State of New Mexico
Oil Conservation Division

Incident ID	NAPP2226339427
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: __11/30/2022_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: __11/30/2022____

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: 2/24/2023

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	NAPP2226339427
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.16468 Longitude -103.79699

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 147	Site Type Tank Battery
Date Release Discovered 09/10/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	05	25S	31E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 10.51	Volume Recovered (bbls) 00.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A valve on the water tank failed due to internal corrosion, releasing fluids to pad surface. No fluid was recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2226339427
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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: 9/20/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 09/20/2022

Location:	Poker Lake Unit 147	
Spill Date:	9/10/2022	
Area 1		
Approximate Area =	319.42	sq. ft.
Average Saturation (or depth) of spill =	11.08	inches
Average Porosity Factor =	0.20	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	10.51	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**10.51**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2226339427
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.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2226339427
District RP	
Facility ID	
Application ID	

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Printed Name: _Garrett Green _____ Title: _Environmental Coordinator_____

Signature:_____ _____ Date: ____11/30/2022_____

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

OCD Only

Received by: _____Jocelyn Harimon_____ Date: ___11/30/2022___

Incident ID	NAPP2226339427
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Closure

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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: __11/30/2022_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: __11/30/2022____

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: _____

ENSOLUM

November 30, 2022

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

Re: Closure Request
Poker Lake Unit 147
Incident Number NAPP2226339427
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Report* to document site assessment, excavation, and soil sampling activities at the Poker Lake Unit 147 (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water into an existing excavation within an earthen tank battery containment. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Report*, describing site assessment and excavation activities that have occurred and requesting no further action for Incident Number NAPP2226339427.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 5, Township 25 South, Range 31 East, in Eddy County, New Mexico (32.16468°N, 103.79699°W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 10, 2022, produced water was released from the water tank due to internal corrosion of a valve, resulting in the release of approximately 10.51 barrels (bbls) of produced water into an existing excavation within an earthen tank battery containment. No fluids were recovered. XTO notified the New Mexico Oil Conservation Division (NMOCD) of the release and submitted a Release Notification Form C-141 (Form C-141) on September 20, 2022. The release was assigned Incident Number NAPP2226339427.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On October 9, 2020, a soil boring

(C-4479) was drilled 0.4 miles east of the Site utilizing a truck-mounted hollow-stem air rotary. Soil boring C-4479 was drilled to a depth of 110 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activites. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. All wells used to determing depth to groundwater are depicted on Figure 1. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 3,470 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On September 13, 2022, and September 19, 2022, site assesment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Ensolum personnel collected five soil samples (SS01 through SS05) within and around the release extent. Soil sample SS01 was collected at 7 feet bgs from within the release extent at the base of the existing excavation, where the release pooled. Soil samples SS02 through SS05 were collected from a depth of approximately 0.5 feet bgs outside of the release extent to assess the lateral extent of the impacted soil. The soil samples were field screened for volatile aromatic hydrocarbons (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported 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-GRO, TPH-DRO,

and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for soil samples SS01 indicated that COC concentrations exceeded the Closure Criteria. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, additional remediation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On September 19, 2022, Ensolum personnel were at the Site to oversee delineation and excavation activities. Pothole, PH01, was advanced via backhoe to a depth of 10 feet bgs at the location of soil sample SS01 within the release extent to assess the vertical extent of the release. Delineation soil samples were collected from the pothole at depths of 8 feet bgs and 10 feet bgs. Soil from the delineation pothole was field screened as described above. Field screening results and observations were logged on a lithologic/soil sampling log, which is included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

Excavation of impacted soil was conducted within the release area at the base of the existing excavation as indicated by visible staining and laboratory analytical results from the delineation soil samples. The release occurred within an existing excavation on the well pad near production equipment and surface pipelines. The existing excavation was approximately 7 feet deep and a portion of the excavation was extended another 2.5 feet to to address the new release.

Following removal of the impacted soil, 5-point composite soil samples were collected at least every 200 square feet from the deeper excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 and FS02 were collected at a depth of 9.5 feet bgs. The sidewalls of the new excavation extended from 7 feet to 9.5 bgs and portions of the sidewalls were included in the final excavation samples. Finally, one sidewall sample (SW01) was collected from the original excavation at depths ranging from ground surface to 7 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation area measured approximately 380 square feet. A total of approximately 35 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for PH01 and PH01A, collected at 8 feet bgs and 10 feet bgs, respectively indicated that COCs concentrations are compliant with the Closure Criteria and the strictest Table 1 Closure Criteria. Delineation soil samples collected outside the visible release extent are compliant with the strictest Table 1 Closure Criteria. In addition, the confirmation samples collected within the final excavation extent indicate COCs are compliant with the strictest Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation was required. In order to protect the active equipment at the Site, XTO has backfilled the excavation with material purchased locally. The existing excavation remained open from a separate remediation event, Incident Number NRM2004445859. This event has been approved for deferral by NMOCD; therefore, the entirety of both excavations was backfilled.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been confirmed to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. Any gross impacts were removed via excavation of the impacted soils. The completion of these remedial actions is protective of human health, the environment, and groundwater. As such, XTO requests closure for Incident Numbers NAPP2226339427.

