State of New Mexico
Oil Conservation Division

Incident ID	NAPP2215449179
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __11/17/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 11/18/2022

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

Closure Approved by: Robert Hamlet Date: 2/15/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2215449179
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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 32.53378 Longitude -104.20760
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Avalon Delaware Unit 641	Site Type Flow Line
Date Release Discovered 05/26/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	32	20S	28E	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) 0.46	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 11.05	Volume Recovered (bbls) 0.0
	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	Internal corrosion caused a flow line to release fluids to soil. A third-party contractor has been retained for remediation purposes.	

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2215449179
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? 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: 06/02/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 06/02/2022

Location:	Avalon Delaware Unit 641	
Spill Date:	5/26/2022	
Area 1		
Approximate Area =	431.00	sq. ft.
Average Saturation (or depth) of spill =	12.00	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Crude Oil =	0.46	bbls
Total Produced Water =	11.05	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.46**	**bbls**
Total Produced Water =	**11.05**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

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

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

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 113494
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	6/6/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2215449179
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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

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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: ____11/17/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 11/18/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2215449179
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __11/17/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 11/18/2022

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

November 17, 2022

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

Re: Closure Request
Avalon Delaware Unit 624 & 641
Incident Numbers NAPP2123634554 & NAPP2215449179
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 the site assessment, excavation, and soil sampling activities completed at the Avalon Delaware Unit 624 & 641 (Site). The purpose of the remediation activities was to address impacted soil resulting from two flow line releases of crude oil and produced water into the Site's surrounding pasture. Based on additional remedial activites completed as outlined in an approved *Remediation Work Plan (Work Plan)*, dated May 5, 2022, XTO is submitting this *Closure Request*, describing site assessment and excavation activities that have occurred and requesting closure for Incident Numbers NAPP2123634554 and NAPP2215449179.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 32, Township 20 South, Range 28 East, in Eddy County, New Mexico (32.53378° N, 104.20753° W) and is associated with oil and gas exploration and production operations on New Mexico State Land. Figure 1 depicts the site location on a topographic map.

On August 10, 2021, corrosion of a flow line resulted in the release of approximately 0.38 barrels (bbls) of crude oil and 8.21 bbls of produced water into the surrounding pasture. No fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on August 24, 2021. The release was assigned Incident Number NAPP2123634554.

Remediation efforts were delayed pending State Land access. A Right-of-Entry (ROE) Permit was submitted to the State land Office (SLO) in October 2021. The executed permit was received on January 18, 2022.

On February 2, 2022, delineation activities were conducted at the Site to assess the vertical extent of impacted soil. Potholes PH01 through PH03 were advanced via track mounted backhoe within the release extent at the locations of preliminary soil samples SS01 through SS03. The delineation potholes were advanced to depths ranging from 5 feet to 15 feet below ground surface (bgs). Soil from the potholes was field screened, at depths ranging from 1-foot to 15 feet bgs, for volatile organic compounds (VOCs) using a calibrated photoionizatoin detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Field screening results indicated elevated chloride concentrations in potholes PH01 through PH03 at depths ranging from 1 foot to 15 feet bgs. Field screening results indicated elevated total petroleum hydrocarbon (TPH) concentrations in the top 4 feet of the release area. One additional pothole

(PH04) was advanced to a depth of 4 feet bgs outside of the release extent and confirmed the absence of naturally occuring chloride, at concentrations greater than 600 mg/kg, at the Site. The results from the delineation soil sampling suggested soil containing elevated TPH concentrations was present across the 750 square foot release area and extended from the ground surface to approximately 4 feet bgs; elevated chloride concentrations potentially extended at depths ranging from 1-foot to greater than 15 feet bgs. As a result, XTO submitted a *Work Plan* and proposed the following remediation activities:

- Lateral and vertical delineation of impacted soil to below the Site Closure Criteria.
- Lateral and vertical excavation of the TPH-impacted soil until concentrations in remaining soil are below 100 milligrams per kilogram (mg/kg).
- Lateral and vertical excavation of chloride-impacted soil in the top 4 feet (or greater if removal of TPH impacted soil exceeded 4 feet). Excavation to proceed laterally until sidewall samples confirm chloride concentrations compliant with the Closure Criteria in the top 4 feet.
- Following removal of impacted soil, 5-point composite confirmation samples would be collected at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation samples would be submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), TPH, and chloride.
- Upon completion of excavation activities, a 20-mil impermeable liner would be installed over the chloride-impacted soil to mitigate further chloride impacts to the subsurface. The liner would be installed at 4 feet bgs within the open excavation.
- Impacted soil would be excavated and disposed of at a licensed disposal facility.
- The excavation would be backfilled and recontoured to match pre-existing conditions. The disturbed pasture would be re-seeded with an approved Bureau of Land Management (BLM) seed mixture.

On May 26, 2022, while a review of the *Work Plan* was pending, corrosion of a flow line resulted in a second release of approximately 0.46 bbls of crude oil and 11.05 bbls of produced water into the surrounding pasture. No fluids were recovered. XTO reported the release to the NMOCD on a Form C-141 on June 2, 2022. The release was assigned Incident Number NAPP2215449179. The release extent overlapped the August 2021 release, so XTO planned to address the two releases concurrently following approval of the *Work Plan* submitted on May 5, 2022.

The *Work Plan* was approved by NMOCD on July 20, 2022 via email with the following condition:

- *The Remediation Plan is conditionally approved: The release will need to be remediated to the strictest closure criteria standards due to high karst potential. Please collect confirmation samples, representing no more than 200 ft2. The liner installation is only approved at 4 feet bgs if all floor samples show TPH less than 100 mg/kg. Floor samples must be excavated to the strictest closure criteria, backfilled to 4 feet bgs with clean material, and then the liner installed. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The work will need to occur in 90 days after the work plan has been approved.*

What follows is a description of the work completed in compliance with the approved *Work Plan* to address both overlapping releases.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

As documented in the *Work Plan*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 mg/kg
- BTEX: 50 mg/kg
- TPH: 100 mg/kg
- Chloride: 600 mg/kg

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between May 4 and 5, 2022, Ensolum personnel were at the Site to complete site assessment and delineation activities for both the August 2021 and May 2022 releases based on information provided on the Form C-141s and visible surface staining observed in the release area. Potholes PH01 through PH06 were advanced via track-hoe within and around the overlapping release extents to assess the vertical extent of impacted soil. The potholes were advanced to a depth of 17 feet bgs. Delineation soil samples were collected from each pothole at depths ranging from 2 feet to 17 feet bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations for the potholes were logged on lithologic soil sampling logs, which are included in Appendix A. Photographic documentation was completed during the Site visit 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 chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (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 samples collected from pothole PH01 and PH02, within the overlapping release extents, indicated chloride concentrations exceeding the Site Closure Criteria at depths ranging from 1-foot to 4 feet bgs. The terminal sample in potholes PH01 and PH02, collected at 17 feet bgs and 13 feet bgs, respectively were compliant with the Site Closure Criteria and vertically delineate the release. Laboratory analytical results for delineation soil samples collected from potholes PH03 through PH06, collected outside the release extents, indicated all COC concentrations were compliant with the Site Closure Criteria and successfully define the lateral extent of the release. The delineation soil sample locations are depicted on Figure 3. Laboratory analytical results for PH01 and PH02 exceeded the Site Closure Criteria in the top 4 feet of the pasture area that was impacted by the release, thus excavation activities were warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On September 14, 2022 Ensolum personnel were at the Site to complete excavation activities as detailed in the approved *Work Plan.* Excavation activities were performed using a track-mounted backhoe and transport vehicles. The excavation was initially completed to a maximum depth of 4.5 feet bgs and following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. Composite soil samples FS01 through FS11 were collected from the floor of the excavation at depths ranging from 4 feet to 4.5 feet bgs. Composite soil samples SW01 through SW10 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 4.5 feet bgs. The soil samples were handled as proposed in the *Work Plan* and delivered to Eurofins in Carlsbad, New Mexico.

Laboratory analytical results for excavation soil samples FS06, FS07, FS10, and FS11 and sidewall samples SW01 through SW10 indicated all COC concentrations are compliant with the Site Closure Criteria. Laboratory analytical results for excavation soil samples FS01 through FS05, FS08 and FS09 indicated TPH concentrations exceeded the Site Closure Criteria and additional remediation activities were warranted. Additional soil was removed from the vicinity of the seven composite soil sample locations and subsequent excavation soil samples FS01A through FS05A, FS08A, and FS09A were collected at depths ranging from 7 feet to 8 feet bgs.

Laboratory analytical results for excavation floor sample FS04 indicated TPH concentrations exceeded the Site Closure Criteria. One pothole, PH07, was advanced in the vicinity of FS04 to assess the vertical extent of the impacts. Delineation soil samples were collected from the pothole at depths of 10 feet and 16 feet bgs. Soil samples were submitted for laboratory analysis of BTEX, TPH, and chloride. Laboratory analytical results for PH07, collected at 10 feet bgs, indicated TPH concentrations exceeded the Site Closure Criteria. Laboratory analytical results for PH07, collected at 16 feet bgs, indicated all COC concentrations were compliant with the Site Closure Criteria. Additional soil was excavated in the vicinity floor sample FS04/FS04A and pothole sample PH07 Subsequently, excavation soil samples FS12 through FS14 were collected, at depths ranging from 7.5 feet bgs to 12 feet bgs, which were all compliant with the TPH Closure Criteria. The final excavation extent and excavation soil sample locations are presented on Figure 3.

A total of approximately 195 cubic yards of impacted soil was removed during the excavation activities. Upon completion of excavation activities, a 20-mil impermeable liner was installed over the chloride-impacted soil to mitigate further chloride impacts to the subsurface. The liner was installed at the floor of the open excavation. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address two releases of produced water and crude oil. Laboratory analytical results for the excavation soil samples indicated benzene, BTEX, TPH concentrations were compliant with the Site Closure Criteria and actions approved in the *Work Plan*. In addition, chloride concentrations in the top 4 feet meet the Site Closure Criteria. Excavation floor samples do not contain any residual petroleum hydrocarbons and sidewall samples SW01 through SW10 are compliant with the Site Closure Criteria, defining the release extent. Based on the soil sample analytical results, no further remediation was required. XTO installed a 20-mil impermeable liner will over the chloride impacted soil to mitigate further chloride impacts to the subsurface and will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.

XTO believes these remedial actions are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2123634554 and NAPP2215449179. XTO has completed the actions approved in the *Work Plan* and is submitting this closure request as a condition of approval.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Project Manager

Ashley L. Ager, MS, PG
Principal

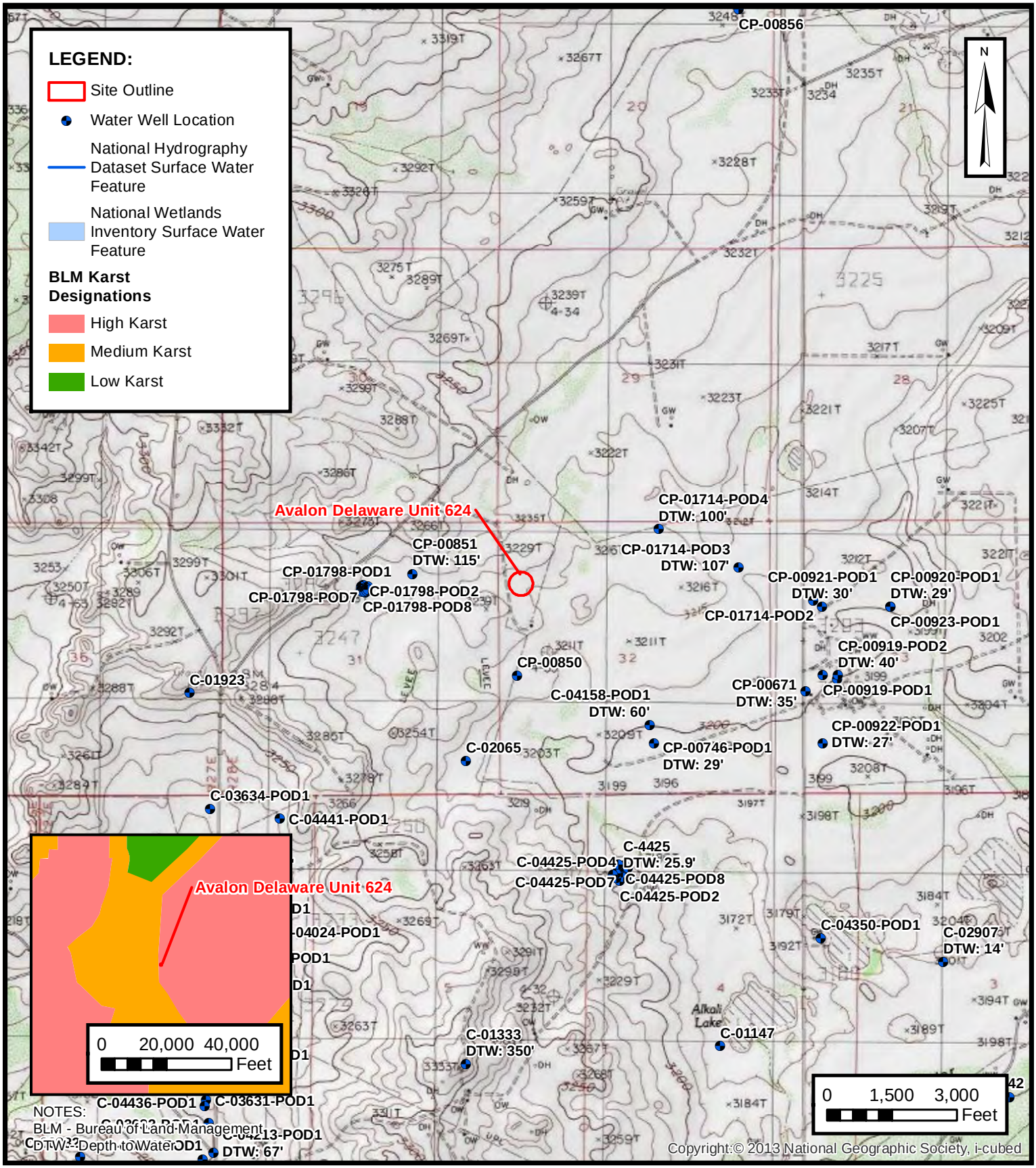
cc: Garrett Green, XTO
Shelby Pennington, XTO
New Mexico State Land

Appendices:

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

ENSOLUM

FIGURES



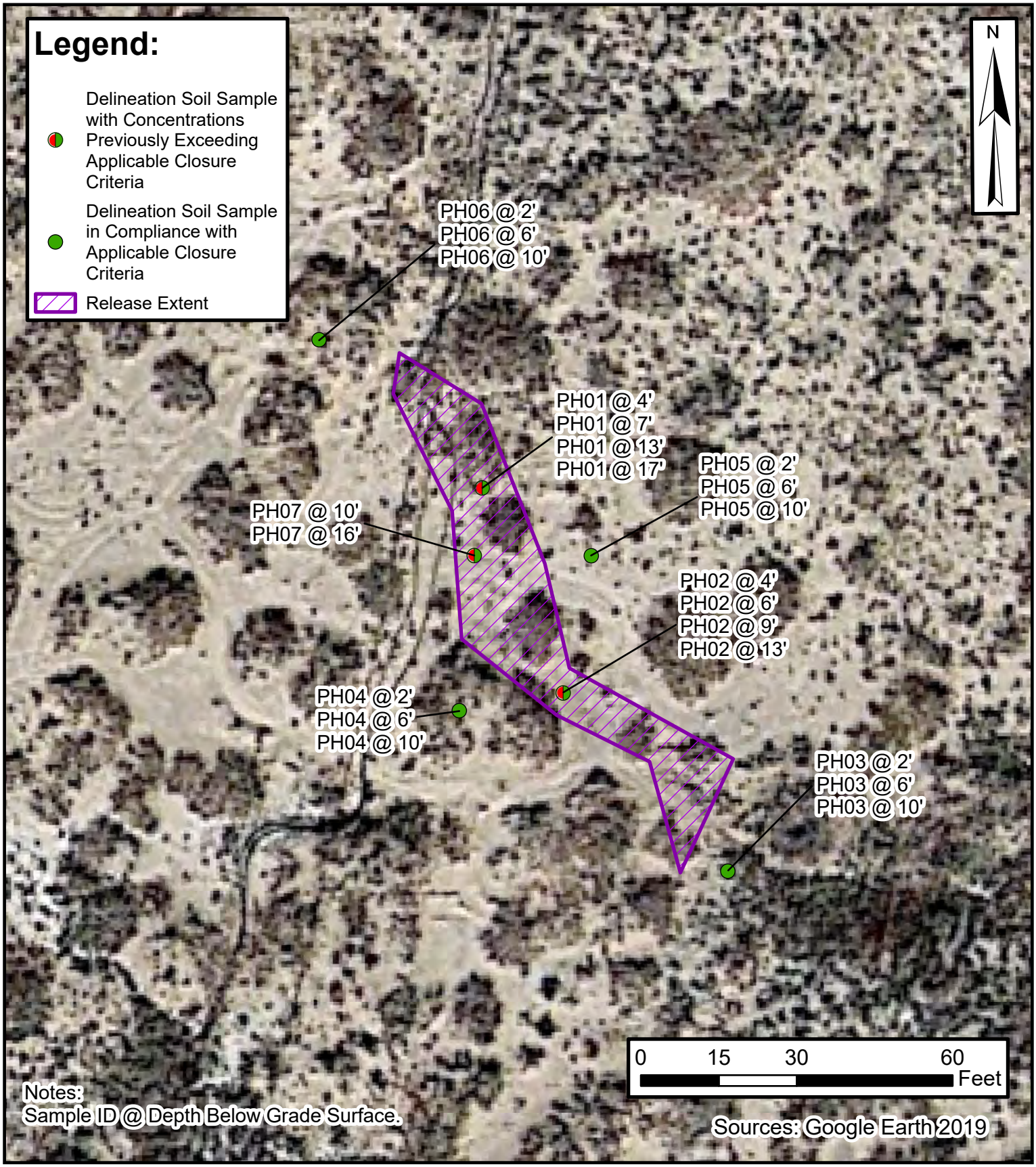
NOTES:
BLM - Bureau of Land Management
DTW - Depth to Water

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
AVALON DELAWARE UNIT 624 & 641
NAPP2123634554 & NAPP2215449179
Unit D, Sec 32, T20S, R28E
Eddy County, New Mexico

FIGURE
1

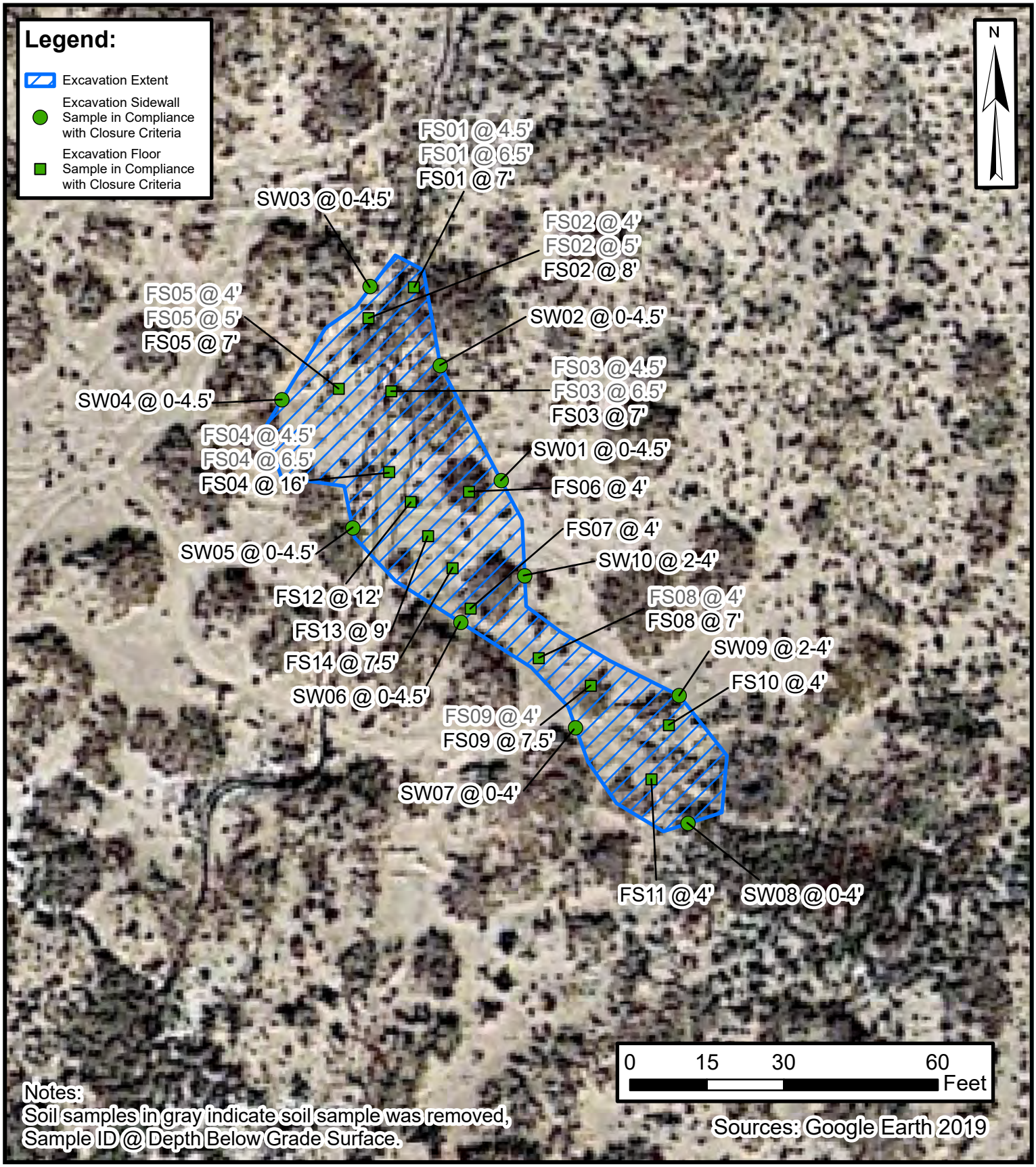


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO ENERGY, INC.
AVALON DELEWARE UNIT 624 & 641
NAPP2123634554 & NAPP2215449179
Unit D, Sec 32, T20S, R28E
Eddy County, New Mexico

FIGURE
2



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO ENERGY, INC.
AVALON DELEWARE UNIT 624 & 641
NAPP2123634554 & NAPP2215449179
Unit D, Sec 32, T20S, R28E
Eddy County, New Mexico

FIGURE
3

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Avalon Delaware Unit 624 & 641
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	NE	100	600
Delineation Soil Samples										
PH01D	05/04/2022	4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	**3,160**
PH01G	05/04/2022	7	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	**2,760**
PH01M	05/04/2022	13	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	**2,510**
PH01Q	05/04/2022	17	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	360
PH02D	05/04/2022	4	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	**2,770**
PH02F	05/04/2022	6	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	**2,550**
PH02I	05/04/2022	9	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	**2,750**
PH02M	05/04/2022	13	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	534
PH03A	05/05/2022	2	<0.000398	<0.000797	<50.0	<50.0	<50.0	<50.0	<50.0	28.8
PH03C	05/05/2022	6	<0.000400	<0.000800	<50.0	<50.0	<50.0	<50.0	<50.0	107
PH03E	05/05/2022	10	<0.000401	<0.000802	<50.0	<50.0	<50.0	<50.0	<50.0	181
PH04A	05/05/2022	2	<0.000402	<0.000805	<50.0	<50.0	<50.0	<50.0	<50.0	15.5
PH04C	05/05/2022	6	<0.000403	<0.000806	<49.9	<49.9	<49.9	<49.9	<49.9	54.4
PH04E	05/05/2022	10	<0.000398	<0.000795	<50.0	<50.0	<50.0	<50.0	<50.0	154
PH05A	05/05/2022	2	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	241
PH05C	05/05/2022	6	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	154
PH05G	05/05/2022	10	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	266
PH06A	05/05/2022	2	<0.00201	<0.00402	<50.0	248	<50.0	24.8	24.8	9.83
PH06C	05/05/2022	6	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	133
PH06E	05/05/2022	10	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	154
PH07	10/04/2022	10'	1.90	**93.7**	2,300	3,240	361	5,540	**5,900**	**2,410**
PH07A	10/04/2022	16'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	74.1

