		mg/Kg		98	70 - 130	1	35
o-Xylene			0.100	0.1110		mg/Kg		111	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 890-3114-A-33-D MS
Matrix: Solid
Analysis Batch: 36576

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36502

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.08048		mg/Kg		80	70 - 130		
Toluene	<0.00201	U	0.101	0.08094		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

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

Lab Sample ID: 890-3114-A-33-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36576 — **Prep Batch: 36502**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.08079		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1745		mg/Kg		87	70 - 130
o-Xylene	<0.00201	U	0.101	0.09974		mg/Kg		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-3114-A-33-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36576 — **Prep Batch: 36502**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.07235		mg/Kg		73	70 - 130	11	35
Toluene	<0.00201	U	0.0994	0.07714		mg/Kg		78	70 - 130	5	35
Ethylbenzene	<0.00201	U	0.0994	0.08257		mg/Kg		83	70 - 130	2	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1761		mg/Kg		89	70 - 130	1	35
o-Xylene	<0.00201	U	0.0994	0.1004		mg/Kg		101	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-36628/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36628**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 10:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*

Lab Sample ID: LCS 880-36628/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36628**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1103		mg/Kg		110	70 - 130
Toluene	0.100	0.1115		mg/Kg		112	70 - 130
Ethylbenzene	0.100	0.1048		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2169		mg/Kg		108	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

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

Lab Sample ID: LCS 880-36628/1-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36628

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1075		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-36628/2-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1090		mg/Kg		109	70 - 130	1	35
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	1	35
Ethylbenzene			0.100	0.1027		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2070		mg/Kg		104	70 - 130	5	35
o-Xylene			0.100	0.1038		mg/Kg		104	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-19920-A-7-F MS
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36628

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1073		mg/Kg		106	70 - 130		
Toluene	<0.00201	U	0.101	0.1092		mg/Kg		108	70 - 130		
Ethylbenzene	<0.00201	U	0.101	0.09795		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2071		mg/Kg		103	70 - 130		
o-Xylene	<0.00201	U	0.101	0.1026		mg/Kg		102	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-19920-A-7-G MSD
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36628

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08107		mg/Kg		82	70 - 130	28	35
Toluene	<0.00201	U	0.0994	0.08422		mg/Kg		85	70 - 130	26	35
Ethylbenzene	<0.00201	U	0.0994	0.07745		mg/Kg		78	70 - 130	23	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1614		mg/Kg		81	70 - 130	25	35
o-Xylene	<0.00201	U	0.0994	0.07982		mg/Kg		80	70 - 130	25	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

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

Lab Sample ID: 880-19920-A-7-G MSD
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36628

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-36053/1-A
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36053

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/22 10:04	10/04/22 11:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/22 10:04	10/04/22 11:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/22 10:04	10/04/22 11:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	10/04/22 10:04	10/04/22 11:15	1
o-Terphenyl	142	S1+	70 - 130	10/04/22 10:04	10/04/22 11:15	1

Lab Sample ID: LCS 880-36053/2-A
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	810.8		mg/Kg		81	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	863.7		mg/Kg		86	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: LCSD 880-36053/3-A
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	801.9		mg/Kg		80	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	863.0		mg/Kg		86	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	120		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

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

Lab Sample ID: 880-19906-A-8-D MS
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1095		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1112		mg/Kg		109	70 - 130

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

Lab Sample ID: 880-19906-A-8-E MSD
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1092		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1096		mg/Kg		108	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36154/1-A
Matrix: Solid
Analysis Batch: 36309

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/06/22 23:52	1

Lab Sample ID: LCS 880-36154/2-A
Matrix: Solid
Analysis Batch: 36309

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	267.9		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-36154/3-A
Matrix: Solid
Analysis Batch: 36309

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	259.5		mg/Kg		104	90 - 110	3	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-19966-A-41-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	59.3	F1	250	264.6	F1	mg/Kg		82	90 - 110

Lab Sample ID: 880-19966-A-41-J MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	59.3	F1	250	256.2	F1	mg/Kg		79	90 - 110	3	20

Lab Sample ID: MB 880-36287/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/07/22 10:29	1

Lab Sample ID: LCS 880-36287/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	225.7		mg/Kg		90	90 - 110

Lab Sample ID: LCSD 880-36287/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	230.8		mg/Kg		92	90 - 110	2	20

Lab Sample ID: 890-3148-A-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	741	F1	248	910.0	F1	mg/Kg		68	90 - 110

Lab Sample ID: 890-3148-A-6-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	741	F1	248	976.3		mg/Kg		95	90 - 110	7	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