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

Sincerely,
Ensolum, LLC

Anita Thapalia, Ph.D., P.G.
Project Geologist

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

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

Appendices:

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

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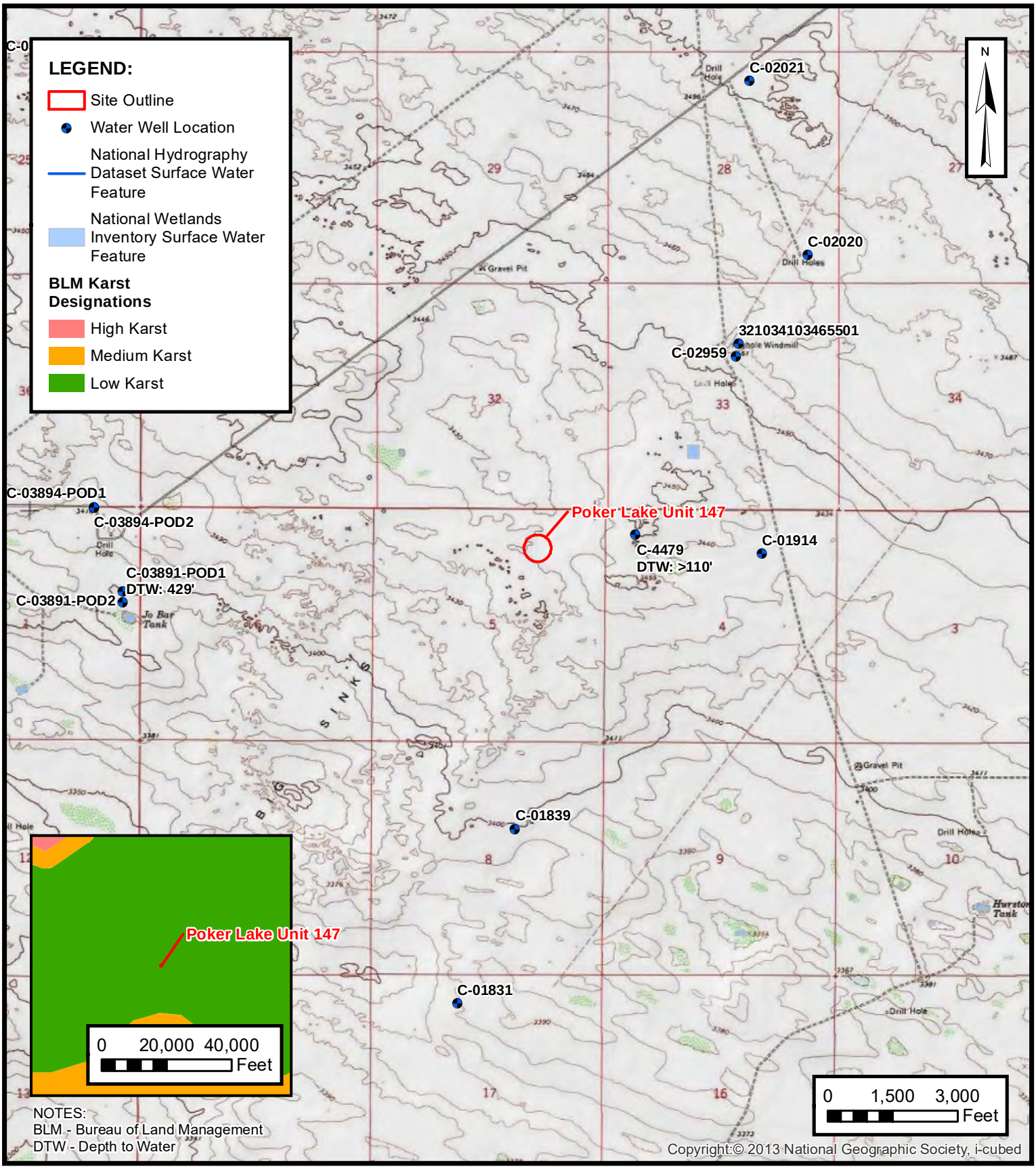
FIGURES



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Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
POKER LAKE UNIT 147
NAPP2226339427
Unit B, Sec 5, T25S, R31E
Eddy County, New Mexico

FIGURE

1

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 147
NAPP2226339427
Unit G, Sec 6, T24S, R30E
Eddy County, New Mexico

FIGURE

2

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Environmental, Engineering and Hydrogeologic Consultants

EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
POKER LAKE UNIT 147
NAPP2219648561
Unit G, Sec 6, T24S, R30E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Poker Lake Unit 147
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Confirmation Soil Samples										
~~SS01~~	~~09/13/2022~~	~~7~~	~~<0.00201~~	~~0.0481~~	~~<49.9~~	~~4,080~~	~~288~~	~~**4,080**~~	~~**4,370**~~	~~54.2~~
SS02	09/19/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	53.6
SS03	09/19/2022	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	10.0
SS04	09/19/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	13.0
SS05	09/19/2022	0.5	<0.00200	<0.00401	<49.9	67.8	<49.9	67.8	67.8	533
~~PH01~~	~~09/19/2022~~	~~8~~	~~<0.00200~~	~~0.0290~~	~~<49.9~~	~~684~~	~~<49.9~~	~~684~~	~~684~~	~~48.8~~
PH01A	09/19/2022	10	<0.00199	<0.00398	<49.9	66.5	<49.9	66.5	66.5	68.1
Excavation Confirmation Soil Samples										
SW01	09/19/2022	0-7	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	7.70
FS01	09/19/2022	9.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	78.3
FS02	09/19/2022	9.5	<0.00202	0.00668	<50.0	<50.0	<50.0	<50.0	<50.0	74.5

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.
~~*Grey*~~ *text indicate soil sample removed during excavation activities*
** indicates soil in the top 4 feet of pasture to be reclaimed*

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

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4479

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	9'	55.06"	N
	LONGITUDE	-103°	14'	20.45"	W

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

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

NE L4 Sec. 04 T25S R31E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
10/09/2020	10/09/2020	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

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

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4479	POD NO.	TRN NO. 678414
LOCATION 25S-31E-04	1.1.2	WELL TAG ID NO. NA