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Avalon Delaware Unit 624 & 641
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	NE	100	600
Excavation Floor Samples										
FS01	09/14/2022	4.5	0.194	12.1	342	681	<50.0	1,023	1,023	156
FS01	09/19/2022	6.5'	<0.0198	1.09	185	404	<50.0	589	589	3,590
FS01A	10/05/2022	7'	<0.00198	0.00914	<49.9	<49.9	<49.9	<49.9	<49.9	3,950
FS02	09/14/2022	4	<0.0499	0.234	<49.9	1470	<49.9	1,470	1,470	93.4
FS02	09/19/2022	5'	0.0618	36.3	1,570	1,840	<50.0	3,410	3,410	4,300
FS02A	10/05/2022	8'	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	3,210
FS03	09/14/2022	4.5	0.121	18.0	1340	3990	<250	5,330	5,330	93.4
FS03	09/19/2022	6.5'	<0.0198	0.397	87.7	254	<49.9	342	342	3,360
FS03A	10/05/2022	7'	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	3,810
FS04	09/14/2022	4.5	<0.199	15.2	863	1410	<49.9	2,270	2,270	93.4
FS04	09/19/2022	6.5'	1.03	33.4	1,680	1,910	<49.9	3,590	3,590	1,880
FS04A	11/07/2022	16'	<0.00200	<0.00399	<49.8	52.8	<49.8	52.8	52.8	1,550
FS05	09/15/2022	4'	<0.00199	<0.00398	<49.9	135	<49.9	135	135	515
FS05	09/19/2022	5'	<0.200	11.7	719	1,220	<49.9	1,939	1,940	3,120
FS05A	10/05/2022	7'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	3,720
FS06	09/14/2022	4'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	1,770
FS07	09/15/2022	4'	<0.00202	<0.00404	<49.9	93.5	<49.9	93.5	93.5	2,020
FS08	09/15/2022	4'	<0.00200	<0.00399	<49.9	564	<49.9	564	564	2,170
FS08A	10/04/2022	7'	<0.00201	<0.00402	<50.0	11.8	<50.0	11.8	11.8	2,940
FS09	09/15/2022	4'	<0.00199	<0.00398	<50.0	267	<50.0	267	267	2,240
FS09A	10/04/2022	7.5'	<0.00202	<0.00403	<50.0	53.9	<50.0	53.9	53.9	3,330
FS10	09/15/2022	4'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	3,030
FS11	09/15/2022	4'	<0.00201	<0.00402	<49.9	50.2	<49.9	50.2	50.2	2,880
FS12	11/08/2022	12'	<0.00199	<0.00398	<49.9	63.1	<49.9	63.1	63.1	2,500
FS13	11/08/2022	9'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	1,200
FS14	11/08/2022	7.5'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	2,310

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Avalon Delaware Unit 624 & 641
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**	**NE**	**100**	**600**
Excavation Sidewall Samples										
SW01	09/12/2022	0-4.5'	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	150
SW02	09/12/2022	0-4.5'	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	73.9
SW03	09/12/2022	0 - 4.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	32.3
SW04	09/12/2022	0-4.5'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	498
SW05	09/12/2022	0-4.5'	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	17.2
SW06	09/12/2022	0 - 4.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	396
SW07	09/13/2022	0-4'	<0.00200	<0.00399	<50.0	49.0	<50.0	49.0	49.0	200
SW08	09/13/2022	0-4'	<0.00202	<0.00404	<50.0	35.1	<50.0	35.1	35.1	537
SW09	10/04/2022	2'-4'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	222
SW10	10/04/2022	2'-4'	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	149

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 or reclamation standard where applicable.
gray 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

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: **PH01**	Date: **02/02/2022**
	Site Name: **Avalon Delaware Unit 624 & 641**	
	Incident Number: **NAPP2123634554 &NAPP2215449179**	
	Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Backhoe**
Coordinates:	Hole Diameter: NA	Total Depth: **15'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	268.8	442.3	Y				SW-SM	SAND, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted, noncohesive.
M	2,329.6	152.4	Y			2		
M	3,315.2	16.4	N			4		SAA, light brown color, medium to large gravel, some small to large subrounded to subangular caliche, moist, (2cm-5cm).
M	5,129.6	12.1	N			6		
M	5,566.4	11.2	N			8		
M	5,129.6	4.2	N			10		
M	3,964.8	11.2	N			12	SP-SM	SAND with gravel, poorly graded, fine grain, no odor, noncohesive.
M	2,492	11.9	N			14		
M	2,329.6	6.7	N			15		

TD @ 15 feet bgs

ENSOLUM

Sample Name: **PH02**	Date: **02/02/2022**
Site Name: **Avalon Delaware Unit 624 & 641**	
Incident Number: **NAPP2123634554 & NAPP2215449179**	
Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR / Method: **Backhoe**
Coordinates:	Hole Diameter: NA / Total Depth: **5'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	1,764	124.4	Y			1	SW-SM	SAND, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted.
M	6,036.8	74.6	Y			2		SAA
M	3,304	40.2	N			3		SAA
M	3,572.8	62.1	N			4		SAA, slight odor.
M	2,850.4	44.8	N			5		SAA

TD @ 5 feet bgs

ENSOLUM

	Sample Name: **PH03**	Date: **02/02/2022**
	Site Name: **Avalon Delaware Unit 624 & 641**	
	Incident Number: **NAPP2123634554 & NAPP2215449179**	
	Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Backhoe**
Coordinates:	Hole Diameter: NA	Total Depth: **5'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	896	502.2	Y			1	SW-SM	SAND, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted.
M	1,327.4	608.4	Y			2		SAA
M	2,654.4	613.8	N			3		SAA
M	3,572.8	284.6	N			4		SAA
M	5,129.4	85.1	N			5		SAA, slight odor.

TD @ 5 feet bgs

ENSOLUM

Sample Name: **PH04**	Date: **02/04/2022**
Site Name: **Avalon Delaware Unit 624 & 641**	
Incident Number: **NAPP2123634554 & NAPP2215449179**	
Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR / Method: **Backhoe**
Coordinates:	Hole Diameter: NA / Total Depth: **6'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	<128	1.0	Y			1	SW-SM	SAND, light brown, well graded, moist, medium grain, no stain, no odor.
M	<128	0.6	Y			2		SAA, non-plastic.
M	498.4	0.6	N			3		SAA
M	1,327.2	0.7	N			4	CCHE	CALICHE, small to large clasts, subangular to angular, no stain, no odor.
M			N			5		SAA
M			N			6		SAA

TD @ 6 feet bgs

ENSOLUM

	Sample Name: **PH05**	Date: **05/05/2022**
	Site Name: **Avalon Delaware Unit 624 & 641**	
	Incident Number: **NAPP2123634554 & NAPP2215449179**	
	Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Backhoe**
Coordinates:	Hole Diameter: NA	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	268	3.4	Y	PH05A	2	2	SW-SM	SAND, dark brown, well graded, moist, medium grain, staining, strong HC odor.
M	<168	2.1	Y			4		SAA, light brown, medium to large gravel.
M	<168	0.9	N	PH05C	6	6	CCHE	CALICHE, some small to large clasts, subangular, no stain, no odor.
M	<168	0.7	N			8		SAA
M	<168	0.2	N	PH05G	10	10		SAA
M	<168	0.2	N			12	SW-SM	SAND, poorly graded, some gravel, fine grain, no stain, no odor, non-plastic, non-cohesive.

TD @ 12 feet bgs

ENSOLUM

	Sample Name: **PH06**	Date: **05/05/2022**
	Site Name: **Avalon Delaware Unit 624 & 641**	
	Incident Number: **NAPP2123634554 & NAPP2215449179**	
	Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Backhoe**
Coordinates:	Hole Diameter: NA	Total Depth: 15'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M	268	442.3	Y	PH06A	2	2	SW-SM	SAND, dark brown, well graded, moist, medium grain, staining, strong HC odor.
M	3,315	16.4	Y			4		SAA, light brown, medium to large gravel.
M	5,129	12.1	N	PH06C	6	6	CCHE	CALICHE, some small to large clasts, subangular, no stain, no odor.
M	5,566	11.2	N			8		SAA
M	5,129	4.2	N	PH06E	10	10		SAA
M	3,964	11.2	N			12		SAND, poorly graded, some gravel, fine grain, no stain, no odor, non-plastic, non-cohesive.
M	2,492	11.9	N			14		SAA
M	2,329	6.7	N			15		SAA

TD @ 15 feet bgs

ENSOLUM

	Sample Name: **PH07**	Date: **10/04/2022**
	Site Name: **Avalon Delaware Unit 624 & 641**	
	Incident Number: **NAPP2123634554 & NAPP2215449179**	
	Job Number: 03E1558026	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Backhoe**
Coordinates:	Hole Diameter: NA	Total Depth: 16'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
M			Y			2	SW-SM	SAND, dark brown, well graded, moist, medium grain, staining, strong HC odor.
M			Y			4		SAA, light brown, medium to large gravel.
M			N			6	CCHE	CALICHE, some small to large clasts, subangular, no stain, no odor.
M			N			8		SAA
M	2,492	1330	N	PH07	10	10		SAA, strong HC odor.
M		939	N			12	SW-SM	SAND, poorly graded, some gravel, fine grain, no stain, no odor, non-plastic, non-cohesive.
M		226	N			14		SAA
M	<156	10.1	N	PH07A	16	16		SAA

TD @ 16 feet bgs

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
Avalon Delaware Unit 624 & 641
Incident Numbers NAPP2123634554 & NAPP2215449179

Photograph: 1 Date: 8/26/2021
Description: Soil staining in release footprint
View: South

Photograph: 2 Date: 6/17/2022
Description: Soil staining from second release
View: North

Photograph: 3 Date: 11/8/2022
Description: Excavation activities
View: Southeast

Photograph: 4 Date: 11/8/2022
Description: Excavation activities
View: Northwest

ENSOLUM

APPENDIX C

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: 890-2935-1
Laboratory Sample Delivery Group: 03E1558026/03E1558062
Client Project/Site: ADU 624/641

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

Attn: Kalei Jennings

Jkramer

Authorized for release by:
9/14/2022 4:38:06 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: ADU 624/641

Laboratory Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2935-1
Project/Site: ADU 624/641 SDG: 03E1558026/03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Job ID: 890-2935-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2935-1

Receipt
The samples were received on 9/12/2022 3:00 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 3.2°C

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: (890-2933-A-1-B MS) and (890-2933-A-1-C MSD). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34416 and analytical batch 880-34433 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW03

Date Collected: 09/12/22 13:25
Date Received: 09/12/22 15:00
Sample Depth: 0 - 4.5

Lab Sample ID: 890-2935-1
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		09/14/22 09:19	09/14/22 16:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/14/22 09:19	09/14/22 16:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/14/22 09:19	09/14/22 16:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/14/22 09:19	09/14/22 16:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/14/22 09:19	09/14/22 16:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/14/22 09:19	09/14/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*09/14/22 09:19*	*09/14/22 16:56*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*09/14/22 09:19*	*09/14/22 16:56*	*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			09/14/22 17:30	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 17:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/14/22 11:30	09/14/22 12:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/14/22 11:30	09/14/22 12:42	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/14/22 11:30	09/14/22 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/14/22 11:30*	*09/14/22 12:42*	*1*
o-Terphenyl	*78*		*70 - 130*	*09/14/22 11:30*	*09/14/22 12:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32.3**		5.02		mg/Kg			09/14/22 13:10	1

Client Sample ID: SW06

Date Collected: 09/12/22 13:40
Date Received: 09/12/22 15:00
Sample Depth: 0 - 4.5

Lab Sample ID: 890-2935-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/14/22 09:19	09/14/22 17:17	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/14/22 09:19	09/14/22 17:17	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/14/22 09:19	09/14/22 17:17	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/14/22 09:19	09/14/22 17:17	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/14/22 09:19	09/14/22 17:17	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/14/22 09:19	09/14/22 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*09/14/22 09:19*	*09/14/22 17:17*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW06

Date Collected: 09/12/22 13:40
Date Received: 09/12/22 15:00
Sample Depth: 0 - 4.5

Lab Sample ID: 890-2935-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/14/22 09:19*	*09/14/22 17:17*	*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			09/14/22 17:30	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/14/22 17:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/14/22 11:30	09/14/22 13:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/14/22 11:30	09/14/22 13:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/14/22 11:30	09/14/22 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/14/22 11:30*	*09/14/22 13:03*	*1*
o-Terphenyl	*76*		*70 - 130*	*09/14/22 11:30*	*09/14/22 13:03*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**396**		5.03		mg/Kg			09/14/22 13:15	1

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-18879-A-81-G MS	Matrix Spike	135 S1+	101
880-18879-A-81-H MSD	Matrix Spike Duplicate	126	106
890-2935-1	SW03	115	75
890-2935-2	SW06	111	91
LCS 880-34264/1-A	Lab Control Sample	140 S1+	99
LCSD 880-34264/2-A	Lab Control Sample Dup	143 S1+	103
MB 880-34264/5-A	Method Blank	99	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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2933-A-1-B MS	Matrix Spike	73	66 S1-
890-2933-A-1-C MSD	Matrix Spike Duplicate	78	68 S1-
890-2935-1	SW03	77	78
890-2935-2	SW06	77	76
LCS 880-34416/2-A	Lab Control Sample	96	98
LCSD 880-34416/3-A	Lab Control Sample Dup	81	82
MB 880-34416/1-A	Method Blank	109	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34264/5-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34264

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/12/22 10:19	09/14/22 11:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/12/22 10:19	09/14/22 11:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*09/12/22 10:19*	*09/14/22 11:54*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*09/12/22 10:19*	*09/14/22 11:54*	*1*

Lab Sample ID: LCS 880-34264/1-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34264

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08269		mg/Kg		83	70 - 130		
Toluene			0.100	0.08547		mg/Kg		85	70 - 130		
Ethylbenzene			0.100	0.1039		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2233		mg/Kg		112	70 - 130		
o-Xylene			0.100	0.1281		mg/Kg		128	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-34264/2-A
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34264

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07992		mg/Kg		80	70 - 130	3	35
Toluene			0.100	0.07910		mg/Kg		79	70 - 130	8	35
Ethylbenzene			0.100	0.09582		mg/Kg		96	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2050		mg/Kg		103	70 - 130	9	35
o-Xylene			0.100	0.1181		mg/Kg		118	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*143*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-18879-A-81-G MS
Matrix: Solid
Analysis Batch: 34441

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34264

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.08089		mg/Kg		80	70 - 130		
Toluene	<0.00202	U	0.101	0.08273		mg/Kg		82	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 880-18879-A-81-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34441 — **Prep Batch: 34264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.09554		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.202	0.2069		mg/Kg		102	70 - 130
o-Xylene	<0.00202	U	0.101	0.1190		mg/Kg		118	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-18879-A-81-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34441 — **Prep Batch: 34264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.08322		mg/Kg		84	70 - 130	3	35
Toluene	<0.00202	U	0.0994	0.08076		mg/Kg		81	70 - 130	2	35
Ethylbenzene	<0.00202	U	0.0994	0.09008		mg/Kg		91	70 - 130	6	35
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1884		mg/Kg		95	70 - 130	9	35
o-Xylene	<0.00202	U	0.0994	0.1082		mg/Kg		109	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-34416/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34433 — **Prep Batch: 34416**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 15:30	09/14/22 09:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 15:30	09/14/22 09:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 15:30	09/14/22 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*09/13/22 15:30*	*09/14/22 09:53*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/13/22 15:30*	*09/14/22 09:53*	*1*

Lab Sample ID: LCS 880-34416/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34433 — **Prep Batch: 34416**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1035		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1127		mg/Kg		113	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: LCS 880-34416/2-A
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34416

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: LCSD 880-34416/3-A
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34416

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	879.7		mg/Kg		88	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	920.3		mg/Kg		92	70 - 130	20	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: 890-2933-A-1-B MS
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	781.2		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	640.2	F1	mg/Kg		63	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	73		70 - 130
o-Terphenyl	66	S1-	70 - 130

Lab Sample ID: 890-2933-A-1-C MSD
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	829.0		mg/Kg		83	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	662.5	F1	mg/Kg		65	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	68	S1-	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34376/1-A
Matrix: Solid
Analysis Batch: 34467

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 00:37	1

Lab Sample ID: LCS 880-34376/2-A
Matrix: Solid
Analysis Batch: 34467

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-34376/3-A
Matrix: Solid
Analysis Batch: 34467

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	243.0		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-18884-A-8-D MS
Matrix: Solid
Analysis Batch: 34467

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	74.5		250	334.2		mg/Kg		104	90 - 110		

Lab Sample ID: 880-18884-A-8-E MSD
Matrix: Solid
Analysis Batch: 34467

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	74.5		250	336.7		mg/Kg		105	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

GC VOA

Prep Batch: 34264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	5035	
890-2935-2	SW06	Total/NA	Solid	5035	
MB 880-34264/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34264/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34264/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18879-A-81-G MS	Matrix Spike	Total/NA	Solid	5035	
880-18879-A-81-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 34441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	8021B	34264
890-2935-2	SW06	Total/NA	Solid	8021B	34264
MB 880-34264/5-A	Method Blank	Total/NA	Solid	8021B	34264
LCS 880-34264/1-A	Lab Control Sample	Total/NA	Solid	8021B	34264
LCSD 880-34264/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34264
880-18879-A-81-G MS	Matrix Spike	Total/NA	Solid	8021B	34264
880-18879-A-81-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34264

Analysis Batch: 34533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	Total BTEX	
890-2935-2	SW06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 34416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	8015NM Prep	
890-2935-2	SW06	Total/NA	Solid	8015NM Prep	
MB 880-34416/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34416/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34416/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2933-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2933-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	8015B NM	34416
890-2935-2	SW06	Total/NA	Solid	8015B NM	34416
MB 880-34416/1-A	Method Blank	Total/NA	Solid	8015B NM	34416
LCS 880-34416/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34416
LCSD 880-34416/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34416
890-2933-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34416
890-2933-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34416

Analysis Batch: 34531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Total/NA	Solid	8015 NM	
890-2935-2	SW06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

HPLC/IC

Leach Batch: 34376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Soluble	Solid	DI Leach	
890-2935-2	SW06	Soluble	Solid	DI Leach	
MB 880-34376/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2935-1	SW03	Soluble	Solid	300.0	34376
890-2935-2	SW06	Soluble	Solid	300.0	34376
MB 880-34376/1-A	Method Blank	Soluble	Solid	300.0	34376
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	300.0	34376
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34376
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	300.0	34376
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34376

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW03

Lab Sample ID: 890-2935-1
Matrix: Solid
Date Collected: 09/12/22 13:25
Date Received: 09/12/22 15:00

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	34264	09/14/22 09:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/14/22 16:56	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34533	09/14/22 17:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34531	09/14/22 17:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34416	09/14/22 11:30	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34433	09/14/22 12:42	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	34376	09/14/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			34467	09/14/22 13:10	CH	EET MID

Client Sample ID: SW06

Lab Sample ID: 890-2935-2
Matrix: Solid
Date Collected: 09/12/22 13:40
Date Received: 09/12/22 15:00

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	34264	09/14/22 09:19	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34441	09/14/22 17:17	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34533	09/14/22 17:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34531	09/14/22 17:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34416	09/14/22 11:30	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34433	09/14/22 13:03	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	34376	09/14/22 11:54	SMC	EET MID
Soluble	Analysis	300.0		1			34467	09/14/22 13:15	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: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-2935-1
SDG: 03E1558026/03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2935-1	SW03	Solid	09/12/22 13:25	09/12/22 15:00	0 - 4.5
890-2935-2	SW06	Solid	09/12/22 13:40	09/12/22 15:00	0 - 4.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energies
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	ADM 624/641	Turn Around	
Project Number:	03E1558026/03E1558062	☐ Routine ☑ Rush	
Project Location:	32.53378, -104.20753	Due Date:	2 Day
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IWM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.4
Total Containers:		Corrected Temperature:	3.2

ANALYSIS REQUEST

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: TPH	BTEX	Chlorides	Sample Comments
SW03	S	9/12/22	1325	0-1.5	C	1	X	X	X	Incident #s:
SW06	S	9/12/22	1340	0-1.5	C	1	X	X	X	nAPP2123634554
										nAPP2215449179
										Cost Center(s):
										113615100i
										113614100i

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9.12.22 1500			
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2935-1
SDG Number: 03E1558026/03E1558062

Login Number: 2935
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2935-1
SDG Number: 03E1558026/03E1558062

Login Number: 2935
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/14/22 11:07 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: 890-2955-1
Laboratory Sample Delivery Group: 03E1558026/O3E1558062
Client Project/Site: ADU 624-641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/15/2022 4:38:38 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: ADU 624-641

Laboratory Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Job ID: 890-2955-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2955-1

Receipt
The samples were received on 9/14/2022 11:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.4°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-34550/2) and (LCS 880-34407/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2884-A-1-C MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (890-2955-1), FS02 (890-2955-2) and FS03 (890-2955-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS04 (890-2955-4). 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 880-34554 and analytical batch 880-34548 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS03 (890-2955-3). 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: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS01

Lab Sample ID: 890-2955-1
Matrix: Solid
Date Collected: 09/14/22 09:35
Date Received: 09/14/22 11:40
Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.194**		0.100		mg/Kg		09/15/22 12:00	09/15/22 13:29	50
Toluene	**2.07**		0.100		mg/Kg		09/15/22 12:00	09/15/22 13:29	50
Ethylbenzene	**2.76**		0.100		mg/Kg		09/15/22 12:00	09/15/22 13:29	50
m-Xylene & p-Xylene	**4.25**		0.200		mg/Kg		09/15/22 12:00	09/15/22 13:29	50
o-Xylene	**2.81**		0.100		mg/Kg		09/15/22 12:00	09/15/22 13:29	50
Xylenes, Total	**7.06**		0.200		mg/Kg		09/15/22 12:00	09/15/22 13:29	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*172*	*S1+*	*70 - 130*	*09/15/22 12:00*	*09/15/22 13:29*	*50*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*09/15/22 12:00*	*09/15/22 13:29*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**12.1**		0.200		mg/Kg			09/15/22 14:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1020**		50.0		mg/Kg			09/15/22 17:29	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	**342**		50.0		mg/Kg		09/15/22 08:44	09/15/22 13:27	1
Diesel Range Organics (Over C10-C28)	**681**		50.0		mg/Kg		09/15/22 08:44	09/15/22 13:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/15/22 08:44	09/15/22 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*09/15/22 08:44*	*09/15/22 13:27*	*1*
o-Terphenyl	*119*		*70 - 130*	*09/15/22 08:44*	*09/15/22 13:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3640**		25.2		mg/Kg			09/15/22 12:52	5