GC VOA

Prep Batch: 36502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	5035	
890-3127-2	PH02	Total/NA	Solid	5035	
890-3127-3	PH03	Total/NA	Solid	5035	
890-3127-4	PH03A	Total/NA	Solid	5035	
890-3127-5	PH04	Total/NA	Solid	5035	
MB 880-36502/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36502/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36502/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3114-A-33-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3114-A-33-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	8021B	36502
890-3127-2	PH02	Total/NA	Solid	8021B	36502
890-3127-3	PH03	Total/NA	Solid	8021B	36502
890-3127-4	PH03A	Total/NA	Solid	8021B	36502
890-3127-5	PH04	Total/NA	Solid	8021B	36502
MB 880-36502/5-A	Method Blank	Total/NA	Solid	8021B	36502
LCS 880-36502/1-A	Lab Control Sample	Total/NA	Solid	8021B	36502
LCSD 880-36502/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36502
890-3114-A-33-D MS	Matrix Spike	Total/NA	Solid	8021B	36502
890-3114-A-33-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36502

Analysis Batch: 36625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-6	PH04A	Total/NA	Solid	8021B	36628
890-3127-7	PH04B	Total/NA	Solid	8021B	36628
MB 880-36628/5-A	Method Blank	Total/NA	Solid	8021B	36628
LCS 880-36628/1-A	Lab Control Sample	Total/NA	Solid	8021B	36628
LCSD 880-36628/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36628
880-19920-A-7-F MS	Matrix Spike	Total/NA	Solid	8021B	36628
880-19920-A-7-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36628

Prep Batch: 36628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-6	PH04A	Total/NA	Solid	5035	
890-3127-7	PH04B	Total/NA	Solid	5035	
MB 880-36628/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36628/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36628/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19920-A-7-F MS	Matrix Spike	Total/NA	Solid	5035	
880-19920-A-7-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	Total BTEX	
890-3127-2	PH02	Total/NA	Solid	Total BTEX	
890-3127-3	PH03	Total/NA	Solid	Total BTEX	
890-3127-4	PH03A	Total/NA	Solid	Total BTEX	
890-3127-5	PH04	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

GC VOA (Continued)

Analysis Batch: 36663 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-6	PH04A	Total/NA	Solid	Total BTEX	
890-3127-7	PH04B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	8015B NM	36053
890-3127-2	PH02	Total/NA	Solid	8015B NM	36053
890-3127-3	PH03	Total/NA	Solid	8015B NM	36053
890-3127-4	PH03A	Total/NA	Solid	8015B NM	36053
890-3127-5	PH04	Total/NA	Solid	8015B NM	36053
890-3127-6	PH04A	Total/NA	Solid	8015B NM	36053
890-3127-7	PH04B	Total/NA	Solid	8015B NM	36053
MB 880-36053/1-A	Method Blank	Total/NA	Solid	8015B NM	36053
LCS 880-36053/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36053
LCSD 880-36053/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36053
880-19906-A-8-D MS	Matrix Spike	Total/NA	Solid	8015B NM	36053
880-19906-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36053

Prep Batch: 36053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	8015NM Prep	
890-3127-2	PH02	Total/NA	Solid	8015NM Prep	
890-3127-3	PH03	Total/NA	Solid	8015NM Prep	
890-3127-4	PH03A	Total/NA	Solid	8015NM Prep	
890-3127-5	PH04	Total/NA	Solid	8015NM Prep	
890-3127-6	PH04A	Total/NA	Solid	8015NM Prep	
890-3127-7	PH04B	Total/NA	Solid	8015NM Prep	
MB 880-36053/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36053/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36053/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19906-A-8-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19906-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Total/NA	Solid	8015 NM	
890-3127-2	PH02	Total/NA	Solid	8015 NM	
890-3127-3	PH03	Total/NA	Solid	8015 NM	
890-3127-4	PH03A	Total/NA	Solid	8015 NM	
890-3127-5	PH04	Total/NA	Solid	8015 NM	
890-3127-6	PH04A	Total/NA	Solid	8015 NM	
890-3127-7	PH04B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Soluble	Solid	DI Leach	
890-3127-2	PH02	Soluble	Solid	DI Leach	
890-3127-3	PH03	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

HPLC/IC (Continued)

Leach Batch: 36154 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-4	PH03A	Soluble	Solid	DI Leach	
890-3127-5	PH04	Soluble	Solid	DI Leach	
890-3127-6	PH04A	Soluble	Solid	DI Leach	
MB 880-36154/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36154/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36154/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19966-A-41-I MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19966-A-41-J MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 36287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-7	PH04B	Soluble	Solid	DI Leach	
MB 880-36287/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36287/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36287/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3148-A-6-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3148-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-1	PH01	Soluble	Solid	300.0	36154
890-3127-2	PH02	Soluble	Solid	300.0	36154
890-3127-3	PH03	Soluble	Solid	300.0	36154
890-3127-4	PH03A	Soluble	Solid	300.0	36154
890-3127-5	PH04	Soluble	Solid	300.0	36154
890-3127-6	PH04A	Soluble	Solid	300.0	36154
MB 880-36154/1-A	Method Blank	Soluble	Solid	300.0	36154
LCS 880-36154/2-A	Lab Control Sample	Soluble	Solid	300.0	36154
LCSD 880-36154/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36154
880-19966-A-41-I MS	Matrix Spike	Soluble	Solid	300.0	36154
880-19966-A-41-J MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36154