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Sand, Medium grained , well-graded Red-Brown	Y ✓ N	
4	20	16	Caliche, poorly consolidated. Brown	Y ✓ N	
20	24	4	Sand, Medium grained , well-graded Red-Brown	Y ✓ N	
24	35	9	Clay, High plasticity, some sand and caliche, Maroon	Y ✓ N	
35	40	5	Sand, Fine-grained , poorly-graded, some clay, moist Red	Y ✓ N	
40	54	14	Sand, Large-grained , well-graded, some clay, moist Red-Brown	Y ✓ N	
54	83	29	Sand, Medium-grained , well-graded, some clay, moist Red-Brown	Y ✓ N	
83	110	27	Sand, Large-grained , well-graded, clay, caliche fragments moist Red-Brown	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 10/26/2020

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4479	POD NO. 1	TRN NO. 678414	
LOCATION 25S-31E-04 1.1.2		WELL TAG ID NO. NA	PAGE 2 OF 2

2020-10-26_C-4479POD1_OSE_Well Record and Log-147-forsign

Final Audit Report 2020-10-27

Created:	2020-10-27
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA7SkWQIYYffb0w8t6xJIcqiH4l3eFqNWU

"2020-10-26_C-4479POD1_OSE_Well Record and Log-147-forsign" History

Document created by Lucas Middleton (lucas@atkinseng.com)
2020-10-27 - 3:14:56 PM GMT- IP address: 69.21.248.123

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2020-10-27 - 3:15:10 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2020-10-27 - 3:23:09 PM GMT- IP address: 74.50.153.115

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2020-10-27 - 3:23:58 PM GMT - Time Source: server- IP address: 74.50.153.115

Agreement completed.
2020-10-27 - 3:23:58 PM GMT

Adobe Sign

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 321034103465501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

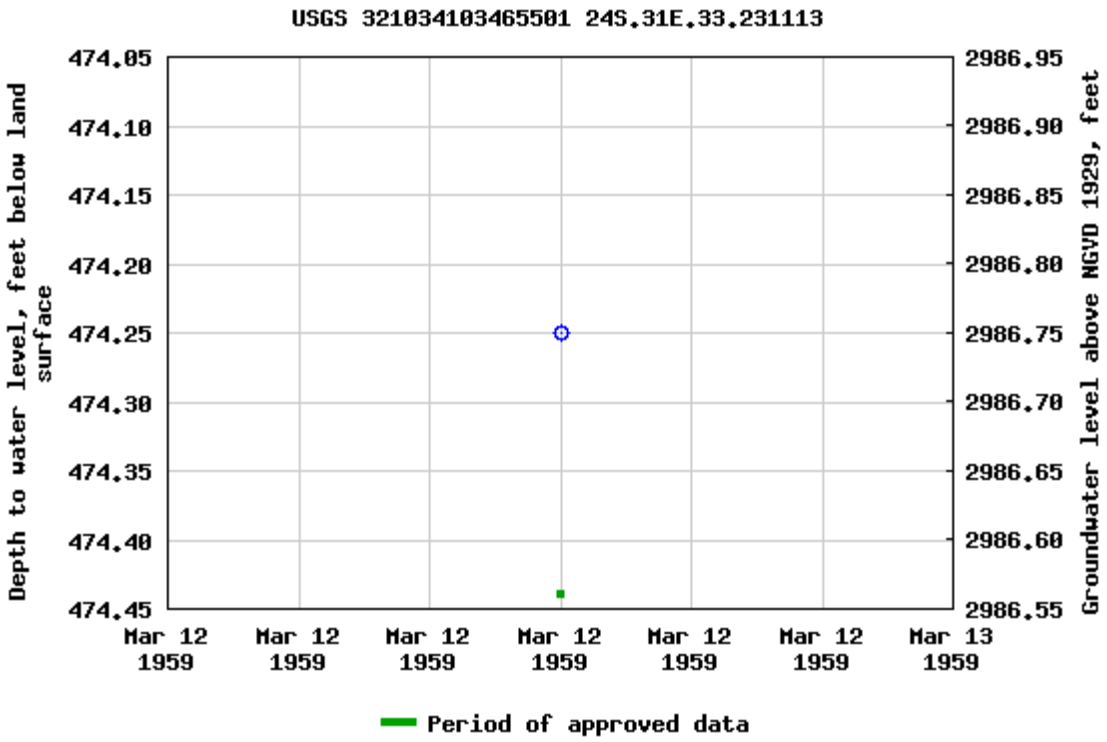
USGS 321034103465501 24S.31E.33.231113

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°10'38.2", Longitude 103°46'53.0" NAD83
Land-surface elevation 3,461.00 feet above NGVD29
The depth of the well is 740 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-10-07 11:45:35 EDT
0.57 0.5 nadww01

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
Poker Lake Unit 147
Incident Number NAPP2226339427

Photograph: 1 Date: September 14, 2022
Description: Release extent outlined above
View: Northwest

Photograph: 2 View: East Date: September 19, 2022
Description: Final excavation extent. Residual staining observed is from Incident NRM2004445859, which has an approved Deferral Request.