Client Sample ID: FS02

Lab Sample ID: 890-2955-2
Matrix: Solid
Date Collected: 09/14/22 08:35
Date Received: 09/14/22 11:40
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0499	U	0.0499		mg/Kg		09/15/22 12:00	09/15/22 13:49	25
Toluene	<0.0499	U	0.0499		mg/Kg		09/15/22 12:00	09/15/22 13:49	25
Ethylbenzene	<0.0499	U	0.0499		mg/Kg		09/15/22 12:00	09/15/22 13:49	25
m-Xylene & p-Xylene	**0.123**		0.0998		mg/Kg		09/15/22 12:00	09/15/22 13:49	25
o-Xylene	**0.111**		0.0499		mg/Kg		09/15/22 12:00	09/15/22 13:49	25
Xylenes, Total	**0.234**		0.0998		mg/Kg		09/15/22 12:00	09/15/22 13:49	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*70 - 130*	*09/15/22 12:00*	*09/15/22 13:49*	*25*

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS02

Lab Sample ID: 890-2955-2
Matrix: Solid
Date Collected: 09/14/22 08:35
Date Received: 09/14/22 11:40
Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/15/22 12:00*	*09/15/22 13:49*	*25*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.234**		0.0998	mg/Kg			09/15/22 14:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1470**		49.9	mg/Kg			09/15/22 17:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/15/22 08:44	09/15/22 12:46	1
Diesel Range Organics (Over C10-C28)	**1470**		49.9	mg/Kg		09/15/22 08:44	09/15/22 12:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/15/22 08:44	09/15/22 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*115*		*70 - 130*	*09/15/22 08:44*	*09/15/22 12:46*	*1*
o-Terphenyl	*119*		*70 - 130*	*09/15/22 08:44*	*09/15/22 12:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1760**		24.9	mg/Kg			09/15/22 13:06	5

Client Sample ID: FS03

Lab Sample ID: 890-2955-3
Matrix: Solid
Date Collected: 09/14/22 09:40
Date Received: 09/14/22 11:40
Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.121**		0.0996	mg/Kg		09/15/22 12:00	09/15/22 14:10	50
Toluene	**0.685**		0.0996	mg/Kg		09/15/22 12:00	09/15/22 14:10	50
Ethylbenzene	**1.69**		0.0996	mg/Kg		09/15/22 12:00	09/15/22 14:10	50
m-Xylene & p-Xylene	**8.94**		0.199	mg/Kg		09/15/22 12:00	09/15/22 14:10	50
o-Xylene	**6.60**		0.0996	mg/Kg		09/15/22 12:00	09/15/22 14:10	50
Xylenes, Total	**15.5**		0.199	mg/Kg		09/15/22 12:00	09/15/22 14:10	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*210*	*S1+*	*70 - 130*	*09/15/22 12:00*	*09/15/22 14:10*	*50*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*09/15/22 12:00*	*09/15/22 14:10*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**18.0**		0.199	mg/Kg			09/15/22 14:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**5330**		250	mg/Kg			09/15/22 17:29	1

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS03

Lab Sample ID: 890-2955-3
Matrix: Solid
Date Collected: 09/14/22 09:40
Date Received: 09/14/22 11:40
Sample Depth: 4.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**1340**		250		mg/Kg		09/15/22 08:44	09/15/22 13:06	5
Diesel Range Organics (Over C10-C28)	**3990**		250		mg/Kg		09/15/22 08:44	09/15/22 13:06	5
Oil Range Organics (Over C28-C36)	<250	U	250		mg/Kg		09/15/22 08:44	09/15/22 13:06	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*09/15/22 08:44*	*09/15/22 13:06*	*5*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*09/15/22 08:44*	*09/15/22 13:06*	*5*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2690**		25.3		mg/Kg			09/15/22 13:11	5

Client Sample ID: FS04

Lab Sample ID: 890-2955-4
Matrix: Solid
Date Collected: 09/14/22 09:45
Date Received: 09/14/22 11:40
Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.199	U	0.199		mg/Kg		09/15/22 12:00	09/15/22 14:30	100
Toluene	**0.927**		0.199		mg/Kg		09/15/22 12:00	09/15/22 14:30	100
Ethylbenzene	**1.69**		0.199		mg/Kg		09/15/22 12:00	09/15/22 14:30	100
m-Xylene & p-Xylene	**8.50**		0.398		mg/Kg		09/15/22 12:00	09/15/22 14:30	100
o-Xylene	**4.12**		0.199		mg/Kg		09/15/22 12:00	09/15/22 14:30	100
Xylenes, Total	**12.6**		0.398		mg/Kg		09/15/22 12:00	09/15/22 14:30	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*158*	*S1+*	*70 - 130*	*09/15/22 12:00*	*09/15/22 14:30*	*100*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/15/22 12:00*	*09/15/22 14:30*	*100*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**15.2**		0.398		mg/Kg			09/15/22 14:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2270**		49.9		mg/Kg			09/15/22 17:29	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	**863**		49.9		mg/Kg		09/15/22 08:44	09/15/22 12:25	1
Diesel Range Organics (Over C10-C28)	**1410**		49.9		mg/Kg		09/15/22 08:44	09/15/22 12:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/15/22 08:44	09/15/22 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*09/15/22 08:44*	*09/15/22 12:25*	*1*
o-Terphenyl	*118*		*70 - 130*	*09/15/22 08:44*	*09/15/22 12:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS04
Date Collected: 09/14/22 09:45
Date Received: 09/14/22 11:40
Sample Depth: 4.5

Lab Sample ID: 890-2955-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2430		24.9		mg/Kg			09/15/22 13:16	5

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2884-A-1-C MS	Matrix Spike	135 S1+	100
890-2884-A-1-D MSD	Matrix Spike Duplicate	115	104
890-2955-1	FS01	172 S1+	117
890-2955-2	FS02	177 S1+	99
890-2955-3	FS03	210 S1+	117
890-2955-4	FS04	158 S1+	102
LCS 880-34407/1-A	Lab Control Sample	137 S1+	99
LCSD 880-34407/2-A	Lab Control Sample Dup	117	105
MB 880-34407/5-A	Method Blank	97	90

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)
890-2943-A-29-E MS	Matrix Spike	102	98
890-2943-A-29-F MSD	Matrix Spike Duplicate	102	97
890-2955-1	FS01	114	119
890-2955-2	FS02	115	119
890-2955-3	FS03	129	133 S1+
890-2955-4	FS04	121	118
LCS 880-34554/2-A	Lab Control Sample	101	118
LCSD 880-34554/3-A	Lab Control Sample Dup	100	117
MB 880-34554/1-A	Method Blank	133 S1+	150 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34407/5-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34407

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/22 13:45	09/15/22 11:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/22 13:45	09/15/22 11:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:04*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/13/22 13:45*	*09/15/22 11:04*	*1*

Lab Sample ID: LCS 880-34407/1-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08219		mg/Kg		82	70 - 130		
Toluene			0.100	0.08712		mg/Kg		87	70 - 130		
Ethylbenzene			0.100	0.09973		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2205		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1268		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-34407/2-A
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	18	35
Toluene			0.100	0.09118		mg/Kg		91	70 - 130	5	35
Ethylbenzene			0.100	0.09852		mg/Kg		99	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2005		mg/Kg		100	70 - 130	9	35
o-Xylene			0.100	0.1158		mg/Kg		116	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-2884-A-1-C MS
Matrix: Solid
Analysis Batch: 34550

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.08237		mg/Kg		83	70 - 130		
Toluene	<0.00201	U	0.0998	0.08496		mg/Kg		85	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

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

Lab Sample ID: 890-2884-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34550 — **Prep Batch: 34407**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.09708		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2077		mg/Kg		104	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1183		mg/Kg		119	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2884-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34550 — **Prep Batch: 34407**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.101	0.08520		mg/Kg		85	70 - 130	3	35
Toluene	<0.00201	U	0.101	0.07851		mg/Kg		78	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.101	0.08300		mg/Kg		83	70 - 130	16	35
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1705		mg/Kg		85	70 - 130	20	35
o-Xylene	<0.00201	U	0.101	0.09629		mg/Kg		96	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

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

Lab Sample ID: MB 880-34554/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34548 — **Prep Batch: 34554**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/15/22 08:44	09/15/22 09:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/15/22 08:44	09/15/22 09:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/15/22 08:44	09/15/22 09:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*09/15/22 08:44*	*09/15/22 09:19*	*1*
o-Terphenyl	*150*	*S1+*	*70 - 130*	*09/15/22 08:44*	*09/15/22 09:19*	*1*

Lab Sample ID: LCS 880-34554/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34548 — **Prep Batch: 34554**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	830.3		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	1000	901.2		mg/Kg		90	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

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

Lab Sample ID: LCS 880-34554/2-A
Matrix: Solid
Analysis Batch: 34548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34554

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-34554/3-A
Matrix: Solid
Analysis Batch: 34548

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34554

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	805.4		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	890.3		mg/Kg		89	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: 890-2943-A-29-E MS
Matrix: Solid
Analysis Batch: 34548

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34554

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1049		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	176		996	1029		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-2943-A-29-F MSD
Matrix: Solid
Analysis Batch: 34548

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34554

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1078		mg/Kg		108	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	176		999	1034		mg/Kg		86	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34582/1-A
Matrix: Solid
Analysis Batch: 34594

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/15/22 12:37	1

Lab Sample ID: LCS 880-34582/2-A
Matrix: Solid
Analysis Batch: 34594

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-34582/3-A
Matrix: Solid
Analysis Batch: 34594

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	236.0		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-2955-1 MS
Matrix: Solid
Analysis Batch: 34594

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3640		1260	4899		mg/Kg		100	90 - 110		

Lab Sample ID: 890-2955-1 MSD
Matrix: Solid
Analysis Batch: 34594

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3640		1260	4907		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

GC VOA

Prep Batch: 34407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	5035	
890-2955-2	FS02	Total/NA	Solid	5035	
890-2955-3	FS03	Total/NA	Solid	5035	
890-2955-4	FS04	Total/NA	Solid	5035	
MB 880-34407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2884-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2884-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 34550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	8021B	34407
890-2955-2	FS02	Total/NA	Solid	8021B	34407
890-2955-3	FS03	Total/NA	Solid	8021B	34407
890-2955-4	FS04	Total/NA	Solid	8021B	34407
MB 880-34407/5-A	Method Blank	Total/NA	Solid	8021B	34407
LCS 880-34407/1-A	Lab Control Sample	Total/NA	Solid	8021B	34407
LCSD 880-34407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34407
890-2884-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	34407
890-2884-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34407

Analysis Batch: 34599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	Total BTEX	
890-2955-2	FS02	Total/NA	Solid	Total BTEX	
890-2955-3	FS03	Total/NA	Solid	Total BTEX	
890-2955-4	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	8015B NM	34554
890-2955-2	FS02	Total/NA	Solid	8015B NM	34554
890-2955-3	FS03	Total/NA	Solid	8015B NM	34554
890-2955-4	FS04	Total/NA	Solid	8015B NM	34554
MB 880-34554/1-A	Method Blank	Total/NA	Solid	8015B NM	34554
LCS 880-34554/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34554
LCSD 880-34554/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34554
890-2943-A-29-E MS	Matrix Spike	Total/NA	Solid	8015B NM	34554
890-2943-A-29-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34554

Prep Batch: 34554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	8015NM Prep	
890-2955-2	FS02	Total/NA	Solid	8015NM Prep	
890-2955-3	FS03	Total/NA	Solid	8015NM Prep	
890-2955-4	FS04	Total/NA	Solid	8015NM Prep	
MB 880-34554/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34554/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

GC Semi VOA (Continued)

Prep Batch: 34554 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-34554/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2943-A-29-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2943-A-29-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Total/NA	Solid	8015 NM	
890-2955-2	FS02	Total/NA	Solid	8015 NM	
890-2955-3	FS03	Total/NA	Solid	8015 NM	
890-2955-4	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Soluble	Solid	DI Leach	
890-2955-2	FS02	Soluble	Solid	DI Leach	
890-2955-3	FS03	Soluble	Solid	DI Leach	
890-2955-4	FS04	Soluble	Solid	DI Leach	
MB 880-34582/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34582/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34582/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2955-1 MS	FS01	Soluble	Solid	DI Leach	
890-2955-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 34594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2955-1	FS01	Soluble	Solid	300.0	34582
890-2955-2	FS02	Soluble	Solid	300.0	34582
890-2955-3	FS03	Soluble	Solid	300.0	34582
890-2955-4	FS04	Soluble	Solid	300.0	34582
MB 880-34582/1-A	Method Blank	Soluble	Solid	300.0	34582
LCS 880-34582/2-A	Lab Control Sample	Soluble	Solid	300.0	34582
LCSD 880-34582/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34582
890-2955-1 MS	FS01	Soluble	Solid	300.0	34582
890-2955-1 MSD	FS01	Soluble	Solid	300.0	34582

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS01
Date Collected: 09/14/22 09:35
Date Received: 09/14/22 11:40

Lab Sample ID: 890-2955-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	34407	09/15/22 12:00	MR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	34550	09/15/22 13:29	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34599	09/15/22 14:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			34619	09/15/22 17:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34554	09/15/22 08:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34548	09/15/22 13:27	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	34582	09/15/22 11:12	SMC	EET MID
Soluble	Analysis	300.0		5			34594	09/15/22 12:52	CH	EET MID

Client Sample ID: FS02
Date Collected: 09/14/22 08:35
Date Received: 09/14/22 11:40

Lab Sample ID: 890-2955-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	34407	09/15/22 12:00	MR	EET MID
Total/NA	Analysis	8021B		25	5 mL	5 mL	34550	09/15/22 13:49	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34599	09/15/22 14:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			34619	09/15/22 17:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34554	09/15/22 08:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34548	09/15/22 12:46	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	34582	09/15/22 11:12	SMC	EET MID
Soluble	Analysis	300.0		5			34594	09/15/22 13:06	CH	EET MID

Client Sample ID: FS03
Date Collected: 09/14/22 09:40
Date Received: 09/14/22 11:40

Lab Sample ID: 890-2955-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	34407	09/15/22 12:00	MR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	34550	09/15/22 14:10	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34599	09/15/22 14:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			34619	09/15/22 17:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34554	09/15/22 08:44	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	34548	09/15/22 13:06	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	34582	09/15/22 11:12	SMC	EET MID
Soluble	Analysis	300.0		5			34594	09/15/22 13:11	CH	EET MID

Client Sample ID: FS04
Date Collected: 09/14/22 09:45
Date Received: 09/14/22 11:40

Lab Sample ID: 890-2955-4
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			5.03 g	5 mL	34407	09/15/22 12:00	MR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	34550	09/15/22 14:30	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34599	09/15/22 14:47	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Client Sample ID: FS04

Date Collected: 09/14/22 09:45
Date Received: 09/14/22 11:40

Lab Sample ID: 890-2955-4

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			34619	09/15/22 17:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34554	09/15/22 08:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34548	09/15/22 12:25	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34582	09/15/22 11:12	SMC	EET MID
Soluble	Analysis	300.0		5			34594	09/15/22 13:16	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: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

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: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

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: ADU 624-641

Job ID: 890-2955-1
SDG: 03E1558026/O3E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2955-1	FS01	Solid	09/14/22 09:35	09/14/22 11:40	4.5
890-2955-2	FS02	Solid	09/14/22 08:35	09/14/22 11:40	4
890-2955-3	FS03	Solid	09/14/22 09:40	09/14/22 11:40	4.5
890-2955-4	FS04	Solid	09/14/22 09:45	09/14/22 11:40	4.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kate Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energies
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503 Email:		kjennings@ensolum.com

Work Order Comments

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

Project Name:	ADL 624/641	Turn Around	☐ Routine ☑ Rush
Project Number:	03E1558026/03E1558046	Pres. Code	
Project Location:	32.53378, -104.20155	Due Date:	1 day
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TMM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	9.6
Total Containers:		Corrected Temperature:	9.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	Chlorides
FS01	S	9/14/22	0935	4.5'	C	1	X	X	X
FS02	S	9/14/22	0835	4'	C	1	X	X	X
FS03	S	9/14/22	0940	4.5'	C	1	X	X	X
FS04	S	9/14/22	0945	4.5'	C	1	X	X	X

890-2955 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
NaHSO$_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident #s:
NAPP2123634554
NAPP2215449179

Cost Center (s):
1136153001
1136141001

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2	9.14.22 1146	3	4	
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2955-1
SDG Number: 03E1558026/O3E1558062

Login Number: 2955
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2955-1
SDG Number: 03E1558026/O3E1558062

Login Number: 2955
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/15/22 10:32 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: 890-2983-1
Laboratory Sample Delivery Group: 03E1558026/03E1558062
Client Project/Site: ADU 624/641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/27/2022 10:23:10 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: ADU 624/641

Laboratory Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2983-1
Project/Site: ADU 624/641 SDG: 03E1558026/03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Job ID: 890-2983-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2983-1

Receipt
The samples were received on 9/15/2022 3:09 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 5.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35106 and analytical batch 880-35227 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS09 (890-2983-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: LCSD biased low. Since only an acceptable LCS is required per the method, the data has been qualified and reported. (LCSD 880-35199/2-A)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35199 and analytical batch 880-35329 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34748 and analytical batch 880-34751 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34930 and 880-34930 and analytical batch 880-35027 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 880-34671 and analytical batch 880-34985 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: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW01

Lab Sample ID: 890-2983-1
Matrix: Solid
Date Collected: 09/12/22 13:15
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/21/22 15:42	09/23/22 11:16	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		09/21/22 15:42	09/23/22 11:16	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		09/21/22 15:42	09/23/22 11:16	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		09/21/22 15:42	09/23/22 11:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/21/22 15:42	09/23/22 11:16	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		09/21/22 15:42	09/23/22 11:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*09/21/22 15:42*	*09/23/22 11:16*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/21/22 15:42*	*09/23/22 11:16*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/20/22 11:21	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 F1 F2	49.9		mg/Kg		09/19/22 08:34	09/19/22 18:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 18:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*09/19/22 08:34*	*09/19/22 18:41*	*1*
o-Terphenyl	*88*		*70 - 130*	*09/19/22 08:34*	*09/19/22 18:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**	**F1**	5.04		mg/Kg			09/21/22 12:42	1

Client Sample ID: SW02

Lab Sample ID: 890-2983-2
Matrix: Solid
Date Collected: 09/12/22 13:20
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/21/22 15:42	09/23/22 12:38	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/21/22 15:42	09/23/22 12:38	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/21/22 15:42	09/23/22 12:38	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/21/22 15:42	09/23/22 12:38	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/21/22 15:42	09/23/22 12:38	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/21/22 15:42	09/23/22 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*09/21/22 15:42*	*09/23/22 12:38*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW02

Date Collected: 09/12/22 13:20
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Lab Sample ID: 890-2983-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*09/21/22 15:42*	*09/23/22 12:38*	*1*

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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 19:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 19:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*09/19/22 08:34*	*09/19/22 19:46*	*1*
o-Terphenyl	*105*		*70 - 130*	*09/19/22 08:34*	*09/19/22 19:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.9**		4.97		mg/Kg			09/21/22 13:11	1

Client Sample ID: SW04

Date Collected: 09/12/22 13:30
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Lab Sample ID: 890-2983-3
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		09/21/22 15:42	09/23/22 12:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 12:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 12:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/21/22 15:42	09/23/22 12:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 12:58	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/21/22 15:42	09/23/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/21/22 15:42*	*09/23/22 12:58*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*09/21/22 15:42*	*09/23/22 12:58*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/20/22 11:21	1

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW04

Lab Sample ID: 890-2983-3
Matrix: Solid
Date Collected: 09/12/22 13:30
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 20:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 20:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:08*	*1*
o-Terphenyl	*103*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**498**		4.98		mg/Kg			09/21/22 13:16	1

Client Sample ID: SW05

Lab Sample ID: 890-2983-4
Matrix: Solid
Date Collected: 09/12/22 13:35
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 13:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 13:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 13:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 15:42	09/23/22 13:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 13:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 15:42	09/23/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/21/22 15:42*	*09/23/22 13:19*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*09/21/22 15:42*	*09/23/22 13:19*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 20:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 20:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:29*	*1*
o-Terphenyl	*94*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:29*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW05

Lab Sample ID: 890-2983-4
Matrix: Solid
Date Collected: 09/12/22 13:35
Date Received: 09/15/22 15:09
Sample Depth: 0-4.5'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.2**		4.99		mg/Kg			09/21/22 13:22	1

Client Sample ID: SW08

Lab Sample ID: 890-2983-5
Matrix: Solid
Date Collected: 09/13/22 13:30
Date Received: 09/15/22 15:09
Sample Depth: 0-4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *1	0.00202		mg/Kg		09/22/22 15:49	09/24/22 21:02	1
Toluene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 21:02	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 21:02	1
m-Xylene & p-Xylene	<0.00404	U *-	0.00404		mg/Kg		09/22/22 15:49	09/24/22 21:02	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 21:02	1
Xylenes, Total	<0.00404	U *-	0.00404		mg/Kg		09/22/22 15:49	09/24/22 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:02*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:02*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**35.1**		50.0		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 20:50	1
Diesel Range Organics (Over C10-C28)	**35.1**		50.0		mg/Kg		09/19/22 08:34	09/19/22 20:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:50*	*1*
o-Terphenyl	*97*		*70 - 130*	*09/19/22 08:34*	*09/19/22 20:50*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**537**		4.95		mg/Kg			09/21/22 13:26	1

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW07

Lab Sample ID: 890-2983-6
Matrix: Solid
Date Collected: 09/13/22 13:25
Date Received: 09/15/22 15:09
Sample Depth: 0-4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *1	0.00200		mg/Kg		09/22/22 15:49	09/24/22 21:23	1
Toluene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 21:23	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 21:23	1
m-Xylene & p-Xylene	<0.00399	U *-	0.00399		mg/Kg		09/22/22 15:49	09/24/22 21:23	1
o-Xylene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 21:23	1
Xylenes, Total	<0.00399	U *-	0.00399		mg/Kg		09/22/22 15:49	09/24/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:23*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:23*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**49.0**		50.0		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 21:12	1
Diesel Range Organics (Over C10-C28)	**49.0**		50.0		mg/Kg		09/19/22 08:34	09/19/22 21:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:12*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		24.9		mg/Kg			09/21/22 18:21	5

Client Sample ID: FS05

Lab Sample ID: 890-2983-7
Matrix: Solid
Date Collected: 09/15/22 11:55
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *1	0.00199		mg/Kg		09/22/22 15:49	09/24/22 21:43	1
Toluene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 21:43	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 21:43	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 21:43	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 21:43	1
Xylenes, Total	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:43*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS05

Lab Sample ID: 890-2983-7
Matrix: Solid
Date Collected: 09/15/22 11:55
Date Received: 09/15/22 15:09
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*09/22/22 15:49*	*09/24/22 21:43*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**135**		49.9	mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/19/22 08:34	09/19/22 21:33	1
Diesel Range Organics (Over C10-C28)	**135**		49.9	mg/Kg		09/19/22 08:34	09/19/22 21:33	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/19/22 08:34	09/19/22 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:33*	*1*
o-Terphenyl	*87*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:33*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**515**		4.95	mg/Kg			09/21/22 18:36	1