Analysis Batch: 36379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3127-7	PH04B	Soluble	Solid	300.0	36287
MB 880-36287/1-A	Method Blank	Soluble	Solid	300.0	36287
LCS 880-36287/2-A	Lab Control Sample	Soluble	Solid	300.0	36287
LCSD 880-36287/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36287
890-3148-A-6-C MS	Matrix Spike	Soluble	Solid	300.0	36287
890-3148-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36287

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH01
Date Collected: 09/29/22 13:30
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	36502	10/10/22 08:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36576	10/10/22 17:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 15:26	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:05	CH	EET MID

Client Sample ID: PH02
Date Collected: 09/29/22 12:20
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36502	10/10/22 08:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36576	10/10/22 17:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 15:48	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:13	CH	EET MID

Client Sample ID: PH03
Date Collected: 09/29/22 12:30
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-3
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			4.95 g	5 mL	36502	10/10/22 08:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36576	10/10/22 17:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 16:09	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:21	CH	EET MID

Client Sample ID: PH03A
Date Collected: 09/30/22 10:15
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36502	10/10/22 08:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36576	10/10/22 18:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH03A
Date Collected: 09/30/22 10:15
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-4
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			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 16:50	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:29	CH	EET MID

Client Sample ID: PH04
Date Collected: 09/29/22 12:55
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	36502	10/10/22 08:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36576	10/10/22 18:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 17:10	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:36	CH	EET MID

Client Sample ID: PH04A
Date Collected: 09/29/22 13:05
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	36628	10/11/22 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 12:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 17:30	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	36154	10/05/22 10:31	KS	EET MID
Soluble	Analysis	300.0		1			36309	10/07/22 03:44	CH	EET MID

Client Sample ID: PH04B
Date Collected: 09/30/22 10:30
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36628	10/11/22 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 12:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36663	10/11/22 10:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36142	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 17:51	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3127-1
SDG: 03E1558096

Client Sample ID: PH04B

Date Collected: 09/30/22 10:30
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3127-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	36287	10/06/22 15:32	KS	EET MID
Soluble	Analysis	300.0		1			36379	10/07/22 14:30	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 411

Job ID: 890-3127-1
SDG: 03E1558096

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 411

Job ID: 890-3127-1
SDG: 03E1558096

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 411

Job ID: 890-3127-1
SDG: 03E1558096

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3127-1	PH01	Solid	09/29/22 13:30	10/03/22 13:04	1
890-3127-2	PH02	Solid	09/29/22 12:20	10/03/22 13:04	1
890-3127-3	PH03	Solid	09/29/22 12:30	10/03/22 13:04	1
890-3127-4	PH03A	Solid	09/30/22 10:15	10/03/22 13:04	2
890-3127-5	PH04	Solid	09/29/22 12:55	10/03/22 13:04	0.5
890-3127-6	PH04A	Solid	09/29/22 13:05	10/03/22 13:04	1
890-3127-7	PH04B	Solid	09/30/22 10:30	10/03/22 13:04	2

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	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 411	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558096	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:	TMG07
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.2
Total Containers:		Corrected Temperature:	5.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	9/29/2022	13:30	1'	Grab	1	x	x	x
PH02	S	9/29/2022	12:20	1'	Grab	1	x	x	x
PH03	S	9/29/2022	12:30	1'	Grab	1	x	x	x
PH03A	S	9/30/2022	10:15	2'	Grab	1	x	x	x
PH04	S	9/29/2022	12:55	0.5'	Grab	1	x	x	x
PH04A	S	9/29/2022	13:05	1'	Grab	1	x	x	x
PH04B	S	9/30/2022	10:30	2'	Grab	1	x	x	x

890-3127 Chain of Custody

Sample Comments

Incident ID:
nAPP2219646774
Cost Center:
2159981001
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 Connor Whitman	Clue Cup	10.3.22 1304			
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3127-1
SDG Number: 03E1558096

Login Number: 3127
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: 890-3127-1
SDG Number: 03E1558096

Login Number: 3127
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/04/22 10:34 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3129-1
Laboratory Sample Delivery Group: 03E1558096
Client Project/Site: PLU 411

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

Attn: Ben Belill

JKramer

Authorized for release by:
10/11/2022 4:03:04 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU 411

Laboratory Job ID: 890-3129-1
SDG: 03E1558096

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Job ID: 890-3129-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3129-1

Receipt
The samples were received on 10/3/2022 1:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

Receipt Exceptions
The following samples analyzed for method <FRACTION_METHOD> were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3129-1), SW01 (890-3129-2) and SW02 (890-3129-3). SAMPLES WERE RECEIVED FROM UNPRESERVED BULK SOIL

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-19920-A-7-H). 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 880-36053 and analytical batch 880-36023 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS01 (890-3129-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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 411

Job ID: 890-3129-1
SDG: 03E1558096

Client Sample ID: FS01

Lab Sample ID: 890-3129-1
Matrix: Solid
Date Collected: 09/30/22 14:40
Date Received: 10/03/22 13:04
Sample Depth: 1 - 2'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 13:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*10/11/22 08:09*	*10/11/22 13:05*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/11/22 08:09*	*10/11/22 13:05*	*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			10/11/22 13:27	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/04/22 12:00*	*10/04/22 18:12*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*10/04/22 12:00*	*10/04/22 18:12*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**156**		4.97		mg/Kg			10/07/22 12:05	1