ENSOLUM

APPENDIX C

Lithologic / Soil Sampling Logs

ENSOLUM

	Sample Name: SS01/PH01	Date: 10/10/2022
	Site Name: Poker Lake Unit 147	
	Incident Number: NAPP2226339427	
	Job Number: 03E1558112	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Kase Parker	Method: Hand auger
Coordinates: 32.16472, -103.79703	Hole Diameter: 3.5	Total Depth: 10'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		@0' - 7' Soil was previously excavated.
						2		
						4		
						6		
M	ND	91.6	Y	SS01	7	7	SM	7' - 8', Moist, red, fine sand, unconsolidated, stained, H/C odor
M	ND	23.6	Y					
M	ND	53.1	N	PH01	8	8	SM/ CCHE	8', Moist, red, fine sand with CALICHE unconsolidated, non-stained, no H/C odor
N	ND	20.2	N		9	9	SM/ CCHE	SAA
N	ND	3.3	N	PHO1A	10	10	CCHE	10', well graded CALICHE, no stain, no ordor

Total Depth at 10 feet bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2950-1
Laboratory Sample Delivery Group: 03E1558112
Client Project/Site: PLU 147

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
9/27/2022 9:12:42 AM

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

LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: PLU 147

Laboratory Job ID: 890-2950-1
SDG: 03E1558112

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Job ID: 890-2950-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2950-1

Receipt
The sample was received on 9/13/2022 4:42 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 26.0°C

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34600 and analytical batch 880-34707 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 8015MOD_NM: The method blank for preparation batch 880-34600 and analytical batch 880-34707 contained Gasoline Range Organics (GRO)-C6-C10 and OII Range Organics (Over C28-C36) 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: Surrogate recovery for the following sample was outside control limits: SS01 (890-2950-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Client Sample ID: SS01

Date Collected: 09/13/22 09:00
Date Received: 09/13/22 16:42
Sample Depth: 7

Lab Sample ID: 890-2950-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/26/22 09:51	09/26/22 18:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/26/22 09:51	09/26/22 18:34	1
Ethylbenzene	**0.0307**		0.00201		mg/Kg		09/26/22 09:51	09/26/22 18:34	1
m-Xylene & p-Xylene	**0.00642**		0.00402		mg/Kg		09/26/22 09:51	09/26/22 18:34	1
o-Xylene	**0.0110**		0.00201		mg/Kg		09/26/22 09:51	09/26/22 18:34	1
Xylenes, Total	**0.0174**		0.00402		mg/Kg		09/26/22 09:51	09/26/22 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*239*	*S1+*	*70 - 130*	*09/26/22 09:51*	*09/26/22 18:34*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*09/26/22 09:51*	*09/26/22 18:34*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0481**		0.00402		mg/Kg			09/27/22 09:56	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4370**		49.9		mg/Kg			09/19/22 14:17	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 15:00	09/18/22 04:56	1
Diesel Range Organics (Over C10-C28)	**4080**		49.9		mg/Kg		09/15/22 15:00	09/18/22 04:56	1
Oil Range Organics (Over C28-C36)	**288**		49.9		mg/Kg		09/15/22 15:00	09/18/22 04:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*34*	*S1-*	*70 - 130*	*09/15/22 15:00*	*09/18/22 04:56*	*1*
o-Terphenyl	*57*	*S1-*	*70 - 130*	*09/15/22 15:00*	*09/18/22 04:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.2**		5.00		mg/Kg			09/19/22 18:05	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

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)										
880-19603-A-11-C MS	Matrix Spike	121	105										
880-19603-A-11-D MSD	Matrix Spike Duplicate	112	107										
890-2950-1	SS01	239 S1+	103										
LCS 880-35366/1-A	Lab Control Sample	54 S1-	107										
LCSD 880-35366/2-A	Lab Control Sample Dup	113	102										
MB 880-35366/5-A	Method Blank	103	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)										
890-2949-A-1-C MS	Matrix Spike	78	73										
890-2949-A-1-D MSD	Matrix Spike Duplicate	85	81										
890-2950-1	SS01	34 S1-	57 S1-										
LCS 880-34600/2-A	Lab Control Sample	100	104										
LCSD 880-34600/3-A	Lab Control Sample Dup	99	102										
MB 880-34600/1-A	Method Blank	119	125										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35366/5-A
Matrix: Solid
Analysis Batch: 35357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35366

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/26/22 09:51	09/26/22 12:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/26/22 09:51	09/26/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/26/22 09:51	09/26/22 12:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/26/22 09:51	09/26/22 12:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/26/22 09:51	09/26/22 12:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/26/22 09:51	09/26/22 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*09/26/22 09:51*	*09/26/22 12:02*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/26/22 09:51*	*09/26/22 12:02*	*1*

Lab Sample ID: LCS 880-35366/1-A
Matrix: Solid
Analysis Batch: 35357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35366

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08654		mg/Kg		87	70 - 130		
Toluene			0.100	0.07683		mg/Kg		77	70 - 130		
Ethylbenzene			0.100	0.08077		mg/Kg		81	70 - 130		
m-Xylene & p-Xylene			0.200	0.1625		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.09508		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*54*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-35366/2-A
Matrix: Solid
Analysis Batch: 35357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35366

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08700		mg/Kg		87	70 - 130	1	35
Toluene			0.100	0.07978		mg/Kg		80	70 - 130	4	35
Ethylbenzene			0.100	0.08153		mg/Kg		82	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1700		mg/Kg		85	70 - 130	4	35
o-Xylene			0.100	0.09609		mg/Kg		96	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-19603-A-11-C MS
Matrix: Solid
Analysis Batch: 35357

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35366

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0996	0.08414		mg/Kg		84	70 - 130		
Toluene	0.00397		0.0996	0.07679		mg/Kg		73	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

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

Lab Sample ID: 880-19603-A-11-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35357 — **Prep Batch: 35366**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.00425		0.0996	0.08055		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	0.0104		0.199	0.1673		mg/Kg		79	70 - 130
o-Xylene	0.00695		0.0996	0.09689		mg/Kg		90	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-19603-A-11-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35357 — **Prep Batch: 35366**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09011		mg/Kg		90	70 - 130	7	35
Toluene	0.00397		0.0996	0.08333		mg/Kg		80	70 - 130	8	35
Ethylbenzene	0.00425		0.0996	0.08490		mg/Kg		81	70 - 130	5	35
m-Xylene & p-Xylene	0.0104		0.199	0.1756		mg/Kg		83	70 - 130	5	35
o-Xylene	0.00695		0.0996	0.09962		mg/Kg		93	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-34600/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34707 — **Prep Batch: 34600**