Client Sample ID: FS06

Lab Sample ID: 890-2983-8
Matrix: Solid
Date Collected: 09/14/22 11:00
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *1	0.00200	mg/Kg		09/22/22 15:49	09/24/22 22:04	1
Toluene	<0.00200	U *-	0.00200	mg/Kg		09/22/22 15:49	09/24/22 22:04	1
Ethylbenzene	<0.00200	U *-	0.00200	mg/Kg		09/22/22 15:49	09/24/22 22:04	1
m-Xylene & p-Xylene	<0.00399	U *-	0.00399	mg/Kg		09/22/22 15:49	09/24/22 22:04	1
o-Xylene	<0.00200	U *-	0.00200	mg/Kg		09/22/22 15:49	09/24/22 22:04	1
Xylenes, Total	<0.00399	U *-	0.00399	mg/Kg		09/22/22 15:49	09/24/22 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:04*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			09/20/22 11:21	1

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS06

Lab Sample ID: 890-2983-8
Matrix: Solid
Date Collected: 09/14/22 11:00
Date Received: 09/15/22 15:09
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 21:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 21:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:55*	*1*
o-Terphenyl	*107*		*70 - 130*	*09/19/22 08:34*	*09/19/22 21:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1770**		24.8		mg/Kg			09/21/22 18:40	5

Client Sample ID: FS07

Lab Sample ID: 890-2983-9
Matrix: Solid
Date Collected: 09/15/22 12:00
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *1	0.00202		mg/Kg		09/22/22 15:49	09/24/22 22:24	1
Toluene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 22:24	1
Ethylbenzene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 22:24	1
m-Xylene & p-Xylene	<0.00404	U *-	0.00404		mg/Kg		09/22/22 15:49	09/24/22 22:24	1
o-Xylene	<0.00202	U *-	0.00202		mg/Kg		09/22/22 15:49	09/24/22 22:24	1
Xylenes, Total	<0.00404	U *-	0.00404		mg/Kg		09/22/22 15:49	09/24/22 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:24*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:24*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**93.5**		49.9		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 22:16	1
Diesel Range Organics (Over C10-C28)	**93.5**		49.9		mg/Kg		09/19/22 08:34	09/19/22 22:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*09/19/22 08:34*	*09/19/22 22:16*	*1*
o-Terphenyl	*98*		*70 - 130*	*09/19/22 08:34*	*09/19/22 22:16*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS07

Lab Sample ID: 890-2983-9
Matrix: Solid
Date Collected: 09/15/22 12:00
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2020**		24.9		mg/Kg			09/21/22 18:45	5

Client Sample ID: FS08

Lab Sample ID: 890-2983-10
Matrix: Solid
Date Collected: 09/15/22 12:05
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *1	0.00200		mg/Kg		09/22/22 15:49	09/24/22 22:44	1
Toluene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 22:44	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 22:44	1
m-Xylene & p-Xylene	<0.00399	U *-	0.00399		mg/Kg		09/22/22 15:49	09/24/22 22:44	1
o-Xylene	<0.00200	U *-	0.00200		mg/Kg		09/22/22 15:49	09/24/22 22:44	1
Xylenes, Total	<0.00399	U *-	0.00399		mg/Kg		09/22/22 15:49	09/24/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:44*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*09/22/22 15:49*	*09/24/22 22:44*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**564**		49.9		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 22:38	1
Diesel Range Organics (Over C10-C28)	**564**		49.9		mg/Kg		09/19/22 08:34	09/19/22 22:38	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/19/22 22:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*09/19/22 08:34*	*09/19/22 22:38*	*1*
o-Terphenyl	*113*		*70 - 130*	*09/19/22 08:34*	*09/19/22 22:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2170**		24.9		mg/Kg			09/21/22 18:50	5

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS09

Lab Sample ID: 890-2983-11
Matrix: Solid
Date Collected: 09/15/22 13:40
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *1	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:05	1
Toluene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:05	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:05	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 23:05	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:05	1
Xylenes, Total	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*09/22/22 15:49*	*09/24/22 23:05*	*1*
1,4-Difluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*09/22/22 15:49*	*09/24/22 23:05*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**267**		50.0		mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 23:21	1
Diesel Range Organics (Over C10-C28)	**267**		50.0		mg/Kg		09/19/22 08:34	09/19/22 23:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*09/19/22 08:34*	*09/19/22 23:21*	*1*
o-Terphenyl	*117*		*70 - 130*	*09/19/22 08:34*	*09/19/22 23:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2240**		25.2		mg/Kg			09/21/22 18:55	5

Client Sample ID: FS10

Lab Sample ID: 890-2983-12
Matrix: Solid
Date Collected: 09/15/22 13:45
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *1	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:25	1
Toluene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:25	1
Ethylbenzene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:25	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 23:25	1
o-Xylene	<0.00199	U *-	0.00199		mg/Kg		09/22/22 15:49	09/24/22 23:25	1
Xylenes, Total	<0.00398	U *-	0.00398		mg/Kg		09/22/22 15:49	09/24/22 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/22/22 15:49*	*09/24/22 23:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS10

Lab Sample ID: 890-2983-12
Matrix: Solid
Date Collected: 09/15/22 13:45
Date Received: 09/15/22 15:09
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*09/22/22 15:49*	*09/24/22 23:25*	*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			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			09/20/22 11:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/19/22 08:34	09/19/22 23:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/19/22 08:34	09/19/22 23:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/19/22 08:34	09/19/22 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*09/19/22 08:34*	*09/19/22 23:42*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/19/22 08:34*	*09/19/22 23:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3030**		25.0	mg/Kg			09/21/22 19:00	5

Client Sample ID: FS11

Lab Sample ID: 890-2983-13
Matrix: Solid
Date Collected: 09/15/22 13:50
Date Received: 09/15/22 15:09
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *1	0.00201	mg/Kg		09/22/22 15:49	09/24/22 23:46	1
Toluene	<0.00201	U *-	0.00201	mg/Kg		09/22/22 15:49	09/24/22 23:46	1
Ethylbenzene	<0.00201	U *-	0.00201	mg/Kg		09/22/22 15:49	09/24/22 23:46	1
m-Xylene & p-Xylene	<0.00402	U *-	0.00402	mg/Kg		09/22/22 15:49	09/24/22 23:46	1
o-Xylene	<0.00201	U *-	0.00201	mg/Kg		09/22/22 15:49	09/24/22 23:46	1
Xylenes, Total	<0.00402	U *-	0.00402	mg/Kg		09/22/22 15:49	09/24/22 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/22/22 15:49*	*09/24/22 23:46*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*09/22/22 15:49*	*09/24/22 23:46*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/23/22 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**50.2**		49.9	mg/Kg			09/20/22 11:21	1

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS11

Date Collected: 09/15/22 13:50
Date Received: 09/15/22 15:09
Sample Depth: 4'

Lab Sample ID: 890-2983-13

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/20/22 00:04	1
Diesel Range Organics (Over C10-C28)	**50.2**		49.9		mg/Kg		09/19/22 08:34	09/20/22 00:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/19/22 08:34	09/20/22 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*09/19/22 08:34*	*09/20/22 00:04*	*1*
o-Terphenyl	*102*		*70 - 130*	*09/19/22 08:34*	*09/20/22 00:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2880**		24.8		mg/Kg			09/21/22 19:05	5

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2965-A-1-E MS	Matrix Spike	82	109
890-2965-A-1-F MSD	Matrix Spike Duplicate	81	111
890-2983-1	SW01	112	87
890-2983-1 MS	SW01	114	108
890-2983-1 MSD	SW01	128	109
890-2983-2	SW02	111	82
890-2983-3	SW04	102	82
890-2983-4	SW05	113	88
890-2983-5	SW08	100	114
890-2983-6	SW07	95	111
890-2983-7	FS05	78	110
890-2983-8	FS06	84	105
890-2983-9	FS07	85	111
890-2983-10	FS08	93	106
890-2983-11	FS09	101	137 S1+
890-2983-12	FS10	84	103
890-2983-13	FS11	113	122
LCS 880-35106/1-A	Lab Control Sample	116	110
LCS 880-35199/1-A	Lab Control Sample	85	108
LCSD 880-35106/2-A	Lab Control Sample Dup	111	107
LCSD 880-35199/2-A	Lab Control Sample Dup	84	101
MB 880-35106/5-A	Method Blank	100	82
MB 880-35199/5-A	Method Blank	103	119

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)
890-2983-1	SW01	93	88
890-2983-1 MS	SW01	104	91
890-2983-1 MSD	SW01	106	81
890-2983-2	SW02	117	105
890-2983-3	SW04	116	103
890-2983-4	SW05	101	94
890-2983-5	SW08	104	97
890-2983-6	SW07	100	95
890-2983-7	FS05	95	87
890-2983-8	FS06	116	107
890-2983-9	FS07	103	98
890-2983-10	FS08	122	113
890-2983-11	FS09	128	117
890-2983-12	FS10	99	95
890-2983-13	FS11	107	102
LCS 880-34748/2-A	Lab Control Sample	107	83

Surrogate Summary

Client: Ensolum Job ID: 890-2983-1
Project/Site: ADU 624/641 SDG: 03E1558026/03E1558062

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
LCSD 880-34748/3-A	Lab Control Sample Dup	119	104								
MB 880-34748/1-A	Method Blank	95	92								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35106/5-A
Matrix: Solid
Analysis Batch: 35227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35106

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 10:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 15:42	09/23/22 10:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 15:42	09/23/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 15:42	09/23/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/21/22 15:42*	*09/23/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*09/21/22 15:42*	*09/23/22 10:54*	*1*

Lab Sample ID: LCS 880-35106/1-A
Matrix: Solid
Analysis Batch: 35227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35106

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09892		mg/Kg		99	70 - 130		
Toluene			0.100	0.08708		mg/Kg		87	70 - 130		
Ethylbenzene			0.100	0.09190		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1865		mg/Kg		93	70 - 130		
o-Xylene			0.100	0.1078		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-35106/2-A
Matrix: Solid
Analysis Batch: 35227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35106

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08322		mg/Kg		83	70 - 130	17	35
Toluene			0.100	0.07379		mg/Kg		74	70 - 130	17	35
Ethylbenzene			0.100	0.07693		mg/Kg		77	70 - 130	18	35
m-Xylene & p-Xylene			0.200	0.1549		mg/Kg		77	70 - 130	19	35
o-Xylene			0.100	0.08963		mg/Kg		90	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-2983-1 MS
Matrix: Solid
Analysis Batch: 35227

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 35106

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.07743		mg/Kg		77	70 - 130		
Toluene	<0.00199	U F1	0.101	0.06299	F1	mg/Kg		62	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 890-2983-1 MS — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35227 — **Prep Batch: 35106**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.101	0.06867	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1219	F1	mg/Kg		60	70 - 130
o-Xylene	<0.00199	U	0.101	0.08513		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-2983-1 MSD — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35227 — **Prep Batch: 35106**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08097		mg/Kg		81	70 - 130	4	35
Toluene	<0.00199	U F1	0.0996	0.06641	F1	mg/Kg		67	70 - 130	5	35
Ethylbenzene	<0.00199	U F1	0.0996	0.07279		mg/Kg		73	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1252	F1	mg/Kg		63	70 - 130	3	35
o-Xylene	<0.00199	U	0.0996	0.09141		mg/Kg		92	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: MB 880-35199/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35329 — **Prep Batch: 35199**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/22 15:49	09/24/22 15:38	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/22 15:49	09/24/22 15:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*09/22/22 15:49*	*09/24/22 15:38*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/22/22 15:49*	*09/24/22 15:38*	*1*

Lab Sample ID: LCS 880-35199/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35329 — **Prep Batch: 35199**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1041		mg/Kg		104	70 - 130
Toluene	0.100	0.08298		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.07948		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1620		mg/Kg		81	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: LCS 880-35199/1-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35199

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.08134		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-35199/2-A
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35199

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07166	*1	mg/Kg		72	70 - 130	37	35
Toluene			0.100	0.05980	*-	mg/Kg		60	70 - 130	32	35
Ethylbenzene			0.100	0.05660	*-	mg/Kg		57	70 - 130	34	35
m-Xylene & p-Xylene			0.200	0.1165	*-	mg/Kg		58	70 - 130	33	35
o-Xylene			0.100	0.06050	*-	mg/Kg		60	70 - 130	29	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-2965-A-1-E MS
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U *1	0.0998	0.09137		mg/Kg		91	70 - 130		
Toluene	<0.00202	U *-	0.0998	0.07416		mg/Kg		73	70 - 130		
Ethylbenzene	<0.00202	U *- F1	0.0998	0.06651	F1	mg/Kg		66	70 - 130		
m-Xylene & p-Xylene	<0.00404	U *- F1	0.200	0.1323	F1	mg/Kg		65	70 - 130		
o-Xylene	<0.00202	U *- F1	0.0998	0.06601	F1	mg/Kg		65	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-2965-A-1-F MSD
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U *1	0.100	0.09751		mg/Kg		96	70 - 130	7	35
Toluene	<0.00202	U *-	0.100	0.07203		mg/Kg		70	70 - 130	3	35
Ethylbenzene	<0.00202	U *- F1	0.100	0.06391	F1	mg/Kg		63	70 - 130	4	35
m-Xylene & p-Xylene	<0.00404	U *- F1	0.201	0.1265	F1	mg/Kg		62	70 - 130	5	35
o-Xylene	<0.00202	U *- F1	0.100	0.06225	F1	mg/Kg		61	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 890-2965-A-1-F MSD
Matrix: Solid
Analysis Batch: 35329

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35199

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

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

Lab Sample ID: MB 880-34748/1-A
Matrix: Solid
Analysis Batch: 34751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34748

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 17:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 17:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/19/22 08:34	09/19/22 17:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	09/19/22 08:34	09/19/22 17:37	1
o-Terphenyl	92		70 - 130	09/19/22 08:34	09/19/22 17:37	1

Lab Sample ID: LCS 880-34748/2-A
Matrix: Solid
Analysis Batch: 34751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34748

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.7		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	894.2		mg/Kg		89	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: LCSD 880-34748/3-A
Matrix: Solid
Analysis Batch: 34751

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34748

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	959.7		mg/Kg		96	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1007		mg/Kg		101	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	104		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 890-2983-1 MS
Matrix: Solid
Analysis Batch: 34751

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 34748

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	996	1326	F1	mg/Kg		131	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1147		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-2983-1 MSD
Matrix: Solid
Analysis Batch: 34751

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 34748

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	999	1065	F2	mg/Kg		104	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1018		mg/Kg		99	70 - 130	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34671/1-A
Matrix: Solid
Analysis Batch: 34985

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/21/22 16:39	1

Lab Sample ID: LCS 880-34671/2-A
Matrix: Solid
Analysis Batch: 34985

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	250.2		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-34671/3-A
Matrix: Solid
Analysis Batch: 34985

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	250.9		mg/Kg		100	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-19309-A-31-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20700	F1	12500	38090	F1	mg/Kg		139	90 - 110

Lab Sample ID: 880-19309-A-31-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 34985

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20700	F1	12500	38040	F1	mg/Kg		139	90 - 110	0	20

Lab Sample ID: MB 880-34930/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35027

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/21/22 12:27	1

Lab Sample ID: LCS 880-34930/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35027

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	258.6		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-34930/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35027

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	240.8		mg/Kg		96	90 - 110	7	20

Lab Sample ID: 890-2983-1 MS — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35027

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	150	F1	252	373.6	F1	mg/Kg		89	90 - 110

Lab Sample ID: 890-2983-1 MSD — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35027

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	150	F1	252	396.4		mg/Kg		98	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

GC VOA

Prep Batch: 35106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	5035	
890-2983-2	SW02	Total/NA	Solid	5035	
890-2983-3	SW04	Total/NA	Solid	5035	
890-2983-4	SW05	Total/NA	Solid	5035	
MB 880-35106/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35106/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35106/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2983-1 MS	SW01	Total/NA	Solid	5035	
890-2983-1 MSD	SW01	Total/NA	Solid	5035	

Prep Batch: 35199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-5	SW08	Total/NA	Solid	5035	
890-2983-6	SW07	Total/NA	Solid	5035	
890-2983-7	FS05	Total/NA	Solid	5035	
890-2983-8	FS06	Total/NA	Solid	5035	
890-2983-9	FS07	Total/NA	Solid	5035	
890-2983-10	FS08	Total/NA	Solid	5035	
890-2983-11	FS09	Total/NA	Solid	5035	
890-2983-12	FS10	Total/NA	Solid	5035	
890-2983-13	FS11	Total/NA	Solid	5035	
MB 880-35199/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35199/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35199/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2965-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2965-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 35227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	8021B	35106
890-2983-2	SW02	Total/NA	Solid	8021B	35106
890-2983-3	SW04	Total/NA	Solid	8021B	35106
890-2983-4	SW05	Total/NA	Solid	8021B	35106
MB 880-35106/5-A	Method Blank	Total/NA	Solid	8021B	35106
LCS 880-35106/1-A	Lab Control Sample	Total/NA	Solid	8021B	35106
LCSD 880-35106/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35106
890-2983-1 MS	SW01	Total/NA	Solid	8021B	35106
890-2983-1 MSD	SW01	Total/NA	Solid	8021B	35106

Analysis Batch: 35300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	Total BTEX	
890-2983-2	SW02	Total/NA	Solid	Total BTEX	
890-2983-3	SW04	Total/NA	Solid	Total BTEX	
890-2983-4	SW05	Total/NA	Solid	Total BTEX	
890-2983-5	SW08	Total/NA	Solid	Total BTEX	
890-2983-6	SW07	Total/NA	Solid	Total BTEX	
890-2983-7	FS05	Total/NA	Solid	Total BTEX	
890-2983-8	FS06	Total/NA	Solid	Total BTEX	
890-2983-9	FS07	Total/NA	Solid	Total BTEX	
890-2983-10	FS08	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

GC VOA (Continued)

Analysis Batch: 35300 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-11	FS09	Total/NA	Solid	Total BTEX	
890-2983-12	FS10	Total/NA	Solid	Total BTEX	
890-2983-13	FS11	Total/NA	Solid	Total BTEX	

Analysis Batch: 35329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-5	SW08	Total/NA	Solid	8021B	35199
890-2983-6	SW07	Total/NA	Solid	8021B	35199
890-2983-7	FS05	Total/NA	Solid	8021B	35199
890-2983-8	FS06	Total/NA	Solid	8021B	35199
890-2983-9	FS07	Total/NA	Solid	8021B	35199
890-2983-10	FS08	Total/NA	Solid	8021B	35199
890-2983-11	FS09	Total/NA	Solid	8021B	35199
890-2983-12	FS10	Total/NA	Solid	8021B	35199
890-2983-13	FS11	Total/NA	Solid	8021B	35199
MB 880-35199/5-A	Method Blank	Total/NA	Solid	8021B	35199
LCS 880-35199/1-A	Lab Control Sample	Total/NA	Solid	8021B	35199
LCSD 880-35199/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35199
890-2965-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	35199
890-2965-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35199

GC Semi VOA

Prep Batch: 34748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	8015NM Prep	
890-2983-2	SW02	Total/NA	Solid	8015NM Prep	
890-2983-3	SW04	Total/NA	Solid	8015NM Prep	
890-2983-4	SW05	Total/NA	Solid	8015NM Prep	
890-2983-5	SW08	Total/NA	Solid	8015NM Prep	
890-2983-6	SW07	Total/NA	Solid	8015NM Prep	
890-2983-7	FS05	Total/NA	Solid	8015NM Prep	
890-2983-8	FS06	Total/NA	Solid	8015NM Prep	
890-2983-9	FS07	Total/NA	Solid	8015NM Prep	
890-2983-10	FS08	Total/NA	Solid	8015NM Prep	
890-2983-11	FS09	Total/NA	Solid	8015NM Prep	
890-2983-12	FS10	Total/NA	Solid	8015NM Prep	
890-2983-13	FS11	Total/NA	Solid	8015NM Prep	
MB 880-34748/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34748/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34748/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2983-1 MS	SW01	Total/NA	Solid	8015NM Prep	
890-2983-1 MSD	SW01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	8015B NM	34748
890-2983-2	SW02	Total/NA	Solid	8015B NM	34748
890-2983-3	SW04	Total/NA	Solid	8015B NM	34748
890-2983-4	SW05	Total/NA	Solid	8015B NM	34748
890-2983-5	SW08	Total/NA	Solid	8015B NM	34748

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

GC Semi VOA (Continued)

Analysis Batch: 34751 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-6	SW07	Total/NA	Solid	8015B NM	34748
890-2983-7	FS05	Total/NA	Solid	8015B NM	34748
890-2983-8	FS06	Total/NA	Solid	8015B NM	34748
890-2983-9	FS07	Total/NA	Solid	8015B NM	34748
890-2983-10	FS08	Total/NA	Solid	8015B NM	34748
890-2983-11	FS09	Total/NA	Solid	8015B NM	34748
890-2983-12	FS10	Total/NA	Solid	8015B NM	34748
890-2983-13	FS11	Total/NA	Solid	8015B NM	34748
MB 880-34748/1-A	Method Blank	Total/NA	Solid	8015B NM	34748
LCS 880-34748/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34748
LCSD 880-34748/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34748
890-2983-1 MS	SW01	Total/NA	Solid	8015B NM	34748
890-2983-1 MSD	SW01	Total/NA	Solid	8015B NM	34748

Analysis Batch: 34936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Total/NA	Solid	8015 NM	
890-2983-2	SW02	Total/NA	Solid	8015 NM	
890-2983-3	SW04	Total/NA	Solid	8015 NM	
890-2983-4	SW05	Total/NA	Solid	8015 NM	
890-2983-5	SW08	Total/NA	Solid	8015 NM	
890-2983-6	SW07	Total/NA	Solid	8015 NM	
890-2983-7	FS05	Total/NA	Solid	8015 NM	
890-2983-8	FS06	Total/NA	Solid	8015 NM	
890-2983-9	FS07	Total/NA	Solid	8015 NM	
890-2983-10	FS08	Total/NA	Solid	8015 NM	
890-2983-11	FS09	Total/NA	Solid	8015 NM	
890-2983-12	FS10	Total/NA	Solid	8015 NM	
890-2983-13	FS11	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-6	SW07	Soluble	Solid	DI Leach	
890-2983-7	FS05	Soluble	Solid	DI Leach	
890-2983-8	FS06	Soluble	Solid	DI Leach	
890-2983-9	FS07	Soluble	Solid	DI Leach	
890-2983-10	FS08	Soluble	Solid	DI Leach	
890-2983-11	FS09	Soluble	Solid	DI Leach	
890-2983-12	FS10	Soluble	Solid	DI Leach	
890-2983-13	FS11	Soluble	Solid	DI Leach	
MB 880-34671/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34671/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34671/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19309-A-31-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19309-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 34930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

HPLC/IC (Continued)

Leach Batch: 34930 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-2	SW02	Soluble	Solid	DI Leach	
890-2983-3	SW04	Soluble	Solid	DI Leach	
890-2983-4	SW05	Soluble	Solid	DI Leach	
890-2983-5	SW08	Soluble	Solid	DI Leach	
MB 880-34930/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34930/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34930/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2983-1 MS	SW01	Soluble	Solid	DI Leach	
890-2983-1 MSD	SW01	Soluble	Solid	DI Leach	

Analysis Batch: 34985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-6	SW07	Soluble	Solid	300.0	34671
890-2983-7	FS05	Soluble	Solid	300.0	34671
890-2983-8	FS06	Soluble	Solid	300.0	34671
890-2983-9	FS07	Soluble	Solid	300.0	34671
890-2983-10	FS08	Soluble	Solid	300.0	34671
890-2983-11	FS09	Soluble	Solid	300.0	34671
890-2983-12	FS10	Soluble	Solid	300.0	34671
890-2983-13	FS11	Soluble	Solid	300.0	34671
MB 880-34671/1-A	Method Blank	Soluble	Solid	300.0	34671
LCS 880-34671/2-A	Lab Control Sample	Soluble	Solid	300.0	34671
LCSD 880-34671/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34671
880-19309-A-31-D MS	Matrix Spike	Soluble	Solid	300.0	34671
880-19309-A-31-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34671