Client Sample ID: SW01

Lab Sample ID: 890-3129-2
Matrix: Solid
Date Collected: 09/30/22 14:15
Date Received: 10/03/22 13:04
Sample Depth: 0 - 2'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:25	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/11/22 08:09	10/11/22 13:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 13:25	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/11/22 08:09	10/11/22 13:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*10/11/22 08:09*	*10/11/22 13:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Client Sample ID: SW01

Lab Sample ID: 890-3129-2
Matrix: Solid
Date Collected: 09/30/22 14:15
Date Received: 10/03/22 13:04
Sample Depth: 0 - 2'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/11/22 08:09*	*10/11/22 13:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/11/22 13:27	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			10/05/22 09:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 18:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 18:33	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/04/22 12:00	10/04/22 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*10/04/22 12:00*	*10/04/22 18:33*	*1*
o-Terphenyl	*128*		*70 - 130*	*10/04/22 12:00*	*10/04/22 18:33*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**93.4**		4.97	mg/Kg			10/07/22 12:13	1

Client Sample ID: SW02

Lab Sample ID: 890-3129-3
Matrix: Solid
Date Collected: 09/30/22 14:20
Date Received: 10/03/22 13:04
Sample Depth: 0 - 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 15:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 15:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 15:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/11/22 08:09	10/11/22 15:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 15:31	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/11/22 08:09	10/11/22 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/11/22 08:09*	*10/11/22 15:31*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*10/11/22 08:09*	*10/11/22 15:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/11/22 13:27	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			10/05/22 09:29	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Client Sample ID: SW02

Date Collected: 09/30/22 14:20
Date Received: 10/03/22 13:04
Sample Depth: 0 - 2'

Lab Sample ID: 890-3129-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/22 12:00	10/04/22 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*10/04/22 12:00*	*10/04/22 18:54*	*1*
o-Terphenyl	*124*		*70 - 130*	*10/04/22 12:00*	*10/04/22 18:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**703**		4.99		mg/Kg			10/07/22 12:21	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

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)										
880-19920-A-7-F MS	Matrix Spike	99	95										
880-19920-A-7-G MSD	Matrix Spike Duplicate	94	93										
890-3129-1	FS01	112	100										
890-3129-2	SW01	115	102										
890-3129-3	SW02	107	91										
LCS 880-36628/1-A	Lab Control Sample	89	92										
LCSD 880-36628/2-A	Lab Control Sample Dup	88	93										
MB 880-36628/5-A	Method Blank	106	84										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-19906-A-8-D MS	Matrix Spike	91	84										
880-19906-A-8-E MSD	Matrix Spike Duplicate	91	82										
890-3129-1	FS01	121	133 S1+										
890-3129-2	SW01	115	128										
890-3129-3	SW02	111	124										
LCS 880-36053/2-A	Lab Control Sample	106	120										
LCSD 880-36053/3-A	Lab Control Sample Dup	107	120										
MB 880-36053/1-A	Method Blank	127	142 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36628/5-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36628

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 08:09	10/11/22 10:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*

Lab Sample ID: LCS 880-36628/1-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36628

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1103		mg/Kg		110	70 - 130		
Toluene			0.100	0.1115		mg/Kg		112	70 - 130		
Ethylbenzene			0.100	0.1048		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.2169		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1075		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-36628/2-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1090		mg/Kg		109	70 - 130	1	35
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	1	35
Ethylbenzene			0.100	0.1027		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2070		mg/Kg		104	70 - 130	5	35
o-Xylene			0.100	0.1038		mg/Kg		104	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-19920-A-7-F MS
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36628

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1073		mg/Kg		106	70 - 130		
Toluene	<0.00201	U	0.101	0.1092		mg/Kg		108	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

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

Lab Sample ID: 880-19920-A-7-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36628**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.09795		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2071		mg/Kg		103	70 - 130
o-Xylene	<0.00201	U	0.101	0.1026		mg/Kg		102	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-19920-A-7-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36628**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08107		mg/Kg		82	70 - 130	28	35
Toluene	<0.00201	U	0.0994	0.08422		mg/Kg		85	70 - 130	26	35
Ethylbenzene	<0.00201	U	0.0994	0.07745		mg/Kg		78	70 - 130	23	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1614		mg/Kg		81	70 - 130	25	35
o-Xylene	<0.00201	U	0.0994	0.07982		mg/Kg		80	70 - 130	25	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-36053/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36023 — **Prep Batch: 36053**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/04/22 10:04	10/04/22 11:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/04/22 10:04	10/04/22 11:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/04/22 10:04	10/04/22 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*10/04/22 10:04*	*10/04/22 11:15*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*10/04/22 10:04*	*10/04/22 11:15*	*1*

Lab Sample ID: LCS 880-36053/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36023 — **Prep Batch: 36053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	810.8		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	863.7		mg/Kg		86	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

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

Lab Sample ID: LCS 880-36053/2-A
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36053