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 15:00	09/17/22 20:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/15/22 15:00	09/17/22 20:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/15/22 15:00	09/17/22 20:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*09/15/22 15:00*	*09/17/22 20:03*	*1*
o-Terphenyl	*125*		*70 - 130*	*09/15/22 15:00*	*09/17/22 20:03*	*1*

Lab Sample ID: LCS 880-34600/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 34707 — **Prep Batch: 34600**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	827.8		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	1000	927.5		mg/Kg		93	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

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

Lab Sample ID: LCS 880-34600/2-A
Matrix: Solid
Analysis Batch: 34707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34600

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-34600/3-A
Matrix: Solid
Analysis Batch: 34707

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34600

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	883.3		mg/Kg		88	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	921.9		mg/Kg		92	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-2949-A-1-C MS
Matrix: Solid
Analysis Batch: 34707

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34600

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	996	494.2	F1	mg/Kg		48	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	758.4		mg/Kg		76	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-2949-A-1-D MSD
Matrix: Solid
Analysis Batch: 34707

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34600

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	999	549.9	F1	mg/Kg		53	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	844.1		mg/Kg		84	70 - 130	11	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	81		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34584/1-A
Matrix: Solid
Analysis Batch: 34849

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			09/19/22 10:49	1

Lab Sample ID: LCS 880-34584/2-A
Matrix: Solid
Analysis Batch: 34849

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.5		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-34584/3-A
Matrix: Solid
Analysis Batch: 34849

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	251.2		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-2942-A-17-B MS
Matrix: Solid
Analysis Batch: 34849

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	30.8		251	268.1		mg/Kg		95	90 - 110		

Lab Sample ID: 890-2942-A-17-C MSD
Matrix: Solid
Analysis Batch: 34849

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	30.8		251	270.0		mg/Kg		96	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

GC VOA

Analysis Batch: 35357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	8021B	35366
MB 880-35366/5-A	Method Blank	Total/NA	Solid	8021B	35366
LCS 880-35366/1-A	Lab Control Sample	Total/NA	Solid	8021B	35366
LCSD 880-35366/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35366
880-19603-A-11-C MS	Matrix Spike	Total/NA	Solid	8021B	35366
880-19603-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35366

Prep Batch: 35366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	5035	
MB 880-35366/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35366/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35366/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19603-A-11-C MS	Matrix Spike	Total/NA	Solid	5035	
880-19603-A-11-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 35488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 34600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-34600/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34600/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34600/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2949-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2949-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	8015B NM	34600
MB 880-34600/1-A	Method Blank	Total/NA	Solid	8015B NM	34600
LCS 880-34600/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34600
LCSD 880-34600/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34600
890-2949-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	34600
890-2949-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34600

Analysis Batch: 34847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Soluble	Solid	DI Leach	
MB 880-34584/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34584/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34584/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

HPLC/IC (Continued)

Leach Batch: 34584 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2942-A-17-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2942-A-17-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2950-1	SS01	Soluble	Solid	300.0	34584
MB 880-34584/1-A	Method Blank	Soluble	Solid	300.0	34584
LCS 880-34584/2-A	Lab Control Sample	Soluble	Solid	300.0	34584
LCSD 880-34584/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34584
890-2942-A-17-B MS	Matrix Spike	Soluble	Solid	300.0	34584
890-2942-A-17-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34584

Lab Chronicle

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Client Sample ID: SS01

Date Collected: 09/13/22 09:00
Date Received: 09/13/22 16:42

Lab Sample ID: 890-2950-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	35366	09/26/22 09:51	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35357	09/26/22 18:34	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35488	09/27/22 09:56	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34847	09/19/22 14:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34600	09/15/22 15:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34707	09/18/22 04:56	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34584	09/15/22 11:21	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	34849	09/19/22 18:05	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: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-2950-1
SDG: 03E1558112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2950-1	SS01	Solid	09/13/22 09:00	09/13/22 16:42	7

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9/27/2022

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

Work Order Comments

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

Project Name:	PLU 147	Turn Around	
Project Number:	03E1558112	☑ Routine ☐ Rush	
Project Location:	32.16472 -103.79703	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TMM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	24.2	
Total Containers:		Corrected Temperature:	24.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	9/13/2022	9:00	7'				x	x	x

890-2950 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:
Cost Center:
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			9.13.22 1640			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 11/30/2022 2:29:40 PM

Released to Imaging: 2/24/2023 3:46:12 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2950-1
SDG Number: 03E1558112

Login Number: 2950
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: 890-2950-1
SDG Number: 03E1558112

Login Number: 2950
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: 890-3005-1
Laboratory Sample Delivery Group: 03E1558112
Client Project/Site: PLU 147
Revision: 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
9/27/2022 10:05:10 AM

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

LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: PLU 147

Laboratory Job ID: 890-3005-1
SDG: 03E1558112

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Job ID: 890-3005-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3005-1

REVISION

The report being provided is a revision of the original report sent on 9/23/2022. The report (revision 1) is being revised due to Per client email, requesting TPH re run.