Analysis Batch: 35027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2983-1	SW01	Soluble	Solid	300.0	34930
890-2983-2	SW02	Soluble	Solid	300.0	34930
890-2983-3	SW04	Soluble	Solid	300.0	34930
890-2983-4	SW05	Soluble	Solid	300.0	34930
890-2983-5	SW08	Soluble	Solid	300.0	34930
MB 880-34930/1-A	Method Blank	Soluble	Solid	300.0	34930
LCS 880-34930/2-A	Lab Control Sample	Soluble	Solid	300.0	34930
LCSD 880-34930/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34930
890-2983-1 MS	SW01	Soluble	Solid	300.0	34930
890-2983-1 MSD	SW01	Soluble	Solid	300.0	34930

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW01
Date Collected: 09/12/22 13:15
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-1
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	35106	09/21/22 15:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35227	09/23/22 11:16	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 18:41	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	34930	09/20/22 10:20	KS	EET MID
Soluble	Analysis	300.0		1			35027	09/21/22 12:42	CH	EET MID

Client Sample ID: SW02
Date Collected: 09/12/22 13:20
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-2
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			4.96 g	5 mL	35106	09/21/22 15:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35227	09/23/22 12:38	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 19:46	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34930	09/20/22 10:20	KS	EET MID
Soluble	Analysis	300.0		1			35027	09/21/22 13:11	CH	EET MID

Client Sample ID: SW04
Date Collected: 09/12/22 13:30
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-3
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	35106	09/21/22 15:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35227	09/23/22 12:58	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 20:08	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	34930	09/20/22 10:20	KS	EET MID
Soluble	Analysis	300.0		1			35027	09/21/22 13:16	CH	EET MID

Client Sample ID: SW05
Date Collected: 09/12/22 13:35
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	35106	09/21/22 15:42	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35227	09/23/22 13:19	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: SW05
Date Collected: 09/12/22 13:35
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-4
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			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 20:29	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34930	09/20/22 10:20	KS	EET MID
Soluble	Analysis	300.0		1			35027	09/21/22 13:22	CH	EET MID

Client Sample ID: SW08
Date Collected: 09/13/22 13:30
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 21:02	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 20:50	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34930	09/20/22 10:20	KS	EET MID
Soluble	Analysis	300.0		1			35027	09/21/22 13:26	CH	EET MID

Client Sample ID: SW07
Date Collected: 09/13/22 13:25
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 21:23	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 21:12	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 18:21	CH	EET MID

Client Sample ID: FS05
Date Collected: 09/15/22 11:55
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-7
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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 21:43	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 21:33	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS05
Date Collected: 09/15/22 11:55
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-7
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			5.05 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		1			34985	09/21/22 18:36	CH	EET MID

Client Sample ID: FS06
Date Collected: 09/14/22 11:00
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-8
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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 22:04	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 21:55	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 18:40	CH	EET MID

Client Sample ID: FS07
Date Collected: 09/15/22 12:00
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-9
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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 22:24	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 22:16	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 18:45	CH	EET MID

Client Sample ID: FS08
Date Collected: 09/15/22 12:05
Date Received: 09/15/22 15:09

Lab Sample ID: 890-2983-10
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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 22:44	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 22:38	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 18:50	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS09

Lab Sample ID: 890-2983-11

Date Collected: 09/15/22 13:40
Matrix: Solid
Date Received: 09/15/22 15:09

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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 23:05	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 23:21	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 18:55	CH	EET MID

Client Sample ID: FS10

Lab Sample ID: 890-2983-12

Date Collected: 09/15/22 13:45
Matrix: Solid
Date Received: 09/15/22 15:09

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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 23:25	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/19/22 23:42	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 19:00	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-2983-13

Date Collected: 09/15/22 13:50
Matrix: Solid
Date Received: 09/15/22 15:09

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	35199	09/22/22 15:49	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35329	09/24/22 23:46	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35300	09/23/22 17:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			34936	09/20/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34748	09/19/22 08:34	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34751	09/20/22 00:04	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34671	09/16/22 10:55	CH	EET MID
Soluble	Analysis	300.0		5			34985	09/21/22 19:05	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-2983-1
SDG: 03E1558026/03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2983-1	SW01	Solid	09/12/22 13:15	09/15/22 15:09	0-4.5'
890-2983-2	SW02	Solid	09/12/22 13:20	09/15/22 15:09	0-4.5'
890-2983-3	SW04	Solid	09/12/22 13:30	09/15/22 15:09	0-4.5'
890-2983-4	SW05	Solid	09/12/22 13:35	09/15/22 15:09	0-4.5'
890-2983-5	SW08	Solid	09/13/22 13:30	09/15/22 15:09	0-4'
890-2983-6	SW07	Solid	09/13/22 13:25	09/15/22 15:09	0-4'
890-2983-7	FS05	Solid	09/15/22 11:55	09/15/22 15:09	4'
890-2983-8	FS06	Solid	09/14/22 11:00	09/15/22 15:09	4'
890-2983-9	FS07	Solid	09/15/22 12:00	09/15/22 15:09	4'
890-2983-10	FS08	Solid	09/15/22 12:05	09/15/22 15:09	4'
890-2983-11	FS09	Solid	09/15/22 13:40	09/15/22 15:09	4'
890-2983-12	FS10	Solid	09/15/22 13:45	09/15/22 15:09	4'
890-2983-13	FS11	Solid	09/15/22 13:50	09/15/22 15:09	4'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503 Email:		kjennings@ensolum.com

Work Order Comments

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

Project Name:	ADU 624/641	Turn Around	
Project Number:	03E155B026/03E155004	☑ Routine ☐ Rush	
Project Location:	32.533718, -104.201153	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IAM 80
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

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides
SW01	S	9/12/22	1315	0-4.5	C	1		X	X	X
SW02			1320	0-4.5						
SW04			1330	0-4.5'						
SW05			1335	0-4.5						
SW08		9/13/22	1330	0-4'						
SW07		9/13/22	1325	0-4'						
FS05		9/15/22	1155	4'						
FS06		9/19/22	1100	4'						
FS07		9/15/22	1200	4'						
FS08		9/15/22	1205	4'						

890-2983 Chain of Custody

Sample Comments

Incident #s:
NAPP2123634554
NAPP2215449179

Cost Center(s):
1136151001
1136141001

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 Moore	Amanda Stuf	9/15/22 1500	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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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: _____

www.xenco.com Page 2 of 2

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	~~ADU 624/641~~	Turn Around	
Project Number:	03E1558026/03E1558027	☑ Routine ☐ Rush	
Project Location:	32.533778, -104.207753	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	HM-007	
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	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides
FS09	S	9/15/22	1340	4'	C	1		X	X	X
FS10	↓	↓	1345	↓	↓	↓		↓	↓	↓
FS11	↓	↓	1350	↓	↓	↓		↓	↓	↓

ANALYSIS REQUEST

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident #s:
NAPP2123634554
NAPP2215449179

Cost Center(s):
1136151001
1136141001

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/15/22 1509	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-926 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2983-1
Address: 1211 W Florida Ave,	Due Date Requested: 9/21/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: ADU 624/641	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SW01 (890-2983-1)	9/12/22	13 15 Mountain		Solid			X	X	X	X	X	1	
SW02 (890-2983-2)	9/12/22	13 20 Mountain		Solid			X	X	X	X	X	1	
SW04 (890-2983-3)	9/12/22	13 30 Mountain		Solid			X	X	X	X	X	1	
SW05 (890-2983-4)	9/12/22	13 35 Mountain		Solid			X	X	X	X	X	1	
SW08 (890-2983-5)	9/13/22	13 30 Mountain		Solid			X	X	X	X	X	1	
SW07 (890-2983-6)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS05 (890-2983-7)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS06 (890-2983-8)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS07 (890-2983-9)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	

Note. Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone. 575-988-3199 Fax. 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-926 2
Client Contact: Shipping/Receiving	Phone.	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-2983-1
Address: 1211 W Florida Ave	Due Date Requested: 9/21/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: ADU 624/641	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P - Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS08 (890-2983-10)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS09 (890-2983-11)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS10 (890-2983-12)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	
FS11 (890-2983-13)	9/16/22	10 56 Central		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2983-1
SDG Number: 03E1558026/03E1558062

Login Number: 2983
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: 890-2983-1
SDG Number: 03E1558026/03E1558062

Login Number: 2983
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 09/19/22 08:28 AM

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.	True	
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").	True	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3003-1
Laboratory Sample Delivery Group: 03E1558026/03E1558062
Client Project/Site: ADU 624/641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/3/2022 6:52:57 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: ADU 624/641

Laboratory Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3003-1
Project/Site: ADU 624/641 SDG: 03E1558026/03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
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: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Job ID: 890-3003-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3003-1

Receipt
The samples were received on 9/19/2022 3:28 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 5.6°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS04 (890-3003-3) and FS02 (890-3003-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCSD 880-35620/2-A) and (880-19424-A-41-E MS). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS04 (890-3003-3). 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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-35018 and analytical batch 880-35120 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS01

Lab Sample ID: 890-3003-1
Matrix: Solid
Date Collected: 09/19/22 10:40
Date Received: 09/19/22 15:28
Sample Depth: 6.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0198	U	0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:25	10
Toluene	**0.0374**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:25	10
Ethylbenzene	**0.653**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:25	10
m-Xylene & p-Xylene	**0.0603**		0.0396		mg/Kg		09/28/22 14:52	10/01/22 14:25	10
o-Xylene	**0.340**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:25	10
Xylenes, Total	**0.400**		0.0396		mg/Kg		09/28/22 14:52	10/01/22 14:25	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*09/28/22 14:52*	*10/01/22 14:25*	*10*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/28/22 14:52*	*10/01/22 14:25*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**1.09**		0.0396		mg/Kg			10/01/22 19:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**589**		50.0		mg/Kg			09/23/22 16:01	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	**185**	***1**	50.0		mg/Kg		09/21/22 08:32	09/23/22 02:18	1
Diesel Range Organics (Over C10-C28)	**404**		50.0		mg/Kg		09/21/22 08:32	09/23/22 02:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/23/22 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/21/22 08:32*	*09/23/22 02:18*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/22 08:32*	*09/23/22 02:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3590**		24.8		mg/Kg			09/22/22 18:24	5

Client Sample ID: FS03

Lab Sample ID: 890-3003-2
Matrix: Solid
Date Collected: 09/19/22 10:45
Date Received: 09/19/22 15:28
Sample Depth: 6.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0198	U	0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:45	10
Toluene	**0.0198**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:45	10
Ethylbenzene	**0.190**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:45	10
m-Xylene & p-Xylene	<0.0397	U	0.0397		mg/Kg		09/28/22 14:52	10/01/22 14:45	10
o-Xylene	**0.187**		0.0198		mg/Kg		09/28/22 14:52	10/01/22 14:45	10
Xylenes, Total	**0.187**		0.0397		mg/Kg		09/28/22 14:52	10/01/22 14:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*09/28/22 14:52*	*10/01/22 14:45*	*10*

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS03

Lab Sample ID: 890-3003-2
Matrix: Solid
Date Collected: 09/19/22 10:45
Date Received: 09/19/22 15:28
Sample Depth: 6.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/28/22 14:52*	*10/01/22 14:45*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.397**		0.0397		mg/Kg			10/01/22 19:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**342**		49.9		mg/Kg			09/23/22 16:01	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	**87.7**	***1**	49.9		mg/Kg		09/21/22 08:32	09/23/22 02:40	1
Diesel Range Organics (Over C10-C28)	**254**		49.9		mg/Kg		09/21/22 08:32	09/23/22 02:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*09/21/22 08:32*	*09/23/22 02:40*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/21/22 08:32*	*09/23/22 02:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3360**		24.8		mg/Kg			09/22/22 18:38	5

Client Sample ID: FS04

Lab Sample ID: 890-3003-3
Matrix: Solid
Date Collected: 09/19/22 10:50
Date Received: 09/19/22 15:28
Sample Depth: 6.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.03**		0.0497		mg/Kg		09/28/22 14:52	10/01/22 15:26	25
Toluene	**1.46**		0.0497		mg/Kg		09/28/22 14:52	10/01/22 15:26	25
Ethylbenzene	**8.02**		0.0497		mg/Kg		09/28/22 14:52	10/01/22 15:26	25
m-Xylene & p-Xylene	**21.9**	***+ *1**	0.399		mg/Kg		09/29/22 16:18	10/03/22 18:13	100
o-Xylene	**1.02**		0.0497		mg/Kg		09/28/22 14:52	10/01/22 15:26	25
Xylenes, Total	**30.2**	***+ *1**	0.399		mg/Kg		09/29/22 16:18	10/03/22 18:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*536*	*S1+*	*70 - 130*	*09/28/22 14:52*	*10/01/22 15:26*	*25*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*09/28/22 14:52*	*10/01/22 15:26*	*25*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**33.4**		0.399		mg/Kg			10/01/22 19:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3590**		49.9		mg/Kg			09/23/22 16:01	1

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS04

Lab Sample ID: 890-3003-3
Matrix: Solid
Date Collected: 09/19/22 10:50
Date Received: 09/19/22 15:28
Sample Depth: 6.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	1680	*1	49.9		mg/Kg		09/21/22 08:32	09/23/22 03:01	1
Diesel Range Organics (Over C10-C28)	1910		49.9		mg/Kg		09/21/22 08:32	09/23/22 03:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:01*	*1*
o-Terphenyl	*110*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1880		25.2		mg/Kg			09/22/22 18:43	5

Client Sample ID: FS02

Lab Sample ID: 890-3003-4
Matrix: Solid
Date Collected: 09/19/22 14:35
Date Received: 09/19/22 15:28
Sample Depth: 5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0618		0.0504		mg/Kg		09/28/22 14:52	10/01/22 15:47	25
Toluene	6.60		0.0504		mg/Kg		09/28/22 14:52	10/01/22 15:47	25
Ethylbenzene	8.91		0.0504		mg/Kg		09/28/22 14:52	10/01/22 15:47	25
m-Xylene & p-Xylene	19.3		0.101		mg/Kg		09/28/22 14:52	10/01/22 15:47	25
o-Xylene	1.39		0.0504		mg/Kg		09/28/22 14:52	10/01/22 15:47	25
Xylenes, Total	20.7		0.101		mg/Kg		09/28/22 14:52	10/01/22 15:47	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*145*	*S1+*	*70 - 130*	*09/28/22 14:52*	*10/01/22 15:47*	*25*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*09/28/22 14:52*	*10/01/22 15:47*	*25*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	36.3		0.101		mg/Kg			10/01/22 19:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	3410		50.0		mg/Kg			09/23/22 16:01	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	1570	*1	50.0		mg/Kg		09/21/22 08:32	09/23/22 03:23	1
Diesel Range Organics (Over C10-C28)	1840		50.0		mg/Kg		09/21/22 08:32	09/23/22 03:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/23/22 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:23*	*1*
o-Terphenyl	*96*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:23*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS02

Lab Sample ID: 890-3003-4
Matrix: Solid
Date Collected: 09/19/22 14:35
Date Received: 09/19/22 15:28
Sample Depth: 5'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4300**		50.5		mg/Kg			09/22/22 18:48	10

Client Sample ID: FS05

Lab Sample ID: 890-3003-5
Matrix: Solid
Date Collected: 09/19/22 14:40
Date Received: 09/19/22 15:28
Sample Depth: 5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.200	U *+ *1	0.200		mg/Kg		09/29/22 16:18	10/03/22 18:33	100
Toluene	**1.01**	***+ *1**	0.200		mg/Kg		09/29/22 16:18	10/03/22 18:33	100
Ethylbenzene	**0.492**	***+ *1**	0.200		mg/Kg		09/29/22 16:18	10/03/22 18:33	100
m-Xylene & p-Xylene	**6.69**	***+ *1**	0.399		mg/Kg		09/29/22 16:18	10/03/22 18:33	100
o-Xylene	**3.52**	***+ *1**	0.200		mg/Kg		09/29/22 16:18	10/03/22 18:33	100
Xylenes, Total	**10.2**	***+ *1**	0.399		mg/Kg		09/29/22 16:18	10/03/22 18:33	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*09/29/22 16:18*	*10/03/22 18:33*	*100*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/29/22 16:18*	*10/03/22 18:33*	*100*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**11.7**		0.399		mg/Kg			10/01/22 19:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1940**		49.9		mg/Kg			09/23/22 16:01	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	**719**	***1**	49.9		mg/Kg		09/21/22 08:32	09/23/22 03:44	1
Diesel Range Organics (Over C10-C28)	**1220**		49.9		mg/Kg		09/21/22 08:32	09/23/22 03:44	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 03:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:44*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/22 08:32*	*09/23/22 03:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3120**		24.9		mg/Kg			09/22/22 18:53	5

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-19424-A-41-E MS	Matrix Spike	131 S1+	108
880-19424-A-41-F MSD	Matrix Spike Duplicate	136 S1+	109
890-3003-1	FS01	129	98
890-3003-2	FS03	78	101
890-3003-3	FS04	536 S1+	75
890-3003-4	FS02	145 S1+	94
890-3003-5	FS05	107	87
890-3015-A-1-E MS	Matrix Spike	101	94
890-3015-A-1-F MSD	Matrix Spike Duplicate	108	107
LCS 880-35620/1-A	Lab Control Sample	127	104
LCS 880-35724/1-A	Lab Control Sample	76	73
LCSD 880-35620/2-A	Lab Control Sample Dup	140 S1+	106
LCSD 880-35724/2-A	Lab Control Sample Dup	128	123
MB 880-35620/5-A	Method Blank	107	86
MB 880-35630/5-A	Method Blank	101	89
MB 880-35692/5-A	Method Blank	99	83
MB 880-35724/5-A	Method Blank	100	76

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19424-A-53-C MS	Matrix Spike	85	76
880-19424-A-53-D MSD	Matrix Spike Duplicate	82	74
890-3003-1	FS01	105	95
890-3003-2	FS03	100	91
890-3003-3	FS04	118	110
890-3003-4	FS02	123	96
890-3003-5	FS05	113	95
LCS 880-35018/2-A	Lab Control Sample	113	105
LCSD 880-35018/3-A	Lab Control Sample Dup	98	86
MB 880-35018/1-A	Method Blank	105	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35620/5-A
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35620

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/28/22 14:52	10/01/22 07:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/28/22 14:52	10/01/22 07:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/28/22 14:52	10/01/22 07:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/28/22 14:52	10/01/22 07:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/28/22 14:52	10/01/22 07:33	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/28/22 14:52	10/01/22 07:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*09/28/22 14:52*	*10/01/22 07:33*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*09/28/22 14:52*	*10/01/22 07:33*	*1*

Lab Sample ID: LCS 880-35620/1-A
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35620

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09300		mg/Kg		93	70 - 130		
Toluene			0.100	0.08450		mg/Kg		85	70 - 130		
Ethylbenzene			0.100	0.09159		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1871		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.1192		mg/Kg		119	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-35620/2-A
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35620

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08642		mg/Kg		86	70 - 130	7	35
Toluene			0.100	0.08244		mg/Kg		82	70 - 130	2	35
Ethylbenzene			0.100	0.09331		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1962		mg/Kg		98	70 - 130	5	35
o-Xylene			0.100	0.1206		mg/Kg		121	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-19424-A-41-E MS
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.09638		mg/Kg		96	70 - 130		
Toluene	<0.00201	U	0.101	0.08691		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 880-19424-A-41-E MS
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.09656		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1955		mg/Kg		97	70 - 130
o-Xylene	<0.00201	U	0.101	0.1131		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-19424-A-41-F MSD
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35620

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	0.1013		mg/Kg		102	70 - 130	5	35
Toluene	<0.00201	U	0.0994	0.09069		mg/Kg		91	70 - 130	4	35
Ethylbenzene	<0.00201	U	0.0994	0.1024		mg/Kg		103	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2076		mg/Kg		104	70 - 130	6	35
o-Xylene	<0.00201	U	0.0994	0.1207		mg/Kg		121	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: MB 880-35630/5-A
Matrix: Solid
Analysis Batch: 35744

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35630

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/28/22 16:29	09/30/22 20:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/28/22 16:29	09/30/22 20:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/28/22 16:29	09/30/22 20:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/28/22 16:29	09/30/22 20:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/28/22 16:29	09/30/22 20:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/28/22 16:29	09/30/22 20:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*09/28/22 16:29*	*09/30/22 20:58*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*09/28/22 16:29*	*09/30/22 20:58*	*1*

Lab Sample ID: MB 880-35692/5-A
Matrix: Solid
Analysis Batch: 35890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35692

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/29/22 11:56	10/02/22 22:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/29/22 11:56	10/02/22 22:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/29/22 11:56	10/02/22 22:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/29/22 11:56	10/02/22 22:18	1

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: MB 880-35692/5-A
Matrix: Solid
Analysis Batch: 35890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35692

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/29/22 11:56	10/02/22 22:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/29/22 11:56	10/02/22 22:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*09/29/22 11:56*	*10/02/22 22:18*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*09/29/22 11:56*	*10/02/22 22:18*	*1*

Lab Sample ID: MB 880-35724/5-A
Matrix: Solid
Analysis Batch: 35890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35724

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/29/22 16:18	10/03/22 08:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/29/22 16:18	10/03/22 08:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/29/22 16:18	10/03/22 08:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/29/22 16:18	10/03/22 08:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/29/22 16:18	10/03/22 08:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/29/22 16:18	10/03/22 08:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/29/22 16:18*	*10/03/22 08:58*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*09/29/22 16:18*	*10/03/22 08:58*	*1*

Lab Sample ID: LCS 880-35724/1-A
Matrix: Solid
Analysis Batch: 35890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35724

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07829		mg/Kg		78	70 - 130		
Toluene			0.100	0.08089		mg/Kg		81	70 - 130		
Ethylbenzene			0.100	0.07734		mg/Kg		77	70 - 130		
m-Xylene & p-Xylene			0.200	0.1621		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.08300		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*

Lab Sample ID: LCSD 880-35724/2-A
Matrix: Solid
Analysis Batch: 35890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35724

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1318	*+ *1	mg/Kg		132	70 - 130	51	35
Toluene			0.100	0.1408	*+ *1	mg/Kg		141	70 - 130	54	35
Ethylbenzene			0.100	0.1312	*+ *1	mg/Kg		131	70 - 130	52	35
m-Xylene & p-Xylene			0.200	0.2759	*+ *1	mg/Kg		138	70 - 130	52	35
o-Xylene			0.100	0.1422	*+ *1	mg/Kg		142	70 - 130	53	35

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	123		70 - 130

Lab Sample ID: 890-3015-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35890 — **Prep Batch: 35724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *+ *1	0.0998	0.09073		mg/Kg		91	70 - 130
Toluene	<0.00200	U *+ *1	0.0998	0.09593		mg/Kg		96	70 - 130
Ethylbenzene	<0.00200	U *+ *1	0.0998	0.08487		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00401	U *+ *1	0.200	0.1756		mg/Kg		88	70 - 130
o-Xylene	<0.00200	U *+ *1	0.0998	0.09418		mg/Kg		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-3015-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35890 — **Prep Batch: 35724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *+ *1	0.0990	0.09916		mg/Kg		100	70 - 130	9	35
Toluene	<0.00200	U *+ *1	0.0990	0.1009		mg/Kg		102	70 - 130	5	35
Ethylbenzene	<0.00200	U *+ *1	0.0990	0.08894		mg/Kg		90	70 - 130	5	35
m-Xylene & p-Xylene	<0.00401	U *+ *1	0.198	0.1820		mg/Kg		92	70 - 130	4	35
o-Xylene	<0.00200	U *+ *1	0.0990	0.09773		mg/Kg		99	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