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: LCSD 880-36053/3-A
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	801.9		mg/Kg		80	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	863.0		mg/Kg		86	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 880-19906-A-8-D MS
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1095		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1112		mg/Kg		109	70 - 130

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

Lab Sample ID: 880-19906-A-8-E MSD
Matrix: Solid
Analysis Batch: 36023

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1092		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1096		mg/Kg		108	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	82		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36168/1-A
Matrix: Solid
Analysis Batch: 36311

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/07/22 08:30	1

Lab Sample ID: LCS 880-36168/2-A
Matrix: Solid
Analysis Batch: 36311

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.0		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-36168/3-A
Matrix: Solid
Analysis Batch: 36311

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	260.7		mg/Kg		104	90 - 110	2	20

Lab Sample ID: 890-3126-A-11-B MS
Matrix: Solid
Analysis Batch: 36311

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	1930		2510	4615		mg/Kg		107	90 - 110		

Lab Sample ID: 890-3126-A-11-C MSD
Matrix: Solid
Analysis Batch: 36311

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	1930		2510	4632		mg/Kg		108	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

GC VOA

Analysis Batch: 36625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	8021B	36628
890-3129-2	SW01	Total/NA	Solid	8021B	36628
890-3129-3	SW02	Total/NA	Solid	8021B	36628
MB 880-36628/5-A	Method Blank	Total/NA	Solid	8021B	36628
LCS 880-36628/1-A	Lab Control Sample	Total/NA	Solid	8021B	36628
LCSD 880-36628/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36628
880-19920-A-7-F MS	Matrix Spike	Total/NA	Solid	8021B	36628
880-19920-A-7-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36628

Prep Batch: 36628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	5035	
890-3129-2	SW01	Total/NA	Solid	5035	
890-3129-3	SW02	Total/NA	Solid	5035	
MB 880-36628/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36628/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36628/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19920-A-7-F MS	Matrix Spike	Total/NA	Solid	5035	
880-19920-A-7-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	Total BTEX	
890-3129-2	SW01	Total/NA	Solid	Total BTEX	
890-3129-3	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	8015B NM	36053
890-3129-2	SW01	Total/NA	Solid	8015B NM	36053
890-3129-3	SW02	Total/NA	Solid	8015B NM	36053
MB 880-36053/1-A	Method Blank	Total/NA	Solid	8015B NM	36053
LCS 880-36053/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36053
LCSD 880-36053/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36053
880-19906-A-8-D MS	Matrix Spike	Total/NA	Solid	8015B NM	36053
880-19906-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36053

Prep Batch: 36053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	8015NM Prep	
890-3129-2	SW01	Total/NA	Solid	8015NM Prep	
890-3129-3	SW02	Total/NA	Solid	8015NM Prep	
MB 880-36053/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36053/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36053/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19906-A-8-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19906-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

GC Semi VOA

Analysis Batch: 36143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Total/NA	Solid	8015 NM	
890-3129-2	SW01	Total/NA	Solid	8015 NM	
890-3129-3	SW02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Soluble	Solid	DI Leach	
890-3129-2	SW01	Soluble	Solid	DI Leach	
890-3129-3	SW02	Soluble	Solid	DI Leach	
MB 880-36168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3126-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3126-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3129-1	FS01	Soluble	Solid	300.0	36168
890-3129-2	SW01	Soluble	Solid	300.0	36168
890-3129-3	SW02	Soluble	Solid	300.0	36168
MB 880-36168/1-A	Method Blank	Soluble	Solid	300.0	36168
LCS 880-36168/2-A	Lab Control Sample	Soluble	Solid	300.0	36168
LCSD 880-36168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36168
890-3126-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	36168
890-3126-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36168

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3129-1
SDG: 03E1558096

Client Sample ID: FS01

Date Collected: 09/30/22 14:40
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3129-1
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	36628	10/11/22 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 13:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36681	10/11/22 13:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			36143	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 18:12	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36168	10/05/22 10:50	KS	EET MID
Soluble	Analysis	300.0		1			36311	10/07/22 12:05	CH	EET MID

Client Sample ID: SW01

Date Collected: 09/30/22 14:15
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3129-2
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	36628	10/11/22 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 13:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36681	10/11/22 13:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			36143	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 18:33	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36168	10/05/22 10:50	KS	EET MID
Soluble	Analysis	300.0		1			36311	10/07/22 12:13	CH	EET MID

Client Sample ID: SW02

Date Collected: 09/30/22 14:20
Date Received: 10/03/22 13:04

Lab Sample ID: 890-3129-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36628	10/11/22 08:09	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 15:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36681	10/11/22 13:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			36143	10/05/22 09:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36053	10/04/22 12:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36023	10/04/22 18:54	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36168	10/05/22 10:50	KS	EET MID
Soluble	Analysis	300.0		1			36311	10/07/22 12:21	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 411