Report revision history

Receipt
The samples were received on 9/19/2022 3:49 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 27.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35058 and analytical batch 880-35059 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 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.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-35422/2-A) and (LCSD 880-35422/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-35422 and analytical batch 880-35341 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: PH01
Date Collected: 09/19/22 09:35
Date Received: 09/19/22 15:49
Sample Depth: 8

Lab Sample ID: 890-3005-1
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 11:58	09/21/22 17:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:50	1
Ethylbenzene	**0.00271**		0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:50	1
m-Xylene & p-Xylene	**0.00508**		0.00399		mg/Kg		09/21/22 11:58	09/21/22 17:50	1
o-Xylene	**0.0212**		0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:50	1
Xylenes, Total	**0.0263**		0.00399		mg/Kg		09/21/22 11:58	09/21/22 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:50*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:50*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0290**		0.00399		mg/Kg			09/22/22 09:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**684**		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	<49.9	U	49.9		mg/Kg		09/26/22 15:10	09/27/22 04:10	1
Diesel Range Organics (Over C10-C28)	**684**		49.9		mg/Kg		09/26/22 15:10	09/27/22 04:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/26/22 15:10	09/27/22 04:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*09/26/22 15:10*	*09/27/22 04:10*	*1*
o-Terphenyl	*108*		*70 - 130*	*09/26/22 15:10*	*09/27/22 04:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.8**		5.01		mg/Kg			09/21/22 13:25	1

Client Sample ID: PH01A
Date Collected: 09/19/22 09:45
Date Received: 09/19/22 15:49
Sample Depth: 10

Lab Sample ID: 890-3005-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 18:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 18:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 18:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/21/22 11:58	09/21/22 18:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 18:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/21/22 11:58	09/21/22 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/21/22 11:58*	*09/21/22 18:10*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: PH01A
Date Collected: 09/19/22 09:45
Date Received: 09/19/22 15:49
Sample Depth: 10

Lab Sample ID: 890-3005-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*09/21/22 11:58*	*09/21/22 18:10*	*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			09/22/22 09:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**66.5**		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	<49.9	U	49.9		mg/Kg		09/26/22 15:10	09/27/22 04:29	1
Diesel Range Organics (Over C10-C28)	**66.5**		49.9		mg/Kg		09/26/22 15:10	09/27/22 04:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/26/22 15:10	09/27/22 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*09/26/22 15:10*	*09/27/22 04:29*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/26/22 15:10*	*09/27/22 04:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**68.1**		5.02		mg/Kg			09/21/22 13:29	1

Client Sample ID: FS01
Date Collected: 09/19/22 12:00
Date Received: 09/19/22 15:49
Sample Depth: 9.5

Lab Sample ID: 890-3005-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/21/22 13:04	09/22/22 12:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/21/22 13:04	09/22/22 12:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/21/22 13:04	09/22/22 12:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/21/22 13:04	09/22/22 12:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/21/22 13:04	09/22/22 12:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/21/22 13:04	09/22/22 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/21/22 13:04*	*09/22/22 12:20*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*09/21/22 13:04*	*09/22/22 12:20*	*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			09/22/22 09:48	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			09/23/22 16:01	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: FS01
Date Collected: 09/19/22 12:00
Date Received: 09/19/22 15:49
Sample Depth: 9.5

Lab Sample ID: 890-3005-3
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 *1	49.9		mg/Kg		09/21/22 08:32	09/22/22 22:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/22/22 22:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/22/22 22:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*09/21/22 08:32*	*09/22/22 22:22*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/21/22 08:32*	*09/22/22 22:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.3**		5.03		mg/Kg			09/21/22 13:34	1

Client Sample ID: FS02
Date Collected: 09/19/22 12:05
Date Received: 09/19/22 15:49
Sample Depth: 9.5

Lab Sample ID: 890-3005-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/21/22 11:58	09/21/22 18:51	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/21/22 11:58	09/21/22 18:51	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/21/22 11:58	09/21/22 18:51	1
m-Xylene & p-Xylene	**0.00428**		0.00403		mg/Kg		09/21/22 11:58	09/21/22 18:51	1
o-Xylene	**0.00240**		0.00202		mg/Kg		09/21/22 11:58	09/21/22 18:51	1
Xylenes, Total	**0.00668**		0.00403		mg/Kg		09/21/22 11:58	09/21/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/21/22 11:58*	*09/21/22 18:51*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*09/21/22 11:58*	*09/21/22 18:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00668**		0.00403		mg/Kg			09/22/22 09:48	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			09/23/22 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	<50.0	U *1	50.0		mg/Kg		09/21/22 08:32	09/22/22 22:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/22/22 22:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/22/22 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*09/21/22 08:32*	*09/22/22 22:43*	*1*
o-Terphenyl	*100*		*70 - 130*	*09/21/22 08:32*	*09/22/22 22:43*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: FS02
Date Collected: 09/19/22 12:05
Date Received: 09/19/22 15:49
Sample Depth: 9.5

Lab Sample ID: 890-3005-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	74.5		5.03		mg/Kg			09/21/22 13:39	1

Client Sample ID: SS02
Date Collected: 09/19/22 12:45
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 19:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 19:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 19:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/21/22 11:58	09/21/22 19:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 19:12	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/21/22 11:58	09/21/22 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:12*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:12*	*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			09/22/22 09:48	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			09/23/22 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	<50.0	U *1	50.0		mg/Kg		09/21/22 08:32	09/22/22 23:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/22/22 23:05	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/21/22 08:32	09/22/22 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:05*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53.6		5.00		mg/Kg			09/21/22 13:54	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: SS03
Date Collected: 09/19/22 12:50
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-6
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		09/21/22 11:58	09/21/22 19:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 19:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 19:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/21/22 11:58	09/21/22 19:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/21/22 11:58	09/21/22 19:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/21/22 11:58	09/21/22 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:32*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:32*	*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			09/22/22 09:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			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	<49.8	U *1	49.8		mg/Kg		09/21/22 08:32	09/22/22 23:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/21/22 08:32	09/22/22 23:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/21/22 08:32	09/22/22 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:26*	*1*
o-Terphenyl	*95*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.0**		4.99		mg/Kg			09/21/22 13:58	1