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

Lab Sample ID: MB 880-35018/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35120 — **Prep Batch: 35018**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/21/22 08:32	09/22/22 19:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/21/22 08:32	09/22/22 19:31	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/21/22 08:32	09/22/22 19:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	09/21/22 08:32	09/22/22 19:31	1
o-Terphenyl	103		70 - 130	09/21/22 08:32	09/22/22 19:31	1

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: LCS 880-35018/2-A
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1066		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1068		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*113*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: LCSD 880-35018/3-A
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35018

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	821.3	*1	mg/Kg		82	70 - 130	26	20
Diesel Range Organics (Over C10-C28)			1000	889.0		mg/Kg		89	70 - 130	18	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: 880-19424-A-53-C MS
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	996	826.0		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	868.7		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*76*		*70 - 130*

Lab Sample ID: 880-19424-A-53-D MSD
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	786.3		mg/Kg		79	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	872.5		mg/Kg		87	70 - 130	0	20

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

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 880-19424-A-53-D MSD
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35018

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34935/1-A
Matrix: Solid
Analysis Batch: 35156

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/22/22 17:40	1

Lab Sample ID: LCS 880-34935/2-A
Matrix: Solid
Analysis Batch: 35156

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.7		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-34935/3-A
Matrix: Solid
Analysis Batch: 35156

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	250.1		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3000-A-3-C MS
Matrix: Solid
Analysis Batch: 35156

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	360		252	589.4		mg/Kg		91	90 - 110		

Lab Sample ID: 890-3000-A-3-D MSD
Matrix: Solid
Analysis Batch: 35156

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	360		252	590.3		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

GC VOA

Prep Batch: 35620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	5035	
890-3003-2	FS03	Total/NA	Solid	5035	
890-3003-3	FS04	Total/NA	Solid	5035	
890-3003-4	FS02	Total/NA	Solid	5035	
MB 880-35620/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35620/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35620/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19424-A-41-E MS	Matrix Spike	Total/NA	Solid	5035	
880-19424-A-41-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 35630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-35630/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 35692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-35692/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 35724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-3	FS04	Total/NA	Solid	5035	
890-3003-5	FS05	Total/NA	Solid	5035	
MB 880-35724/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35724/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35724/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3015-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3015-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 35744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	8021B	35620
890-3003-2	FS03	Total/NA	Solid	8021B	35620
890-3003-3	FS04	Total/NA	Solid	8021B	35620
890-3003-4	FS02	Total/NA	Solid	8021B	35620
MB 880-35620/5-A	Method Blank	Total/NA	Solid	8021B	35620
MB 880-35630/5-A	Method Blank	Total/NA	Solid	8021B	35630
LCS 880-35620/1-A	Lab Control Sample	Total/NA	Solid	8021B	35620
LCSD 880-35620/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35620
880-19424-A-41-E MS	Matrix Spike	Total/NA	Solid	8021B	35620
880-19424-A-41-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35620

Analysis Batch: 35878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	Total BTEX	
890-3003-2	FS03	Total/NA	Solid	Total BTEX	
890-3003-3	FS04	Total/NA	Solid	Total BTEX	
890-3003-4	FS02	Total/NA	Solid	Total BTEX	
890-3003-5	FS05	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

GC VOA

Analysis Batch: 35890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-3	FS04	Total/NA	Solid	8021B	35724
890-3003-5	FS05	Total/NA	Solid	8021B	35724
MB 880-35692/5-A	Method Blank	Total/NA	Solid	8021B	35692
MB 880-35724/5-A	Method Blank	Total/NA	Solid	8021B	35724
LCS 880-35724/1-A	Lab Control Sample	Total/NA	Solid	8021B	35724
LCSD 880-35724/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35724
890-3015-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	35724
890-3015-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35724

GC Semi VOA

Prep Batch: 35018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	8015NM Prep	
890-3003-2	FS03	Total/NA	Solid	8015NM Prep	
890-3003-3	FS04	Total/NA	Solid	8015NM Prep	
890-3003-4	FS02	Total/NA	Solid	8015NM Prep	
890-3003-5	FS05	Total/NA	Solid	8015NM Prep	
MB 880-35018/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-35018/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-35018/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19424-A-53-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19424-A-53-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 35120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	8015B NM	35018
890-3003-2	FS03	Total/NA	Solid	8015B NM	35018
890-3003-3	FS04	Total/NA	Solid	8015B NM	35018
890-3003-4	FS02	Total/NA	Solid	8015B NM	35018
890-3003-5	FS05	Total/NA	Solid	8015B NM	35018
MB 880-35018/1-A	Method Blank	Total/NA	Solid	8015B NM	35018
LCS 880-35018/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	35018
LCSD 880-35018/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	35018
880-19424-A-53-C MS	Matrix Spike	Total/NA	Solid	8015B NM	35018
880-19424-A-53-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	35018

Analysis Batch: 35297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Total/NA	Solid	8015 NM	
890-3003-2	FS03	Total/NA	Solid	8015 NM	
890-3003-3	FS04	Total/NA	Solid	8015 NM	
890-3003-4	FS02	Total/NA	Solid	8015 NM	
890-3003-5	FS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Soluble	Solid	DI Leach	
890-3003-2	FS03	Soluble	Solid	DI Leach	
890-3003-3	FS04	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

HPLC/IC (Continued)

Leach Batch: 34935 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-4	FS02	Soluble	Solid	DI Leach	
890-3003-5	FS05	Soluble	Solid	DI Leach	
MB 880-34935/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34935/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34935/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3000-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3000-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 35156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3003-1	FS01	Soluble	Solid	300.0	34935
890-3003-2	FS03	Soluble	Solid	300.0	34935
890-3003-3	FS04	Soluble	Solid	300.0	34935
890-3003-4	FS02	Soluble	Solid	300.0	34935
890-3003-5	FS05	Soluble	Solid	300.0	34935
MB 880-34935/1-A	Method Blank	Soluble	Solid	300.0	34935
LCS 880-34935/2-A	Lab Control Sample	Soluble	Solid	300.0	34935
LCSD 880-34935/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34935
890-3000-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	34935
890-3000-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34935

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS01

Date Collected: 09/19/22 10:40
Date Received: 09/19/22 15:28

Lab Sample ID: 890-3003-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	35620	09/28/22 14:52	EL	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	35744	10/01/22 14:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			35878	10/01/22 19:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35297	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/23/22 02:18	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34935	09/21/22 10:00	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	35156	09/22/22 18:24	CH	EET MID

Client Sample ID: FS03

Date Collected: 09/19/22 10:45
Date Received: 09/19/22 15:28

Lab Sample ID: 890-3003-2

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			5.04 g	5 mL	35620	09/28/22 14:52	EL	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	35744	10/01/22 14:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			35878	10/01/22 19:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35297	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/23/22 02:40	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34935	09/21/22 10:00	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	35156	09/22/22 18:38	CH	EET MID

Client Sample ID: FS04

Date Collected: 09/19/22 10:50
Date Received: 09/19/22 15:28

Lab Sample ID: 890-3003-3

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	35724	09/29/22 16:18	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	35890	10/03/22 18:13	AJ	EET MID
Total/NA	Prep	5035			5.03 g	5 mL	35620	09/28/22 14:52	EL	EET MID
Total/NA	Analysis	8021B		25	5 mL	5 mL	35744	10/01/22 15:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			35878	10/01/22 19:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35297	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/23/22 03:01	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	34935	09/21/22 10:00	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	35156	09/22/22 18:43	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS02

Date Collected: 09/19/22 14:35
Date Received: 09/19/22 15:28

Lab Sample ID: 890-3003-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	35620	09/28/22 14:52	EL	EET MID
Total/NA	Analysis	8021B		25	5 mL	5 mL	35744	10/01/22 15:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			35878	10/01/22 19:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35297	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/23/22 03:23	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	34935	09/21/22 10:00	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	35156	09/22/22 18:48	CH	EET MID

Client Sample ID: FS05

Date Collected: 09/19/22 14:40
Date Received: 09/19/22 15:28

Lab Sample ID: 890-3003-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	35724	09/29/22 16:18	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	35890	10/03/22 18:33	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			35878	10/01/22 19:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35297	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/23/22 03:44	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34935	09/21/22 10:00	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	35156	09/22/22 18:53	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: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-3003-1
SDG: 03E1558026/03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3003-1	FS01	Solid	09/19/22 10:40	09/19/22 15:28	6.5'
890-3003-2	FS03	Solid	09/19/22 10:45	09/19/22 15:28	6.5'
890-3003-3	FS04	Solid	09/19/22 10:50	09/19/22 15:28	6.5'
890-3003-4	FS02	Solid	09/19/22 14:35	09/19/22 15:28	5'
890-3003-5	FS05	Solid	09/19/22 14:40	09/19/22 15:28	5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kaci Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	3102 E. Greene St 2
Address:	3122 Nat'l Parks Hwy	Address:	XTO Energy
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503 Email:		kjennings@ensolum.com

Work Order Comments

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

Project Name:	ADU 624/641	Turn Around	
Project Number:	03E1558026/03E1550[illegible]	☑ Routine ☐ Rush	
Project Location:	32.53378, -104.20755	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007
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	BTEX	TPH	Chlorides
FS01	S	9/19/22	1040	6.5'	C	1		X	X	X
FS03	S	9/19/22	1045	6.5'	C	1		X	X	X
FS04	S	9/19/22	1050	6.5'	C	1		X	X	X
FS02	S	9/19/22	1435	5'	C	1		X	X	X
FS05	S	9/19/22	1440	5'	C	1		X	X	X

890-3003 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident #s:
NAPP2123634554
NAPP2215149179

Cost Center(s):
1136151001
1136141001

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 [signature]	[signature]	9/19/22 1538	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3003-1
SDG Number: 03E1558026/03E1558062

Login Number: 3003
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: 890-3003-1
SDG Number: 03E1558026/03E1558062

Login Number: 3003
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/21/22 11:23 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: 890-3148-1
Laboratory Sample Delivery Group: 03E1558026, 03E1558062
Client Project/Site: ADU 624 & 641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/13/2022 10:49:20 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: ADU 624 & 641

Laboratory Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD 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
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: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Job ID: 890-3148-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3148-1

Receipt
The samples were received on 10/5/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS08A (890-3148-1), FS09A (890-3148-2), SW09 (890-3148-3), SW10 (890-3148-4), PH05 (890-3148-5) and PH05A (890-3148-6).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-36387 and analytical batch 880-36315 was outside the upper control limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-36387 and analytical batch 880-36315 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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 880-36287 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.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36242 and analytical batch 880-36598 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: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: FS08A

Lab Sample ID: 890-3148-1
Matrix: Solid
Date Collected: 10/04/22 09:45
Date Received: 10/05/22 09:10
Sample Depth: 7'

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 13:52	10/13/22 00:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:52	10/13/22 00:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:52	10/13/22 00:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/10/22 13:52	10/13/22 00:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:52	10/13/22 00:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/10/22 13:52	10/13/22 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:47*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**11.8**		50.0		mg/Kg			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/07/22 13:17	10/07/22 21:36	1
Diesel Range Organics (Over C10-C28)	**11.8**		50.0		mg/Kg		10/07/22 13:17	10/07/22 21:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 13:17	10/07/22 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/07/22 13:17*	*10/07/22 21:36*	*1*
o-Terphenyl	*88*		*70 - 130*	*10/07/22 13:17*	*10/07/22 21:36*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2940**		25.0		mg/Kg			10/11/22 10:31	5

Client Sample ID: FS09A

Lab Sample ID: 890-3148-2
Matrix: Solid
Date Collected: 10/04/22 10:10
Date Received: 10/05/22 09:10
Sample Depth: 7.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/10/22 13:52	10/13/22 01:07	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/10/22 13:52	10/13/22 01:07	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/10/22 13:52	10/13/22 01:07	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/10/22 13:52	10/13/22 01:07	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/10/22 13:52	10/13/22 01:07	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/10/22 13:52	10/13/22 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:07*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: FS09A

Lab Sample ID: 890-3148-2
Matrix: Solid
Date Collected: 10/04/22 10:10
Date Received: 10/05/22 09:10
Sample Depth: 7.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.9**		50.0	mg/Kg			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		10/07/22 13:17	10/07/22 22:41	1
Diesel Range Organics (Over C10-C28)	**53.9**		50.0	mg/Kg		10/07/22 13:17	10/07/22 22:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/07/22 13:17	10/07/22 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*10/07/22 13:17*	*10/07/22 22:41*	*1*
o-Terphenyl	*104*		*70 - 130*	*10/07/22 13:17*	*10/07/22 22:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3330**		25.0	mg/Kg			10/11/22 10:39	5

Client Sample ID: SW09

Lab Sample ID: 890-3148-3
Matrix: Solid
Date Collected: 10/04/22 10:40
Date Received: 10/05/22 09:10
Sample Depth: 2'-4'

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		10/10/22 13:52	10/13/22 01:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:52	10/13/22 01:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:52	10/13/22 01:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/10/22 13:52	10/13/22 01:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:52	10/13/22 01:28	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/10/22 13:52	10/13/22 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:28*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/13/22 11:29	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			10/10/22 12:14	1

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: SW09

Lab Sample ID: 890-3148-3
Matrix: Solid
Date Collected: 10/04/22 10:40
Date Received: 10/05/22 09:10
Sample Depth: 2'-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/07/22 13:17	10/07/22 23:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 13:17	10/07/22 23:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 13:17	10/07/22 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:03*	*1*
o-Terphenyl	*84*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:03*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	222		4.97		mg/Kg			10/11/22 10:47	1

Client Sample ID: SW10

Lab Sample ID: 890-3148-4
Matrix: Solid
Date Collected: 10/04/22 13:25
Date Received: 10/05/22 09:10
Sample Depth: 2'-4'

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 13:52	10/13/22 01:48	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 01:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 01:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:52	10/13/22 01:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 01:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:52	10/13/22 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:48*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/10/22 13:52*	*10/13/22 01:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:24	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:24*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:24*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: SW10

Lab Sample ID: 890-3148-4
Matrix: Solid
Date Collected: 10/04/22 13:25
Date Received: 10/05/22 09:10
Sample Depth: 2'-4'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	149		5.02		mg/Kg			10/11/22 10:54	1

Client Sample ID: PH05

Lab Sample ID: 890-3148-5
Matrix: Solid
Date Collected: 10/04/22 14:40
Date Received: 10/05/22 09:10
Sample Depth: 10'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.90		0.501		mg/Kg		10/10/22 13:52	10/13/22 02:29	250
Toluene	26.5		0.501		mg/Kg		10/10/22 13:52	10/13/22 02:29	250
Ethylbenzene	14.8		0.501		mg/Kg		10/10/22 13:52	10/13/22 02:29	250
m-Xylene & p-Xylene	35.5		1.00		mg/Kg		10/10/22 13:52	10/13/22 02:29	250
o-Xylene	15.0		0.501		mg/Kg		10/10/22 13:52	10/13/22 02:29	250
Xylenes, Total	50.5		1.00		mg/Kg		10/10/22 13:52	10/13/22 02:29	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*10/10/22 13:52*	*10/13/22 02:29*	*250*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*10/10/22 13:52*	*10/13/22 02:29*	*250*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	93.7		1.00		mg/Kg			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5900		249		mg/Kg			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	2300	*1	249		mg/Kg		10/07/22 13:17	10/08/22 02:16	5
Diesel Range Organics (Over C10-C28)	3240		249		mg/Kg		10/07/22 13:17	10/08/22 02:16	5
OII Range Organics (Over C28-C36)	361		249		mg/Kg		10/07/22 13:17	10/08/22 02:16	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*10/07/22 13:17*	*10/08/22 02:16*	*5*
o-Terphenyl	*91*		*70 - 130*	*10/07/22 13:17*	*10/08/22 02:16*	*5*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2410		24.9		mg/Kg			10/11/22 11:02	5

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: PH05A

Date Collected: 10/04/22 15:10
Date Received: 10/05/22 09:10
Sample Depth: 16'

Lab Sample ID: 890-3148-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 02:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 02:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 02:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/10/22 13:52	10/13/22 02:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 02:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/10/22 13:52	10/13/22 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 13:52*	*10/13/22 02:08*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*10/10/22 13:52*	*10/13/22 02:08*	*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			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/07/22 13:17	10/07/22 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:46*	*1*
o-Terphenyl	*102*		*70 - 130*	*10/07/22 13:17*	*10/07/22 23:46*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74.1**	**F1**	4.95		mg/Kg			10/07/22 12:39	1

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3144-A-1-D MS	Matrix Spike	117	97
890-3144-A-1-E MSD	Matrix Spike Duplicate	85	95
890-3148-1	FS08A	96	97
890-3148-2	FS09A	100	100
890-3148-3	SW09	110	80
890-3148-4	SW10	95	97
890-3148-5	PH05	126	113
890-3148-6	PH05A	96	92
LCS 880-36591/1-A	Lab Control Sample	96	104
LCSD 880-36591/2-A	Lab Control Sample Dup	96	100
MB 880-36589/5-A	Method Blank	90	94
MB 880-36591/5-A	Method Blank	88	94

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3148-1	FS08A	79	88
890-3148-1 MS	FS08A	94	92
890-3148-1 MSD	FS08A	91	92
890-3148-2	FS09A	98	104
890-3148-3	SW09	76	84
890-3148-4	SW10	79	89
890-3148-5	PH05	96	91
890-3148-6	PH05A	97	102
LCS 880-36387/2-A	Lab Control Sample	110	119
LCSD 880-36387/3-A	Lab Control Sample Dup	95	108
MB 880-36387/1-A	Method Blank	7 S1-	7 S1-

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36589/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36589

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*

Lab Sample ID: MB 880-36591/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36591

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*

Lab Sample ID: LCS 880-36591/1-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1109		mg/Kg		111	70 - 130		
Toluene			0.100	0.09785		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09422		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1941		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.1122		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36591/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09337		mg/Kg		93	70 - 130	17	35

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

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

Lab Sample ID: LCSD 880-36591/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36716 — **Prep Batch: 36591**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08557		mg/Kg		86	70 - 130	13	35
Ethylbenzene			0.100	0.08075		mg/Kg		81	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1627		mg/Kg		81	70 - 130	18	35
o-Xylene			0.100	0.09260		mg/Kg		93	70 - 130	19	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3144-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36716 — **Prep Batch: 36591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.07974		mg/Kg		79	70 - 130
Toluene	<0.00201	U F1	0.100	0.08047		mg/Kg		80	70 - 130
Ethylbenzene	<0.00201	U F1	0.100	0.08454		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1817		mg/Kg		91	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.1046		mg/Kg		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3144-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36716 — **Prep Batch: 36591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	<0.00198	U F2 F1	mg/Kg		0.4	70 - 130	198	35
Toluene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	<0.00396	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-36387/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36387**

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		10/07/22 13:17	10/07/22 19:44	1

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

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

Lab Sample ID: MB 880-36387/1-A
Matrix: Solid
Analysis Batch: 36315

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36387

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 13:17	10/07/22 19:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 13:17	10/07/22 19:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*7*	*S1-*	*70 - 130*	*10/07/22 13:17*	*10/07/22 19:44*	*1*
o-Terphenyl	*7*	*S1-*	*70 - 130*	*10/07/22 13:17*	*10/07/22 19:44*	*1*

Lab Sample ID: LCS 880-36387/2-A
Matrix: Solid
Analysis Batch: 36315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36387

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1166		mg/Kg		117	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: LCSD 880-36387/3-A
Matrix: Solid
Analysis Batch: 36315

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36387

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	913.9	*1	mg/Kg		91	70 - 130	24	20
Diesel Range Organics (Over C10-C28)			1000	907.1		mg/Kg		91	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-3148-1 MS
Matrix: Solid
Analysis Batch: 36315

Client Sample ID: FS08A
Prep Type: Total/NA
Prep Batch: 36387

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 *1	998	824.5		mg/Kg		80	70 - 130		
Diesel Range Organics (Over C10-C28)	118		998	928.0		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

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

Lab Sample ID: 890-3148-1 MSD — **Client Sample ID: FS08A**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36387**

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 *1	999	796.9		mg/Kg		77	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	118		999	917.1		mg/Kg		80	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

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: 890-3148-6 MS — **Client Sample ID: PH05A**
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: 890-3148-6 MSD — **Client Sample ID: PH05A**
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 Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-36242/1-A
Matrix: Solid
Analysis Batch: 36598

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			10/11/22 07:11	1

Lab Sample ID: LCS 880-36242/2-A
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36242/3-A
Matrix: Solid
Analysis Batch: 36598

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	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-3147-A-4-B MS
Matrix: Solid
Analysis Batch: 36598

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	8500	F1	5000	18090	F1	mg/Kg		192	90 - 110		

Lab Sample ID: 890-3147-A-4-C MSD
Matrix: Solid
Analysis Batch: 36598

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	8500	F1	5000	17000	F1	mg/Kg		170	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

GC VOA

Prep Batch: 36589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36589/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	5035	
890-3148-2	FS09A	Total/NA	Solid	5035	
890-3148-3	SW09	Total/NA	Solid	5035	
890-3148-4	SW10	Total/NA	Solid	5035	
890-3148-5	PH05	Total/NA	Solid	5035	
890-3148-6	PH05A	Total/NA	Solid	5035	
MB 880-36591/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3144-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3144-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	8021B	36591
890-3148-2	FS09A	Total/NA	Solid	8021B	36591
890-3148-3	SW09	Total/NA	Solid	8021B	36591
890-3148-4	SW10	Total/NA	Solid	8021B	36591
890-3148-5	PH05	Total/NA	Solid	8021B	36591
890-3148-6	PH05A	Total/NA	Solid	8021B	36591
MB 880-36589/5-A	Method Blank	Total/NA	Solid	8021B	36589
MB 880-36591/5-A	Method Blank	Total/NA	Solid	8021B	36591
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	8021B	36591
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36591
890-3144-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	36591
890-3144-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36591

Analysis Batch: 36861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	Total BTEX	
890-3148-2	FS09A	Total/NA	Solid	Total BTEX	
890-3148-3	SW09	Total/NA	Solid	Total BTEX	
890-3148-4	SW10	Total/NA	Solid	Total BTEX	
890-3148-5	PH05	Total/NA	Solid	Total BTEX	
890-3148-6	PH05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	8015B NM	36387
890-3148-2	FS09A	Total/NA	Solid	8015B NM	36387
890-3148-3	SW09	Total/NA	Solid	8015B NM	36387
890-3148-4	SW10	Total/NA	Solid	8015B NM	36387
890-3148-5	PH05	Total/NA	Solid	8015B NM	36387
890-3148-6	PH05A	Total/NA	Solid	8015B NM	36387
MB 880-36387/1-A	Method Blank	Total/NA	Solid	8015B NM	36387

QC Association Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

GC Semi VOA (Continued)

Analysis Batch: 36315 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-36387/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36387
LCSD 880-36387/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36387
890-3148-1 MS	FS08A	Total/NA	Solid	8015B NM	36387
890-3148-1 MSD	FS08A	Total/NA	Solid	8015B NM	36387