Job ID: 890-3129-1
SDG: 03E1558096

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 411

Job ID: 890-3129-1
SDG: 03E1558096

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 411

Job ID: 890-3129-1
SDG: 03E1558096

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3129-1	FS01	Solid	09/30/22 14:40	10/03/22 13:04	1 - 2'
890-3129-2	SW01	Solid	09/30/22 14:15	10/03/22 13:04	0 - 2'
890-3129-3	SW02	Solid	09/30/22 14:20	10/03/22 13:04	0 - 2'

Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 411	Turn Around	
Project Number:	03E1558096	☑ 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:	TNM009
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.2
Total Containers:		Corrected Temperature:	5.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS01	S	9/30/2022	14:40	1-2'	Comp	1		x	x	x
SW01	S	9/30/2022	14:15	0-2'	Comp	1		x	x	x
SW02	S	9/30/2022	14:20	0-2'	Comp	1		x	x	x

890-3129 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID: nAPP2219646774
Cost Center: 2159981001
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 Connor Whitman		10.3.22 1309			
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3129-1
SDG Number: 03E1558096

Login Number: 3129
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: 890-3129-1
SDG Number: 03E1558096

Login Number: 3129
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/04/22 10:34 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3203-1
Laboratory Sample Delivery Group: 03E1558096
Client Project/Site: PLU 411

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

Attn: Ben Belill

JKramer

Authorized for release by:
10/19/2022 2:02:50 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU 411

Laboratory Job ID: 890-3203-1
SDG: 03E1558096

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, 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
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 411

Job ID: 890-3203-1
SDG: 03E1558096

Job ID: 890-3203-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3203-1

Receipt
The sample was received on 10/13/2022 4:31 PM. 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 5.6°C

Receipt Exceptions
The following samples analyzed were received and analyzed from an unpreserved bulk soil jar: FS02 (890-3203-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37241 and analytical batch 880-37264 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS02 (890-3203-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-37126 and analytical batch 880-37035 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37046 and analytical batch 880-37227 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 411

Job ID: 890-3203-1
SDG: 03E1558096

Client Sample ID: FS02

Date Collected: 10/12/22 14:00
Date Received: 10/13/22 16:31
Sample Depth: 1

Lab Sample ID: 890-3203-1

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		10/19/22 10:00	10/19/22 12:53	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/19/22 10:00	10/19/22 12:53	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/19/22 10:00	10/19/22 12:53	1
m-Xylene & p-Xylene	**0.00468**		0.00402		mg/Kg		10/19/22 10:00	10/19/22 12:53	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/19/22 10:00	10/19/22 12:53	1
Xylenes, Total	**0.00468**		0.00402		mg/Kg		10/19/22 10:00	10/19/22 12:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*38*	*S1-*	*70 - 130*	*10/19/22 10:00*	*10/19/22 12:53*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/19/22 10:00*	*10/19/22 12:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00468**		0.00402		mg/Kg			10/19/22 14:22	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			10/18/22 10:10	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/17/22 10:20	10/17/22 16:50	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/17/22 10:20	10/17/22 16:50	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/17/22 10:20	10/17/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*10/17/22 10:20*	*10/17/22 16:50*	*1*
o-Terphenyl	*97*		*70 - 130*	*10/17/22 10:20*	*10/17/22 16:50*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2460**	**F1**	25.0		mg/Kg			10/18/22 09:25	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

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)										
880-20432-A-1-B MS	Matrix Spike	93	108										
880-20432-A-1-C MSD	Matrix Spike Duplicate	102	97										
890-3203-1	FS02	38 S1-	99										
LCS 880-37241/1-A	Lab Control Sample	117	104										
LCSD 880-37241/2-A	Lab Control Sample Dup	83	88										
MB 880-37241/5-A	Method Blank	90	99										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-20420-A-4-D MS	Matrix Spike	104	87										
880-20420-A-4-E MSD	Matrix Spike Duplicate	99	80										
890-3203-1	FS02	112	97										
LCS 880-37126/2-A	Lab Control Sample	82	80										
LCSD 880-37126/3-A	Lab Control Sample Dup	83	81										
MB 880-37126/1-A	Method Blank	124	110										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37241/5-A
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37241

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/18/22 14:33	10/19/22 10:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/18/22 14:33	10/19/22 10:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 14:33	10/19/22 10:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/18/22 14:33	10/19/22 10:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 14:33	10/19/22 10:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/18/22 14:33	10/19/22 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/18/22 14:33*	*10/19/22 10:50*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/18/22 14:33*	*10/19/22 10:50*	*1*

Lab Sample ID: LCS 880-37241/1-A
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1002		mg/Kg		100	70 - 130		
Toluene			0.100	0.09988		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.2327		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1130		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-37241/2-A
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08677		mg/Kg		87	70 - 130	14	35
Toluene			0.100	0.08816		mg/Kg		88	70 - 130	12	35
Ethylbenzene			0.100	0.09190		mg/Kg		92	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1686		mg/Kg		84	70 - 130	32	35
o-Xylene			0.100	0.08047		mg/Kg		80	70 - 130	34	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 880-20432-A-1-B MS
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F2 F1	0.100	0.1140		mg/Kg		114	70 - 130		
Toluene	<0.00200	U F2 F1	0.100	0.08876		mg/Kg		89	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