Client Sample ID: SS04
Date Collected: 09/19/22 12:55
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 19:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 19:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 19:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/21/22 11:58	09/21/22 19:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 19:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/21/22 11:58	09/21/22 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:52*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: SS04
Date Collected: 09/19/22 12:55
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/21/22 11:58*	*09/21/22 19:52*	*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			09/22/22 09:48	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			09/23/22 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	<49.9	U *1	49.9	mg/Kg		09/21/22 08:32	09/22/22 23:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/21/22 08:32	09/22/22 23:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/21/22 08:32	09/22/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:47*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/21/22 08:32*	*09/22/22 23:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.0**		4.95	mg/Kg			09/21/22 14:03	1

Client Sample ID: SS05
Date Collected: 09/19/22 13:00
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-8
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 11:58	09/21/22 20:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/22 11:58	09/21/22 20:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/22 11:58	09/21/22 20:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/21/22 11:58	09/21/22 20:13	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/22 11:58	09/21/22 20:13	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/21/22 11:58	09/21/22 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/21/22 11:58*	*09/21/22 20:13*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/21/22 11:58*	*09/21/22 20:13*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			09/22/22 09:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**67.8**		49.9	mg/Kg			09/23/22 16:01	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: SS05

Date Collected: 09/19/22 13:00
Date Received: 09/19/22 15:49
Sample Depth: 0.5

Lab Sample ID: 890-3005-8

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 *1	49.9		mg/Kg		09/21/22 08:32	09/23/22 00:09	1
Diesel Range Organics (Over C10-C28)	**67.8**		49.9		mg/Kg		09/21/22 08:32	09/23/22 00:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*09/21/22 08:32*	*09/23/22 00:09*	*1*
o-Terphenyl	*114*		*70 - 130*	*09/21/22 08:32*	*09/23/22 00:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**533**		4.95		mg/Kg			09/21/22 14:08	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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)
880-19485-A-21-A MS	Matrix Spike	140 S1+	109
880-19485-A-21-B MSD	Matrix Spike Duplicate	135 S1+	108
890-3004-A-1-F MS	Matrix Spike	97	123
890-3004-A-1-G MSD	Matrix Spike Duplicate	80	112
890-3005-1	PH01	106	101
890-3005-2	PH01A	96	104
890-3005-3	FS01	97	79
890-3005-4	FS02	100	123
890-3005-5	SS02	94	119
890-3005-6	SS03	104	109
890-3005-7	SS04	113	107
890-3005-8	SS05	88	107
LCS 880-35058/1-A	Lab Control Sample	81	110
LCS 880-35061/1-A	Lab Control Sample	130	117
LCSD 880-35058/2-A	Lab Control Sample Dup	76	107
LCSD 880-35061/2-A	Lab Control Sample Dup	154 S1+	121
MB 880-35058/5-A	Method Blank	105	115
MB 880-35060/5-A	Method Blank	86	106
MB 880-35061/5-A	Method Blank	112	106

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
890-3005-1	PH01	104	108
890-3005-2	PH01A	102	111
890-3005-3	FS01	119	111
890-3005-4	FS02	108	100
890-3005-5	SS02	99	95
890-3005-6	SS03	102	95
890-3005-7	SS04	126	109
890-3005-8	SS05	125	114
890-3038-A-1-C MS	Matrix Spike	95	90
890-3038-A-1-D MSD	Matrix Spike Duplicate	107	99
LCS 880-35018/2-A	Lab Control Sample	113	105
LCS 880-35422/2-A	Lab Control Sample	133 S1+	143 S1+
LCSD 880-35018/3-A	Lab Control Sample Dup	98	86
LCSD 880-35422/3-A	Lab Control Sample Dup	134 S1+	145 S1+
MB 880-35018/1-A	Method Blank	105	103
MB 880-35422/1-A	Method Blank	99	106

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35058/5-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35058

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 11:58	09/21/22 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:00*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:00*	*1*

Lab Sample ID: LCS 880-35058/1-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35058

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.08187		mg/Kg		82	70 - 130		
Ethylbenzene			0.100	0.07908		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1612		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.07941		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-35058/2-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35058

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1007		mg/Kg		101	70 - 130	2	35
Toluene			0.100	0.08108		mg/Kg		81	70 - 130	1	35
Ethylbenzene			0.100	0.07828		mg/Kg		78	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1586		mg/Kg		79	70 - 130	2	35
o-Xylene			0.100	0.07788		mg/Kg		78	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3004-A-1-F MS
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0990	0.08566		mg/Kg		87	70 - 130		
Toluene	<0.00201	U F1	0.0990	0.06932	F1	mg/Kg		69	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Lab Sample ID: 890-3004-A-1-F MS
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.0990	0.06333	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.1283	F1	mg/Kg		65	70 - 130
o-Xylene	<0.00201	U	0.0990	0.06949		mg/Kg		70	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: 890-3004-A-1-G MSD
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1022		mg/Kg		102	70 - 130	18	35
Toluene	<0.00201	U F1	0.100	0.07930		mg/Kg		79	70 - 130	13	35
Ethylbenzene	<0.00201	U F1	0.100	0.07439		mg/Kg		74	70 - 130	16	35
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1492		mg/Kg		74	70 - 130	15	35
o-Xylene	<0.00201	U	0.100	0.07353		mg/Kg		73	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: MB 880-35060/5-A
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 12:57	09/21/22 16:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 12:57	09/21/22 16:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 12:57	09/21/22 16:55	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 12:57	09/21/22 16:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*09/21/22 12:57*	*09/21/22 16:55*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*09/21/22 12:57*	*09/21/22 16:55*	*1*

Lab Sample ID: MB 880-35061/5-A
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35061

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 13:04	09/22/22 03:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 13:04	09/22/22 03:37	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Lab Sample ID: MB 880-35061/5-A
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35061

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 13:04	09/22/22 03:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 13:04	09/22/22 03:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*09/21/22 13:04*	*09/22/22 03:37*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*09/21/22 13:04*	*09/22/22 03:37*	*1*