Prep Batch: 36387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	8015NM Prep	
890-3148-2	FS09A	Total/NA	Solid	8015NM Prep	
890-3148-3	SW09	Total/NA	Solid	8015NM Prep	
890-3148-4	SW10	Total/NA	Solid	8015NM Prep	
890-3148-5	PH05	Total/NA	Solid	8015NM Prep	
890-3148-6	PH05A	Total/NA	Solid	8015NM Prep	
MB 880-36387/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36387/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36387/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3148-1 MS	FS08A	Total/NA	Solid	8015NM Prep	
890-3148-1 MSD	FS08A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Total/NA	Solid	8015 NM	
890-3148-2	FS09A	Total/NA	Solid	8015 NM	
890-3148-3	SW09	Total/NA	Solid	8015 NM	
890-3148-4	SW10	Total/NA	Solid	8015 NM	
890-3148-5	PH05	Total/NA	Solid	8015 NM	
890-3148-6	PH05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Soluble	Solid	DI Leach	
890-3148-2	FS09A	Soluble	Solid	DI Leach	
890-3148-3	SW09	Soluble	Solid	DI Leach	
890-3148-4	SW10	Soluble	Solid	DI Leach	
890-3148-5	PH05	Soluble	Solid	DI Leach	
MB 880-36242/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3147-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3147-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 36287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-6	PH05A	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	
890-3148-6 MS	PH05A	Soluble	Solid	DI Leach	
890-3148-6 MSD	PH05A	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

HPLC/IC

Analysis Batch: 36379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-6	PH05A	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
890-3148-6 MS	PH05A	Soluble	Solid	300.0	36287
890-3148-6 MSD	PH05A	Soluble	Solid	300.0	36287

Analysis Batch: 36598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3148-1	FS08A	Soluble	Solid	300.0	36242
890-3148-2	FS09A	Soluble	Solid	300.0	36242
890-3148-3	SW09	Soluble	Solid	300.0	36242
890-3148-4	SW10	Soluble	Solid	300.0	36242
890-3148-5	PH05	Soluble	Solid	300.0	36242
MB 880-36242/1-A	Method Blank	Soluble	Solid	300.0	36242
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	300.0	36242
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36242
890-3147-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	36242
890-3147-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36242

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: FS08A
Date Collected: 10/04/22 09:45
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3148-1
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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 00:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 21:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		5			36598	10/11/22 10:31	CH	EET MID

Client Sample ID: FS09A
Date Collected: 10/04/22 10:10
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3148-2
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			4.96 g	5 mL	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 01:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 22:41	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		5			36598	10/11/22 10:39	CH	EET MID

Client Sample ID: SW09
Date Collected: 10/04/22 10:40
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3148-3
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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 01:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 23:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 10:47	CH	EET MID

Client Sample ID: SW10
Date Collected: 10/04/22 13:25
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3148-4
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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 01:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Client Sample ID: SW10

Lab Sample ID: 890-3148-4
Matrix: Solid
Date Collected: 10/04/22 13:25
Date Received: 10/05/22 09:10

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			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 23:24	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 10:54	CH	EET MID

Client Sample ID: PH05

Lab Sample ID: 890-3148-5
Matrix: Solid
Date Collected: 10/04/22 14:40
Date Received: 10/05/22 09:10

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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		250	5 mL	5 mL	36716	10/13/22 02:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	36315	10/08/22 02:16	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		5			36598	10/11/22 11:02	CH	EET MID

Client Sample ID: PH05A

Lab Sample ID: 890-3148-6
Matrix: Solid
Date Collected: 10/04/22 15:10
Date Received: 10/05/22 09:10

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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 02:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36861	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36584	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36387	10/07/22 13:17	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 23:46	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36287	10/06/22 15:32	KS	EET MID
Soluble	Analysis	300.0		1			36379	10/07/22 12:39	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

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: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

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: ADU 624 & 641

Job ID: 890-3148-1
SDG: 03E1558026, 03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3148-1	FS08A	Solid	10/04/22 09:45	10/05/22 09:10	7'
890-3148-2	FS09A	Solid	10/04/22 10:10	10/05/22 09:10	7.5'
890-3148-3	SW09	Solid	10/04/22 10:40	10/05/22 09:10	2'-4'
890-3148-4	SW10	Solid	10/04/22 13:25	10/05/22 09:10	2'-4'
890-3148-5	PH05	Solid	10/04/22 14:40	10/05/22 09:10	10'
890-3148-6	PH05A	Solid	10/04/22 15:10	10/05/22 09:10	16'

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	ADU 624 & 641	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558026, 03E1558062	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:	IDM 007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8
Total Containers:		Corrected Temperature:	1.6

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_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
FS08A	S	10/4/2022	9:45	7'	Comp	1	x	x	x
FS09A	S	10/4/2022	10:10	7.5'	Comp	1	x	x	x
SW09	S	10/4/2022	10:40	2'-4'	Comp	1	x	x	x
SW10 CW	S	10/4/2022	13:25	2'-4'	Comp	1	x	x	x
PH05 ~~FS02A~~ ~~FS01A~~	S	10/4/2022	14:40	10'	Grab/	1	x	x	x
PH05A ~~FS02B~~ ~~FS01B~~ CW	S	10/4/2022	15:10	16'	Grab/	1	x	x	x

890-3148 Chain of Custody

Sample Comments

Incident ID:
NAPP2123634554 & NAPP2215449179
Cost Center:
1136151001 / 1136141001
AFE:

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

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

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3148-1
SDG Number: 03E1558026, 03E1558062

Login Number: 3148
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.	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: 890-3148-1
SDG Number: 03E1558026, 03E1558062

Login Number: 3148
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 01:13 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3152-1
Laboratory Sample Delivery Group: 03E1558026 & 0E1558062
Client Project/Site: ADU 624 & 641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/12/2022 2:07:52 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: ADU 624 & 641

Laboratory Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3152-1
Project/Site: ADU 624 & 641 SDG: 03E1558026 & 0E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Job ID: 890-3152-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3152-1

Receipt
The samples were received on 10/5/2022 2:44 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 5.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01A (890-3152-1), FS02A (890-3152-2), FS03A (890-3152-3) and FS05A (890-3152-4).

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-36322 and analytical batch 880-36315 contained 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 880-36751 and analytical batch 880-36760 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: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS01A

Lab Sample ID: 890-3152-1
Matrix: Solid
Date Collected: 10/05/22 11:35
Date Received: 10/05/22 14:44
Sample Depth: 7'

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 08:35	10/10/22 17:44	1
Toluene	**0.00495**		0.00198		mg/Kg		10/10/22 08:35	10/10/22 17:44	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:35	10/10/22 17:44	1
m-Xylene & p-Xylene	**0.00419**		0.00397		mg/Kg		10/10/22 08:35	10/10/22 17:44	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/10/22 08:35	10/10/22 17:44	1
Xylenes, Total	**0.00419**		0.00397		mg/Kg		10/10/22 08:35	10/10/22 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*10/10/22 08:35*	*10/10/22 17:44*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*10/10/22 08:35*	*10/10/22 17:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00914**		0.00397		mg/Kg			10/11/22 09:03	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			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/07/22 07:42	10/07/22 13:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/07/22 07:42	10/07/22 13:00	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/07/22 07:42	10/07/22 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:00*	*1*
o-Terphenyl	*116*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:00*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3950**	**F1**	50.1		mg/Kg			10/12/22 13:06	10

Client Sample ID: FS02A

Lab Sample ID: 890-3152-2
Matrix: Solid
Date Collected: 10/05/22 12:50
Date Received: 10/05/22 14:44
Sample Depth: 8'

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		10/10/22 08:35	10/10/22 18:05	1
Toluene	**0.00303**		0.00200		mg/Kg		10/10/22 08:35	10/10/22 18:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 18:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/10/22 08:35	10/10/22 18:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 18:05	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/10/22 08:35	10/10/22 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:05*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS02A

Lab Sample ID: 890-3152-2
Matrix: Solid
Date Collected: 10/05/22 12:50
Date Received: 10/05/22 14:44
Sample Depth: 8'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:05*	*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 09:03	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			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/07/22 07:42	10/07/22 13:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/07/22 07:42	10/07/22 13:21	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/07/22 07:42	10/07/22 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*105*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:21*	*1*
o-Terphenyl	*115*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:21*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3210**		50.3	mg/Kg			10/12/22 13:21	10

Client Sample ID: FS03A

Lab Sample ID: 890-3152-3
Matrix: Solid
Date Collected: 10/05/22 12:10
Date Received: 10/05/22 14:44
Sample Depth: 7'

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		10/10/22 08:35	10/10/22 18:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 08:35	10/10/22 18:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 08:35	10/10/22 18:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/10/22 08:35	10/10/22 18:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 08:35	10/10/22 18:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/10/22 08:35	10/10/22 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:26*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:26*	*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 09:03	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			10/10/22 12:14	1

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS03A

Lab Sample ID: 890-3152-3
Matrix: Solid
Date Collected: 10/05/22 12:10
Date Received: 10/05/22 14:44
Sample Depth: 7'

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		10/07/22 07:42	10/07/22 13:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/07/22 07:42	10/07/22 13:42	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/07/22 07:42	10/07/22 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:42*	*1*
o-Terphenyl	*110*		*70 - 130*	*10/07/22 07:42*	*10/07/22 13:42*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3810**		49.8		mg/Kg			10/12/22 13:25	10

Client Sample ID: FS05A

Lab Sample ID: 890-3152-4
Matrix: Solid
Date Collected: 10/05/22 12:00
Date Received: 10/05/22 14:44
Sample Depth: 7'

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 08:35	10/10/22 18:47	1
Toluene	**0.00213**		0.00199		mg/Kg		10/10/22 08:35	10/10/22 18:47	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:35	10/10/22 18:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 08:35	10/10/22 18:47	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 08:35	10/10/22 18:47	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 08:35	10/10/22 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:47*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*10/10/22 08:35*	*10/10/22 18:47*	*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 09:03	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			10/10/22 12:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/07/22 07:42	10/07/22 14:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:42	10/07/22 14:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:42	10/07/22 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*10/07/22 07:42*	*10/07/22 14:04*	*1*
o-Terphenyl	*110*		*70 - 130*	*10/07/22 07:42*	*10/07/22 14:04*	*1*

Client Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS05A
Date Collected: 10/05/22 12:00
Date Received: 10/05/22 14:44
Sample Depth: 7'

Lab Sample ID: 890-3152-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3720		49.9		mg/Kg			10/12/22 13:30	10

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

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)
840-1415-A-1-D MS	Matrix Spike	267 S1+	84
840-1415-A-1-E MSD	Matrix Spike Duplicate	187 S1+	81
890-3152-1	FS01A	108	105
890-3152-2	FS02A	107	102
890-3152-3	FS03A	110	107
890-3152-4	FS05A	91	89
LCS 880-36503/1-A	Lab Control Sample	81	89
LCSD 880-36503/2-A	Lab Control Sample Dup	91	91
MB 880-36503/5-A	Method Blank	98	86

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)
890-3152-1	FS01A	108	116
890-3152-2	FS02A	105	115
890-3152-3	FS03A	98	110
890-3152-4	FS05A	99	110
890-3171-A-1-C MS	Matrix Spike	79	78
890-3171-A-1-D MSD	Matrix Spike Duplicate	80	79
LCS 880-36322/2-A	Lab Control Sample	97	110
LCSD 880-36322/3-A	Lab Control Sample Dup	98	110
MB 880-36322/1-A	Method Blank	85	97

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: 840-1415-A-1-D MS
Matrix: Solid
Analysis Batch: 36501

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

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*267*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: 840-1415-A-1-E MSD
Matrix: Solid
Analysis Batch: 36501

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*187*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: MB 880-36503/5-A
Matrix: Solid
Analysis Batch: 36501

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36503

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 10:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 10:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 10:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 08:35	10/10/22 10:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 08:35	10/10/22 10:55	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 08:35	10/10/22 10:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/10/22 08:35*	*10/10/22 10:55*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*10/10/22 08:35*	*10/10/22 10:55*	*1*

Lab Sample ID: LCS 880-36503/1-A
Matrix: Solid
Analysis Batch: 36501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36503

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09697		mg/Kg		97	70 - 130		
Toluene			0.100	0.1019		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.09553		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1994		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.09869		mg/Kg		99	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

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

Lab Sample ID: LCSD 880-36503/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36501 — **Prep Batch: 36503**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09842		mg/Kg		98	70 - 130	1	35
Toluene			0.100	0.1025		mg/Kg		102	70 - 130	1	35
Ethylbenzene			0.100	0.1023		mg/Kg		102	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2094		mg/Kg		105	70 - 130	5	35
o-Xylene			0.100	0.1077		mg/Kg		108	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

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

Lab Sample ID: MB 880-36322/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

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		10/07/22 07:42	10/07/22 09:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:42	10/07/22 09:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:42	10/07/22 09:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*10/07/22 07:42*	*10/07/22 09:54*	*1*
o-Terphenyl	*97*		*70 - 130*	*10/07/22 07:42*	*10/07/22 09:54*	*1*

Lab Sample ID: LCS 880-36322/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	920.4		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	985.5		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: LCSD 880-36322/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	992.9		mg/Kg		99	70 - 130	8	20

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

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

Lab Sample ID: LCSD 880-36322/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)			1000	982.2		mg/Kg		98	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*110*		*70 - 130*

Lab Sample ID: 890-3171-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

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	787.0		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	115		998	877.5		mg/Kg		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*79*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Lab Sample ID: 890-3171-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36315 — **Prep Batch: 36322**

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	776.9		mg/Kg		76	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	115		999	976.6		mg/Kg		86	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36751/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36760

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			10/12/22 12:51	1

Lab Sample ID: LCS 880-36751/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36760

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	253.4		mg/Kg		101	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-36751/3-A
Matrix: Solid
Analysis Batch: 36760

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	252.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-3152-1 MS
Matrix: Solid
Analysis Batch: 36760

Client Sample ID: FS01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3950	F1	2510	6948	F1	mg/Kg		120	90 - 110

Lab Sample ID: 890-3152-1 MSD
Matrix: Solid
Analysis Batch: 36760

Client Sample ID: FS01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3950	F1	2510	6964	F1	mg/Kg		120	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

GC VOA

Analysis Batch: 36501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	8021B	36503
890-3152-2	FS02A	Total/NA	Solid	8021B	36503
890-3152-3	FS03A	Total/NA	Solid	8021B	36503
890-3152-4	FS05A	Total/NA	Solid	8021B	36503
MB 880-36503/5-A	Method Blank	Total/NA	Solid	8021B	36503
LCS 880-36503/1-A	Lab Control Sample	Total/NA	Solid	8021B	36503
LCSD 880-36503/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36503
840-1415-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	
840-1415-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	

Prep Batch: 36503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	5035	
890-3152-2	FS02A	Total/NA	Solid	5035	
890-3152-3	FS03A	Total/NA	Solid	5035	
890-3152-4	FS05A	Total/NA	Solid	5035	
MB 880-36503/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36503/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36503/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 36641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	Total BTEX	
890-3152-2	FS02A	Total/NA	Solid	Total BTEX	
890-3152-3	FS03A	Total/NA	Solid	Total BTEX	
890-3152-4	FS05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	8015B NM	36322
890-3152-2	FS02A	Total/NA	Solid	8015B NM	36322
890-3152-3	FS03A	Total/NA	Solid	8015B NM	36322
890-3152-4	FS05A	Total/NA	Solid	8015B NM	36322
MB 880-36322/1-A	Method Blank	Total/NA	Solid	8015B NM	36322
LCS 880-36322/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36322
LCSD 880-36322/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36322
890-3171-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36322
890-3171-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36322

Prep Batch: 36322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	8015NM Prep	
890-3152-2	FS02A	Total/NA	Solid	8015NM Prep	
890-3152-3	FS03A	Total/NA	Solid	8015NM Prep	
890-3152-4	FS05A	Total/NA	Solid	8015NM Prep	
MB 880-36322/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36322/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36322/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3171-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

GC Semi VOA (Continued)

Prep Batch: 36322 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3171-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Total/NA	Solid	8015 NM	
890-3152-2	FS02A	Total/NA	Solid	8015 NM	
890-3152-3	FS03A	Total/NA	Solid	8015 NM	
890-3152-4	FS05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Soluble	Solid	DI Leach	
890-3152-2	FS02A	Soluble	Solid	DI Leach	
890-3152-3	FS03A	Soluble	Solid	DI Leach	
890-3152-4	FS05A	Soluble	Solid	DI Leach	
MB 880-36751/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36751/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36751/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3152-1 MS	FS01A	Soluble	Solid	DI Leach	
890-3152-1 MSD	FS01A	Soluble	Solid	DI Leach	

Analysis Batch: 36760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3152-1	FS01A	Soluble	Solid	300.0	36751
890-3152-2	FS02A	Soluble	Solid	300.0	36751
890-3152-3	FS03A	Soluble	Solid	300.0	36751
890-3152-4	FS05A	Soluble	Solid	300.0	36751
MB 880-36751/1-A	Method Blank	Soluble	Solid	300.0	36751
LCS 880-36751/2-A	Lab Control Sample	Soluble	Solid	300.0	36751
LCSD 880-36751/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36751
890-3152-1 MS	FS01A	Soluble	Solid	300.0	36751
890-3152-1 MSD	FS01A	Soluble	Solid	300.0	36751

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS01A
Date Collected: 10/05/22 11:35
Date Received: 10/05/22 14:44

Lab Sample ID: 890-3152-1
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			5.04 g	5 mL	36503	10/10/22 08:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36501	10/10/22 17:44	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36641	10/11/22 09:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36580	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36322	10/07/22 07:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 13:00	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	36751	10/12/22 11:01	SMC	EET MID
Soluble	Analysis	300.0		10			36760	10/12/22 13:06	CH	EET MID

Client Sample ID: FS02A
Date Collected: 10/05/22 12:50
Date Received: 10/05/22 14:44

Lab Sample ID: 890-3152-2
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	36503	10/10/22 08:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36501	10/10/22 18:05	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36641	10/11/22 09:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36580	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36322	10/07/22 07:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 13:21	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	36751	10/12/22 11:01	SMC	EET MID
Soluble	Analysis	300.0		10			36760	10/12/22 13:21	CH	EET MID

Client Sample ID: FS03A
Date Collected: 10/05/22 12:10
Date Received: 10/05/22 14:44

Lab Sample ID: 890-3152-3
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			5.00 g	5 mL	36503	10/10/22 08:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36501	10/10/22 18:26	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36641	10/11/22 09:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36580	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36322	10/07/22 07:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 13:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36751	10/12/22 11:01	SMC	EET MID
Soluble	Analysis	300.0		10			36760	10/12/22 13:25	CH	EET MID

Client Sample ID: FS05A
Date Collected: 10/05/22 12:00
Date Received: 10/05/22 14:44

Lab Sample ID: 890-3152-4
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			5.03 g	5 mL	36503	10/10/22 08:35	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36501	10/10/22 18:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			36641	10/11/22 09:03	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Client Sample ID: FS05A

Date Collected: 10/05/22 12:00
Date Received: 10/05/22 14:44

Lab Sample ID: 890-3152-4

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			36580	10/10/22 12:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36322	10/07/22 07:42	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36315	10/07/22 14:04	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36751	10/12/22 11:01	SMC	EET MID
Soluble	Analysis	300.0		10			36760	10/12/22 13:30	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: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

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: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

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: ADU 624 & 641

Job ID: 890-3152-1
SDG: 03E1558026 & 0E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3152-1	FS01A	Solid	10/05/22 11:35	10/05/22 14:44	7'
890-3152-2	FS02A	Solid	10/05/22 12:50	10/05/22 14:44	8'
890-3152-3	FS03A	Solid	10/05/22 12:10	10/05/22 14:44	7'
890-3152-4	FS05A	Solid	10/05/22 12:00	10/05/22 14:44	7'

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	ADU 624 & 641	Turn Around	☐ Routine ☑ Rush
Project Number:	03E1558026 & 03E1558062	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	+0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	6.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS01A	S	10/5/2022	11:35	7'	Comp	1		x	x	x
FS02A	S	10/5/2022	12:50	8'	Comp	1		x	x	x
FS03A	S	10/5/2022	12:10	7'	Comp	1		x	x	x
FS05A	S	10/5/2022	12:00	7'	Comp	1		x	x	x

890-3152 Chain of Custody

Sample Comments

Incident ID: NAPP2123634554 & NAPP2215449179
Cost Center: 1136151001 / 1136141001
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		Amanda Stefan	10/5/22 1444			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3152-1
SDG Number: 03E1558026 & 0E1558062

Login Number: 3152
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.	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: 890-3152-1
SDG Number: 03E1558026 & 0E1558062

Login Number: 3152
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/07/22 11:00 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: 890-3415-1
Laboratory SDG: 03E1558026 & 03E1558062
Client Project/Site: ADU 624/641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/10/2022 4:18:07 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.

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

Client: Ensolum
Project/Site: ADU 624/641

Laboratory Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3415-1
Project/Site: ADU 624/641 SDG: 03E1558026 & 03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
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: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Job ID: 890-3415-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3415-1

Receipt
The sample was received on 11/8/2022 8:27 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS04A (890-3415-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39063 and analytical batch 880-39062 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.

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-39116 and analytical batch 880-39056 contained 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.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-39116 and analytical batch 880-39056 was outside control limits. Sample non-homogeneity is suspected.