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

Lab Sample ID: 880-20432-A-1-B MS
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F2 F1	0.100	0.07928		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00401	U F2 F1	0.200	0.1573		mg/Kg		78	70 - 130
o-Xylene	<0.00200	U F2 F1	0.100	0.07806		mg/Kg		76	70 - 130

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

Lab Sample ID: 880-20432-A-1-C MSD
Matrix: Solid
Analysis Batch: 37264

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.100	0.05454	F2 F1	mg/Kg		54	70 - 130	71	35
Toluene	<0.00200	U F2 F1	0.100	0.05015	F2 F1	mg/Kg		50	70 - 130	56	35
Ethylbenzene	<0.00200	U F2 F1	0.100	0.04517	F2 F1	mg/Kg		44	70 - 130	55	35
m-Xylene & p-Xylene	<0.00401	U F2 F1	0.201	0.09314	F2 F1	mg/Kg		45	70 - 130	51	35
o-Xylene	<0.00200	U F2 F1	0.100	0.05034	F2 F1	mg/Kg		48	70 - 130	43	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-37126/1-A
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37126

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/17/22 10:20	10/17/22 10:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/17/22 10:20	10/17/22 10:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/17/22 10:20	10/17/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*10/17/22 10:20*	*10/17/22 10:46*	*1*
o-Terphenyl	*110*		*70 - 130*	*10/17/22 10:20*	*10/17/22 10:46*	*1*

Lab Sample ID: LCS 880-37126/2-A
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37126

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	825.5		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)			1000	881.6		mg/Kg		88	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

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

Lab Sample ID: LCS 880-37126/2-A
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37126

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-37126/3-A
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37126

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	755.2		mg/Kg		76	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	889.9		mg/Kg		89	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 880-20420-A-4-D MS
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37126

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	998	979.1		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	983.6		mg/Kg		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 880-20420-A-4-E MSD
Matrix: Solid
Analysis Batch: 37035

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37126

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	869.6		mg/Kg		87	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	924.2		mg/Kg		90	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	80		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37046/1-A
Matrix: Solid
Analysis Batch: 37227

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/18/22 09:11	1

Lab Sample ID: LCS 880-37046/2-A
Matrix: Solid
Analysis Batch: 37227

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	241.4		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-37046/3-A
Matrix: Solid
Analysis Batch: 37227

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	234.6		mg/Kg		94	90 - 110	3	20

Lab Sample ID: 890-3203-1 MS
Matrix: Solid
Analysis Batch: 37227

Client Sample ID: FS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2460	F1	1250	3561	F1	mg/Kg		89	90 - 110		

Lab Sample ID: 890-3203-1 MSD
Matrix: Solid
Analysis Batch: 37227

Client Sample ID: FS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2460	F1	1250	3608		mg/Kg		92	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

GC VOA

Prep Batch: 37241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	5035	
MB 880-37241/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37241/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37241/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20432-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-20432-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	8021B	37241
MB 880-37241/5-A	Method Blank	Total/NA	Solid	8021B	37241
LCS 880-37241/1-A	Lab Control Sample	Total/NA	Solid	8021B	37241
LCSD 880-37241/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37241
880-20432-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	37241
880-20432-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37241

Analysis Batch: 37333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	8015B NM	37126
MB 880-37126/1-A	Method Blank	Total/NA	Solid	8015B NM	37126
LCS 880-37126/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37126
LCSD 880-37126/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37126
880-20420-A-4-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37126
880-20420-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37126

Prep Batch: 37126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	8015NM Prep	
MB 880-37126/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37126/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37126/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20420-A-4-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20420-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Soluble	Solid	DI Leach	
MB 880-37046/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37046/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37046/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

HPLC/IC (Continued)

Leach Batch: 37046 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1 MS	FS02	Soluble	Solid	DI Leach	
890-3203-1 MSD	FS02	Soluble	Solid	DI Leach	

Analysis Batch: 37227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3203-1	FS02	Soluble	Solid	300.0	37046
MB 880-37046/1-A	Method Blank	Soluble	Solid	300.0	37046
LCS 880-37046/2-A	Lab Control Sample	Soluble	Solid	300.0	37046
LCSD 880-37046/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37046
890-3203-1 MS	FS02	Soluble	Solid	300.0	37046
890-3203-1 MSD	FS02	Soluble	Solid	300.0	37046

Lab Chronicle

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

Client Sample ID: FS02

Date Collected: 10/12/22 14:00
Date Received: 10/13/22 16:31

Lab Sample ID: 890-3203-1

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	37241	10/19/22 10:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37264	10/19/22 12:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37333	10/19/22 14:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			37211	10/18/22 10:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37126	10/17/22 10:20	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37035	10/17/22 16:50	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37046	10/17/22 08:35	KS	EET MID
Soluble	Analysis	300.0		5			37227	10/18/22 09:25	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 411

Job ID: 890-3203-1
SDG: 03E1558096

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 411

Job ID: 890-3203-1
SDG: 03E1558096

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 411

Job ID: 890-3203-1
SDG: 03E1558096

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3203-1	FS02	Solid	10/12/22 14:00	10/13/22 16:31	1