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: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Client Sample ID: FS04A

Date Collected: 11/07/22 02:30
Date Received: 11/08/22 08:27
Sample Depth: 16

Lab Sample ID: 890-3415-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 18:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 18:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 18:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/09/22 13:00	11/09/22 18:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 18:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/09/22 13:00	11/09/22 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*11/09/22 13:00*	*11/09/22 18:38*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*11/09/22 13:00*	*11/09/22 18:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/10/22 11:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.8**		49.8		mg/Kg			11/10/22 09:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/09/22 14:01	11/10/22 02:03	1
Diesel Range Organics (Over C10-C28)	**52.8**		49.8		mg/Kg		11/09/22 14:01	11/10/22 02:03	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/09/22 14:01	11/10/22 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:03*	*1*
o-Terphenyl	*99*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:03*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1550**		25.1		mg/Kg			11/10/22 16:07	5

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

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)
880-21259-A-1-I MS	Matrix Spike	90	114
880-21259-A-1-J MSD	Matrix Spike Duplicate	104	98
890-3415-1	FS04A	107	112
LCS 880-39063/1-A	Lab Control Sample	92	113
LCSD 880-39063/2-A	Lab Control Sample Dup	95	117
MB 880-39063/5-A	Method Blank	78	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3415-1	FS04A	92	99
890-3418-A-1-I MS	Matrix Spike	74	80
890-3418-A-1-J MSD	Matrix Spike Duplicate	86	78
LCS 880-39116/2-A	Lab Control Sample	100	104
LCSD 880-39116/3-A	Lab Control Sample Dup	99	103
MB 880-39116/1-A	Method Blank	95	96

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39063/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 08:53	11/09/22 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*11/09/22 08:53*	*11/09/22 11:32*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*11/09/22 08:53*	*11/09/22 11:32*	*1*

Lab Sample ID: LCS 880-39063/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.09243		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.08737		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1791		mg/Kg		90	70 - 130		
o-Xylene			0.100	0.08740		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-39063/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1066		mg/Kg		107	70 - 130	0	35
Toluene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
Ethylbenzene			0.100	0.08748		mg/Kg		87	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.1783		mg/Kg		89	70 - 130	0	35
o-Xylene			0.100	0.08857		mg/Kg		89	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-21259-A-1-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.0998	0.09660		mg/Kg		97	70 - 130		
Toluene	<0.00200	U	0.0998	0.08183		mg/Kg		81	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

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

Lab Sample ID: 880-21259-A-1-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.07769		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1573		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.0998	0.07732		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 880-21259-A-1-J MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0996	0.06729	F1 F2	mg/Kg		68	70 - 130	36	35
Toluene	<0.00200	U	0.0996	0.07180		mg/Kg		71	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0996	0.08519		mg/Kg		86	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1658		mg/Kg		83	70 - 130	5	35
o-Xylene	<0.00200	U	0.0996	0.08146		mg/Kg		82	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-39116/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39056 — **Prep Batch: 39116**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*11/09/22 14:01*	*11/09/22 20:15*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/09/22 14:01*	*11/09/22 20:15*	*1*

Lab Sample ID: LCS 880-39116/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39056 — **Prep Batch: 39116**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.3		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	939.9		mg/Kg		94	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

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

Lab Sample ID: LCS 880-39116/2-A
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39116

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-39116/3-A
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39116

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	870.1		mg/Kg		87	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	926.4		mg/Kg		93	70 - 130	1	20

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

Lab Sample ID: 890-3418-A-1-I MS
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39116

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 F2	997	763.6		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	807.0		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: 890-3418-A-1-J MSD
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39116

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 F2	999	963.3	F2	mg/Kg		96	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	803.3		mg/Kg		80	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39114/1-A
Matrix: Solid
Analysis Batch: 39143

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/10/22 13:25	1

Lab Sample ID: LCS 880-39114/2-A
Matrix: Solid
Analysis Batch: 39143

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.0		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39114/3-A
Matrix: Solid
Analysis Batch: 39143

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	250.7		mg/Kg		100	90 - 110	5	20

Lab Sample ID: 880-21350-A-11-B MS
Matrix: Solid
Analysis Batch: 39143

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	81.5		249	335.6		mg/Kg		102	90 - 110		

Lab Sample ID: 880-21350-A-11-C MSD
Matrix: Solid
Analysis Batch: 39143

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	81.5		249	332.1		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

GC VOA

Analysis Batch: 39062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	8021B	39063
MB 880-39063/5-A	Method Blank	Total/NA	Solid	8021B	39063
LCS 880-39063/1-A	Lab Control Sample	Total/NA	Solid	8021B	39063
LCSD 880-39063/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39063
880-21259-A-1-I MS	Matrix Spike	Total/NA	Solid	8021B	39063
880-21259-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39063

Prep Batch: 39063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	5035	
MB 880-39063/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39063/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39063/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21259-A-1-I MS	Matrix Spike	Total/NA	Solid	5035	
880-21259-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 39232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 39056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	8015B NM	39116
MB 880-39116/1-A	Method Blank	Total/NA	Solid	8015B NM	39116
LCS 880-39116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39116
LCSD 880-39116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39116
890-3418-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	39116
890-3418-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39116

Prep Batch: 39116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	8015NM Prep	
MB 880-39116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3418-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3418-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 39114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Soluble	Solid	DI Leach	
MB 880-39114/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39114/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39114/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

HPLC/IC (Continued)

Leach Batch: 39114 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-21350-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21350-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3415-1	FS04A	Soluble	Solid	300.0	39114
MB 880-39114/1-A	Method Blank	Soluble	Solid	300.0	39114
LCS 880-39114/2-A	Lab Control Sample	Soluble	Solid	300.0	39114
LCSD 880-39114/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39114
880-21350-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	39114
880-21350-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39114

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Client Sample ID: FS04A

Date Collected: 11/07/22 02:30
Date Received: 11/08/22 08:27

Lab Sample ID: 890-3415-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	39063	11/09/22 13:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39062	11/09/22 18:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39232	11/10/22 11:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			39200	11/10/22 09:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	39116	11/09/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39056	11/10/22 02:03	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	39114	11/09/22 13:31	KS	EET MID
Soluble	Analysis	300.0		5			39143	11/10/22 16:07	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: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

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: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

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: ADU 624/641

Job ID: 890-3415-1
SDG: 03E1558026 & 03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3415-1	FS04A	Solid	11/07/22 02:30	11/08/22 08:27	16

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	ADU 624 / 641	Turn Around	☐ Routine ☑ Rush
Project Number:	03E1558026 & 03E1558062	Due Date:	2 Day
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:	TM007	
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)
FS04A	S	11/7/2022	2:30	16'	Comp	1		X	X	X

890-3415 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
NAPP2123634554 / NAPP2215449179
Cost Center:
1136151001 / 1136141001
AFE:

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11-8-22 827	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3415-1
SDG Number: 03E1558026 & 03E1558062

Login Number: 3415
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: 890-3415-1
SDG Number: 03E1558026 & 03E1558062

Login Number: 3415
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 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: 890-3416-1
Laboratory Sample Delivery Group: 03E1558026/03E1558062
Client Project/Site: ADU 624/641

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/10/2022 4:18:15 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.

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

Client: Ensolum
Project/Site: ADU 624/641

Laboratory Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3416-1
Project/Site: ADU 624/641 SDG: 03E1558026/03E1558062

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
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: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Job ID: 890-3416-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3416-1

Receipt
The samples were received on 11/8/2022 11:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS12 (890-3416-1), FS13 (890-3416-2) and FS14 (890-3416-3).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39063 and analytical batch 880-39062 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.

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-39116 and analytical batch 880-39056 contained 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.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-39116 and analytical batch 880-39056 was outside control limits. Sample non-homogeneity is suspected.

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: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS12

Lab Sample ID: 890-3416-1
Matrix: Solid
Date Collected: 11/08/22 09:10
Date Received: 11/08/22 11:46
Sample Depth: 12'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 13:00	11/09/22 18:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 13:00	11/09/22 18:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 13:00	11/09/22 18:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 13:00	11/09/22 18:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 13:00	11/09/22 18:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 13:00	11/09/22 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*11/09/22 13:00*	*11/09/22 18:58*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/09/22 13:00*	*11/09/22 18:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/10/22 11:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**63.1**		49.9		mg/Kg			11/10/22 09:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/09/22 14:01	11/10/22 02:25	1
Diesel Range Organics (Over C10-C28)	**63.1**		49.9		mg/Kg		11/09/22 14:01	11/10/22 02:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/09/22 14:01	11/10/22 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:25*	*1*
o-Terphenyl	*103*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		24.9		mg/Kg			11/10/22 16:14	5

Client Sample ID: FS13

Lab Sample ID: 890-3416-2
Matrix: Solid
Date Collected: 11/08/22 09:15
Date Received: 11/08/22 11:46
Sample Depth: 9'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 19:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 19:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 19:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/09/22 13:00	11/09/22 19:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 13:00	11/09/22 19:19	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/09/22 13:00	11/09/22 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*11/09/22 13:00*	*11/09/22 19:19*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS13

Lab Sample ID: 890-3416-2
Matrix: Solid
Date Collected: 11/08/22 09:15
Date Received: 11/08/22 11:46
Sample Depth: 9'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/09/22 13:00*	*11/09/22 19:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/10/22 11:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/10/22 09:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/10/22 02:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/10/22 02:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/10/22 02:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*88*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:47*	*1*
o-Terphenyl	*93*		*70 - 130*	*11/09/22 14:01*	*11/10/22 02:47*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		4.99	mg/Kg			11/10/22 16:20	1

Client Sample ID: FS14

Lab Sample ID: 890-3416-3
Matrix: Solid
Date Collected: 11/08/22 09:30
Date Received: 11/08/22 11:46
Sample Depth: 7.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/09/22 13:00	11/09/22 19:39	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/09/22 13:00	11/09/22 19:39	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/09/22 13:00	11/09/22 19:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/09/22 13:00	11/09/22 19:39	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/09/22 13:00	11/09/22 19:39	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/09/22 13:00	11/09/22 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*11/09/22 13:00*	*11/09/22 19:39*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*11/09/22 13:00*	*11/09/22 19:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/10/22 11:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/10/22 09:40	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS14

Date Collected: 11/08/22 09:30
Date Received: 11/08/22 11:46
Sample Depth: 7.5'

Lab Sample ID: 890-3416-3

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		11/09/22 14:01	11/10/22 03:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/09/22 14:01	11/10/22 03:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/09/22 14:01	11/10/22 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*11/09/22 14:01*	*11/10/22 03:08*	*1*
o-Terphenyl	*93*		*70 - 130*	*11/09/22 14:01*	*11/10/22 03:08*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2310**		24.8		mg/Kg			11/10/22 16:27	5

Surrogate Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

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)
880-21259-A-1-I MS	Matrix Spike	90	114
880-21259-A-1-J MSD	Matrix Spike Duplicate	104	98
890-3416-1	FS12	101	110
890-3416-2	FS13	99	107
890-3416-3	FS14	94	102
LCS 880-39063/1-A	Lab Control Sample	92	113
LCSD 880-39063/2-A	Lab Control Sample Dup	95	117
MB 880-39063/5-A	Method Blank	78	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3416-1	FS12	97	103
890-3416-2	FS13	88	93
890-3416-3	FS14	87	93
890-3418-A-1-I MS	Matrix Spike	74	80
890-3418-A-1-J MSD	Matrix Spike Duplicate	86	78
LCS 880-39116/2-A	Lab Control Sample	100	104
LCSD 880-39116/3-A	Lab Control Sample Dup	99	103
MB 880-39116/1-A	Method Blank	95	96

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39063/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 08:53	11/09/22 11:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 08:53	11/09/22 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*11/09/22 08:53*	*11/09/22 11:32*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*11/09/22 08:53*	*11/09/22 11:32*	*1*

Lab Sample ID: LCS 880-39063/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.09243		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.08737		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1791		mg/Kg		90	70 - 130		
o-Xylene			0.100	0.08740		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-39063/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1066		mg/Kg		107	70 - 130	0	35
Toluene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
Ethylbenzene			0.100	0.08748		mg/Kg		87	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.1783		mg/Kg		89	70 - 130	0	35
o-Xylene			0.100	0.08857		mg/Kg		89	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-21259-A-1-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.0998	0.09660		mg/Kg		97	70 - 130		
Toluene	<0.00200	U	0.0998	0.08183		mg/Kg		81	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: 880-21259-A-1-I MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.07769		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1573		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.0998	0.07732		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 880-21259-A-1-J MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39062 — **Prep Batch: 39063**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0996	0.06729	F1 F2	mg/Kg		68	70 - 130	36	35
Toluene	<0.00200	U	0.0996	0.07180		mg/Kg		71	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0996	0.08519		mg/Kg		86	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1658		mg/Kg		83	70 - 130	5	35
o-Xylene	<0.00200	U	0.0996	0.08146		mg/Kg		82	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-39116/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39056 — **Prep Batch: 39116**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/09/22 14:01	11/09/22 20:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*11/09/22 14:01*	*11/09/22 20:15*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/09/22 14:01*	*11/09/22 20:15*	*1*

Lab Sample ID: LCS 880-39116/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39056 — **Prep Batch: 39116**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.3		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	939.9		mg/Kg		94	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

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

Lab Sample ID: LCS 880-39116/2-A
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39116

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-39116/3-A
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39116

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	870.1		mg/Kg		87	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	926.4		mg/Kg		93	70 - 130	1	20

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

Lab Sample ID: 890-3418-A-1-I MS
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39116

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 F2	997	763.6		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	807.0		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: 890-3418-A-1-J MSD
Matrix: Solid
Analysis Batch: 39056

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39116

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 F2	999	963.3	F2	mg/Kg		96	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	803.3		mg/Kg		80	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-39114/1-A
Matrix: Solid
Analysis Batch: 39143

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/10/22 13:25	1

Lab Sample ID: LCS 880-39114/2-A
Matrix: Solid
Analysis Batch: 39143

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.0		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-39114/3-A
Matrix: Solid
Analysis Batch: 39143

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	250.7		mg/Kg		100	90 - 110	5	20

Lab Sample ID: 880-21350-A-11-B MS
Matrix: Solid
Analysis Batch: 39143

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	81.5		249	335.6		mg/Kg		102	90 - 110		

Lab Sample ID: 880-21350-A-11-C MSD
Matrix: Solid
Analysis Batch: 39143

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	81.5		249	332.1		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

GC VOA

Analysis Batch: 39062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	8021B	39063
890-3416-2	FS13	Total/NA	Solid	8021B	39063
890-3416-3	FS14	Total/NA	Solid	8021B	39063
MB 880-39063/5-A	Method Blank	Total/NA	Solid	8021B	39063
LCS 880-39063/1-A	Lab Control Sample	Total/NA	Solid	8021B	39063
LCSD 880-39063/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39063
880-21259-A-1-I MS	Matrix Spike	Total/NA	Solid	8021B	39063
880-21259-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39063

Prep Batch: 39063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	5035	
890-3416-2	FS13	Total/NA	Solid	5035	
890-3416-3	FS14	Total/NA	Solid	5035	
MB 880-39063/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39063/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39063/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21259-A-1-I MS	Matrix Spike	Total/NA	Solid	5035	
880-21259-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 39233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	Total BTEX	
890-3416-2	FS13	Total/NA	Solid	Total BTEX	
890-3416-3	FS14	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 39056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	8015B NM	39116
890-3416-2	FS13	Total/NA	Solid	8015B NM	39116
890-3416-3	FS14	Total/NA	Solid	8015B NM	39116
MB 880-39116/1-A	Method Blank	Total/NA	Solid	8015B NM	39116
LCS 880-39116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39116
LCSD 880-39116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39116
890-3418-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	39116
890-3418-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39116

Prep Batch: 39116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	8015NM Prep	
890-3416-2	FS13	Total/NA	Solid	8015NM Prep	
890-3416-3	FS14	Total/NA	Solid	8015NM Prep	
MB 880-39116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3418-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3418-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

GC Semi VOA

Analysis Batch: 39201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Total/NA	Solid	8015 NM	
890-3416-2	FS13	Total/NA	Solid	8015 NM	
890-3416-3	FS14	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 39114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Soluble	Solid	DI Leach	
890-3416-2	FS13	Soluble	Solid	DI Leach	
890-3416-3	FS14	Soluble	Solid	DI Leach	
MB 880-39114/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-39114/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-39114/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21350-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21350-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3416-1	FS12	Soluble	Solid	300.0	39114
890-3416-2	FS13	Soluble	Solid	300.0	39114
890-3416-3	FS14	Soluble	Solid	300.0	39114
MB 880-39114/1-A	Method Blank	Soluble	Solid	300.0	39114
LCS 880-39114/2-A	Lab Control Sample	Soluble	Solid	300.0	39114
LCSD 880-39114/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	39114
880-21350-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	39114
880-21350-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	39114

Lab Chronicle

Client: Ensolum
Project/Site: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Client Sample ID: FS12

Date Collected: 11/08/22 09:10
Date Received: 11/08/22 11:46

Lab Sample ID: 890-3416-1
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	39063	11/09/22 13:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39062	11/09/22 18:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39233	11/10/22 11:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			39201	11/10/22 09:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	39116	11/09/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39056	11/10/22 02:25	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	39114	11/09/22 13:31	KS	EET MID
Soluble	Analysis	300.0		5			39143	11/10/22 16:14	CH	EET MID

Client Sample ID: FS13

Date Collected: 11/08/22 09:15
Date Received: 11/08/22 11:46

Lab Sample ID: 890-3416-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	39063	11/09/22 13:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39062	11/09/22 19:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39233	11/10/22 11:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			39201	11/10/22 09:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39116	11/09/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39056	11/10/22 02:47	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	39114	11/09/22 13:31	KS	EET MID
Soluble	Analysis	300.0		1			39143	11/10/22 16:20	CH	EET MID

Client Sample ID: FS14

Date Collected: 11/08/22 09:30
Date Received: 11/08/22 11:46

Lab Sample ID: 890-3416-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39063	11/09/22 13:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39062	11/09/22 19:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39233	11/10/22 11:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			39201	11/10/22 09:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39116	11/09/22 14:01	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39056	11/10/22 03:08	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	39114	11/09/22 13:31	KS	EET MID
Soluble	Analysis	300.0		5			39143	11/10/22 16:27	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: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

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: ADU 624/641

Job ID: 890-3416-1
SDG: 03E1558026/03E1558062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3416-1	FS12	Solid	11/08/22 09:10	11/08/22 11:46	12'
890-3416-2	FS13	Solid	11/08/22 09:15	11/08/22 11:46	9'
890-3416-3	FS14	Solid	11/08/22 09:30	11/08/22 11:46	7.5'

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Chain of Custody

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	ADU 624 / 641	Turn Around	☐ Routine ☑ Rush
Project Number:	03E1558026 & 03E1558062	Due Date:	2 Day
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:	THM 007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	6.0	
Total Containers:		Corrected Temperature:	5.8	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS12	S	11/8/2022	9:10	12'	Comp	1		X	X	X
FS13	S	11/8/2022	9:15	9'	Comp	1		X	X	X
FS14	S	11/8/2022	9:30	7.5'	Comp	1		X	X	X

Parameters

890-3416 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
NAPP2123634554 / NAPP2215449179
Cost Center:
1136151001 / 1136141001
AFE:

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Estep	11/8/22 1146			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3416-1
SDG Number: 03E1558026/03E1558062

Login Number: 3416
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.	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: 890-3416-1
SDG Number: 03E1558026/03E1558062

Login Number: 3416
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/09/22 10:47 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 D

NMOCD Notifications

From: Hamlet, Robert, EMNRD
To: Foust, Bryan Jacob
Cc: DelawareSpills /SM; Kalei Jennings; Tacoma Morrissey; Green, Garrett J; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Approval) - XTO- Avalon Delaware Unit 624 (Incident Number NAPP2123634554)
Date: Tuesday, October 18, 2022 8:18:21 AM

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2123634554**

Bryan,

Your request for an extension to **November 17th, 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: Foust, Bryan Jacob <bryan.foust@exxonmobil.com>
Sent: Monday, October 17, 2022 3:47 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>; Kalei Jennings <kjennings@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>
Subject: [EXTERNAL] XTO- Extension Update- Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Avalon Delaware Unit 624 (Incident Number NAPP2123634554)
XTO is providing an update on the remediation work plan for the Avalon Delaware Unit 624 (Incident

Number NAPP2123634554). The remediation work plan was approved by NMOCD on July 20, 2022, which included a proposed deadline of October 18, 2022. XTO has completed excavation of impacted soil per the approved work plan; however, during excavation activities, XTO encountered what appears to be historical impacts that requires additional investigation. The excavation required support of an exposed pipeline that was meant as a short-term solution for excavation. In order to delineate and plan for potential longer term soil removal around the pipeline, XTO requests a 30-day extension of the approved remediation work plan deadline until November 17, 2022. During that time, XTO will investigate potential historical impacts and either remove them by the deadline or submit a revised work plan to address a larger volume of soil.

Thank you,

Jake Foust
SSHE Coordinator (environmental)
432-266-2663

Collins, Melanie

From: Collins, Melanie
Sent: Friday, January 7, 2022 12:35 PM
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us
Cc: DelawareSpills /SM; Cole, Aimee; Ager, Ashley; Jennings, Kalei
Subject: XTO Extension Request: Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

All,

Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

XTO is requesting an extension to the 90-day deadline for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the Avalon Delaware Unit 624 (Incident Number NAPP2123634554). The release was discovered August 10, 2021 and an initial site assessment was conducted. A Right of Entry (ROE) Permit was submitted to the State Land Office (SLO) on October 7, 2021. The executed permit is still pending. XTO will begin remediation activities as soon as the executed permit is received. In order to conduct further site assessment, complete the remediation work, and submit a remediation work plan or closure report XTO requests an extension of this deadline until May 7, 2022.

Thank you,

Melanie Collins
SSHE Technician
XTO ENERGY
An **ExxonMobil** Subsidiary
6401 Holiday Hill Rd, Bldg 5
Midland, TX 79707
432-218-3709

Collins, Melanie

From: Collins, Melanie
Sent: Tuesday, April 26, 2022 4:29 PM
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us
Cc: DelawareSpills /SM; Tacoma Morrissey; Kalei Jennings
Subject: XTO- Extension Request - Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

All,

Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

XTO is requesting an extension for the current deadline of May 7, 2022 for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the Avalon Delaware Unit 624 (Incident Number NAPP2123634554). The release was discovered on August 10, 2021 and initial site assessment was conducted. Fluids were released into a pasture area due to a corroded flowline. A Right of Entry (ROE) Permit was submitted to the State Land Office (SLO) in October 2021. The executed ROE permit was received January 18, 2022. The most recent field screening results indicate that additional delineation and remediation activities are required. In order to complete additional remediation activities and submit a remediation work plan or closure report, XTO requests a 90-day extension of this deadline until August 5, 2022.

Thank you,

Melanie Collins
SSHE Technician
XTO ENERGY
An **ExxonMobil** Subsidiary
6401 Holiday Hill Rd, Bldg 5
Midland, TX 79707
432-218-3709

Collins, Melanie

From: Collins, Melanie
Sent: Friday, October 29, 2021 12:39 PM
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us
Cc: DelawareSpills /SM; Cole, Aimee; Ager, Ashley; Jennings, Kalei
Subject: XTO-Extension Request - Avalon Delaware Unit 624 (Incident Number NAPP2123634554)

All,

XTO is requesting an extension to the 90-day deadline for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the Avalon Delaware Unit 624 (Incident Number NAPP2123634554). The release was discovered August 10, 2021 and an initial site assessment was conducted. A Right of Entry (ROE) Permit was submitted to the State Land Office (SLO) on October 7, 2021. The executed permit is still pending. XTO will begin remediation activities as soon as the executed permit is received. In order to conduct further site assessment, complete the remediation work, and submit a remediation work plan or closure report XTO requests an extension of this deadline until February 6, 2022.

Thank you,

Melanie Collins
SSHE Technician
XTO ENERGY
An **ExxonMobil** Subsidiary
6401 Holiday Hill Rd, Bldg 5
Midland, TX 79707
432-218-3709

From: Collins, Melanie
To: DelawareSpills /SM
Cc: Ashley Ager; Tacoma Morrissey; Kalei Jennings; Ben Belill; Pennington, Shelby G
Subject: FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 104853
Date: Wednesday, July 20, 2022 3:39:34 PM

[**EXTERNAL EMAIL**]

Work plan conditionally approved for ADU 624, released 8/10/21. Work plan submitted 5/6/22.

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]
Sent: Wednesday, July 20, 2022 3:19 PM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 104853

External Email - Think Before You Click

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2123634554, with the following conditions:

- **The Remediation Plan is conditionally approved: The release will need to be remediated to the strictest closure criteria standards due to high karst potential. Please collect confirmation samples, representing no more than 200 ft2. The liner installation is only approved at 4 feet bgs if all floor samples show TPH less than 100 mg/kg. Floor samples must be excavated to the strictest closure criteria, backfilled to 4 feet bgs with clean material, and then the liner installed. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The work will need to occur in 90 days after the work plan has been approved.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@state.nm.us

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

From: Aimee Cole
To: Kalei Jennings
Subject: FW: XTO Site Activities for the week of April 21st
Date: Monday, May 2, 2022 12:23:08 PM
Attachments: image001.png
image002.png
image003.png
image004.png

Aimee Cole
Senior Managing Scientist
720-384-7365
Ensolum, LLC

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, April 29, 2022 10:00 AM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Chad.Hensley@state.nm.us
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Baker, Adrian <adrian.baker@exxonmobil.com>; Aimee Cole <acole@ensolum.com>
Subject: XTO Site Activities for the week of April 21st

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of May 2, 2022.

Monday
- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

Tuesday
- PLU 30 Big Sinks CTB / nAPP2206853301, nAPP2208351954, nAPP2209137379

Wednesday
- ADU 624 / NAPP2123634554

Thursday
- ADU 624 / NAPP2123634554

Friday
- ADU 624 / NAPP2123634554

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

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

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

CONDITIONS

Action 159907

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 159907
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2215449179 AVALON DELAWARE UNIT 641, thank you. This closure is approved.	2/15/2023