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	PLU 411	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558096	Due Date:	
Project Location:	32.19312,-103.77993	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Kase Parker		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No) CXC	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:	5.8	
Total Containers:		Corrected Temperature:	5.6	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS02	S	10/12/2022	14:00	1'	G	1		x	x	x

890-3203 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2219646774
Cost Center:
2159981001
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
		10.13.22 1631	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3203-1
SDG Number: 03E1558096

Login Number: 3203
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: 890-3203-1
SDG Number: 03E1558096

Login Number: 3203
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/17/22 08:21 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From:	Hamlet, Robert, EMNRD
To:	Collins, Melanie
Cc:	DelawareSpills /SM; Ashley Ager; Tacoma Morrissey; Ben Belill; Green, Garrett J; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject:	(Extension Approval) - XTO- Extension Poker Lake Unit 411 – Incident Number NAPP2219646774
Date:	Thursday, October 6, 2022 4:49:59 PM
Attachments:	image003.png

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2219646774**

Melanie,

Your request for an extension to **December 5th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Thursday, October 6, 2022 2:42 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Green, Garrett J <garrett.green@exxonmobil.com>
Subject: [EXTERNAL] XTO- Extension Poker Lake Unit 411 – Incident Number NAPP2219646774

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO- Extension Poker Lake Unit 411 – Incident Number NAPP2219646774

XTO is requesting an extension for the current deadline of October 6, 2022, for submitting a

remediation work plan or closure request required in 19.15.29.12.B.(1) NMAC at the Poker Lake Unit 411 (Incident Number NAPP2219646774). The release occurred on July 8, 2022. An initial assessment of the release was completed August 18, 2022, however; additional remediation work was delayed due to XTO on-site operations. Delineation and excavation activities began last week and are ongoing. In order to complete the remediation activities, review laboratory analytical results, and submit a remediation work plan or closure request, XTO is requesting a 60-day extension for the release until December 5, 2022.

Thank you,

Melanie Collins

Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

Ben Belill

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, September 23, 2022 4:52 PM
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM; Kalei Jennings
Subject: XTO - Sampling Notification (Week of 9/26/22 - 9/30/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of September 26, 2022.

Monday
- PLU 184H / nAPP2219648561

Tuesday
- PLU 184H / nAPP2219648561

Wednesday
- PLU PC 17 / NAPP2223832773

Thursday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 411/ nAPP2219646774

Friday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 411/ nAPP2219646774

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: Tacoma Morrissey
To: Ben Belill
Subject: Fwd: XTO - Sampling Notification (Week of 10/10/22 - 10/14/22)
Date: Monday, November 28, 2022 5:54:02 PM

Hey Ben,

Is this the one you're missing?

Tacoma Morrissey
Senior Geologist
337-257-8307
Ensolum, LLC

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, October 7, 2022 2:49:52 PM
To: ocd.enviro@emnrd.nm.gov <ocd.enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: XTO - Sampling Notification (Week of 10/10/22 - 10/14/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Oct 10, 2022.

Monday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 78 SWD / NAPP2126639352

Tuesday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 78 SWD / NAPP2126639352

Wednesday
- BEU 29W Vader 100H / nAPP2102831345
- JRU 163 / nAPP2219649599
- PLU 411/ nAPP2219646774

Thursday
- BEU 29W Vader 100H / nAPP2102831345
- JRU 163 / nAPP2219649599
- PLU 411/ nAPP2219646774

Friday

- BEU 29W Vader 100H / nAPP2102831345

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

ENSOLUM

APPENDIX B

Lithologic / Soil Sampling Log

ENSOLUM

	Sample Name: C-04760 (BH01)	Date: 8/1/2023
	Site Name: PLU 411	
	Incident Number: NAPP22196466774	
	Job Number: 03C1558096	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR/SW	Method: Air Rotary
Coordinates: 32.192389, -103.780346	Hole Diameter: 5"	Total Depth: 108' bgs

Comments: No Field screening conducted, only lithology and observations. 2" diameter PVC well set at 75' bgs due to collapsed hole. After 72 hour waiting period, soil boring was dry. Soil boring backfilled with hydrated bentonite clay chips to surface.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0.5	0	CCHE	0-30', CALICHE with sand, tan-off white, dry, poorly sorted, fine to medium grained, round, no stain, no odor.
					10	10		
					20	20		
					30	30		
							SP	30'-100', SAND, reddish orange, dry, poorly sorted, medium grain, some coarse gravel, sub-round to sub-angular, no stain, no odor.
					40	40		40'-50', some white to translucent fine crystalline gypsum.
					50	50		
					60	60		
					70	70		
					80	80		@ 75', hole collapsed due to sandy conditions. No evidence of water throughout drilling process.
					90	90		
					100	100	SP/SC	100'-110', CLAYEY SAND, dry, reddish brown, poorly graded, fine-v/fine grained, silty, no stain, no odor.
					108	110	TD	Total depth at 108 feet bgs.
						120		

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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 255568

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 255568
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete".	2/12/2024