Lab Sample ID: LCS 880-35061/1-A
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35061

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07370		mg/Kg		74	70 - 130		
Toluene			0.100	0.07810		mg/Kg		78	70 - 130		
Ethylbenzene			0.100	0.08578		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			0.200	0.1910		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09680		mg/Kg		97	70 - 130		

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

Lab Sample ID: LCSD 880-35061/2-A
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35061

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08829		mg/Kg		88	70 - 130	18	35
Toluene			0.100	0.09815		mg/Kg		98	70 - 130	23	35
Ethylbenzene			0.100	0.1069		mg/Kg		107	70 - 130	22	35
m-Xylene & p-Xylene			0.200	0.2382		mg/Kg		119	70 - 130	22	35
o-Xylene			0.100	0.1184		mg/Kg		118	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*

Lab Sample ID: 880-19485-A-21-A MS
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1	0.0998	0.06937		mg/Kg		70	70 - 130		
Toluene	<0.00200	U	0.0998	0.07597		mg/Kg		76	70 - 130		
Ethylbenzene	<0.00200	U	0.0998	0.07868		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1789		mg/Kg		90	70 - 130		
o-Xylene	<0.00200	U	0.0998	0.08893		mg/Kg		89	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Lab Sample ID: 880-19485-A-21-A MS
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35061

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-19485-A-21-B MSD
Matrix: Solid
Analysis Batch: 35073

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.100	0.06824	F1	mg/Kg		68	70 - 130	2	35
Toluene	<0.00200	U	0.100	0.08287		mg/Kg		83	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.100	0.07688		mg/Kg		77	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U	0.201	0.1785		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00200	U	0.100	0.08825		mg/Kg		88	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

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

Lab Sample ID: MB 880-35018/1-A
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Method Blank
Prep Type: Total/NA
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
Oil 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

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

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*
o-Terphenyl	*74*		*70 - 130*

Lab Sample ID: MB 880-35422/1-A
Matrix: Solid
Analysis Batch: 35341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35422

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		09/26/22 15:10	09/26/22 20:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/26/22 15:10	09/26/22 20:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/26/22 15:10	09/26/22 20:03	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Lab Sample ID: MB 880-35422/1-A
Matrix: Solid
Analysis Batch: 35341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35422

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	09/26/22 15:10	09/26/22 20:03	1
o-Terphenyl	106		70 - 130	09/26/22 15:10	09/26/22 20:03	1

Lab Sample ID: LCS 880-35422/2-A
Matrix: Solid
Analysis Batch: 35341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1096		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	814.0		mg/Kg		81	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	133	S1+	70 - 130
o-Terphenyl	143	S1+	70 - 130

Lab Sample ID: LCSD 880-35422/3-A
Matrix: Solid
Analysis Batch: 35341

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1110		mg/Kg		111	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	829.5		mg/Kg		83	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	134	S1+	70 - 130
o-Terphenyl	145	S1+	70 - 130

Lab Sample ID: 890-3038-A-1-C MS
Matrix: Solid
Analysis Batch: 35341

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35422

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	1150		mg/Kg		113	70 - 130		
Diesel Range Organics (Over C10-C28)	61.8		998	857.1		mg/Kg		80	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Lab Sample ID: 890-3038-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 35341 — **Prep Batch: 35422**

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	1175		mg/Kg		116	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	61.8		999	952.6		mg/Kg		89	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-35028/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35075

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/21/22 12:55	1

Lab Sample ID: LCS 880-35028/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35075

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.9		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-35028/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35075

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	248.8		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3004-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35075

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.70		248	251.4		mg/Kg		98	90 - 110		

Lab Sample ID: 890-3004-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 35075

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.70		248	253.0		mg/Kg		99	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

GC VOA

Prep Batch: 35058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	5035	
890-3005-2	PH01A	Total/NA	Solid	5035	
890-3005-4	FS02	Total/NA	Solid	5035	
890-3005-5	SS02	Total/NA	Solid	5035	
890-3005-6	SS03	Total/NA	Solid	5035	
890-3005-7	SS04	Total/NA	Solid	5035	
890-3005-8	SS05	Total/NA	Solid	5035	
MB 880-35058/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35058/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35058/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3004-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-3004-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 35059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	8021B	35058
890-3005-2	PH01A	Total/NA	Solid	8021B	35058
890-3005-4	FS02	Total/NA	Solid	8021B	35058
890-3005-5	SS02	Total/NA	Solid	8021B	35058
890-3005-6	SS03	Total/NA	Solid	8021B	35058
890-3005-7	SS04	Total/NA	Solid	8021B	35058
890-3005-8	SS05	Total/NA	Solid	8021B	35058
MB 880-35058/5-A	Method Blank	Total/NA	Solid	8021B	35058
LCS 880-35058/1-A	Lab Control Sample	Total/NA	Solid	8021B	35058
LCSD 880-35058/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35058
890-3004-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	35058
890-3004-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35058

Prep Batch: 35060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-35060/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 35061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-3	FS01	Total/NA	Solid	5035	
MB 880-35061/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35061/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35061/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19485-A-21-A MS	Matrix Spike	Total/NA	Solid	5035	
880-19485-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 35073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-3	FS01	Total/NA	Solid	8021B	35061
MB 880-35060/5-A	Method Blank	Total/NA	Solid	8021B	35060
MB 880-35061/5-A	Method Blank	Total/NA	Solid	8021B	35061
LCS 880-35061/1-A	Lab Control Sample	Total/NA	Solid	8021B	35061
LCSD 880-35061/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35061
880-19485-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	35061
880-19485-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	35061

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

GC VOA

Analysis Batch: 35133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	Total BTEX	
890-3005-2	PH01A	Total/NA	Solid	Total BTEX	
890-3005-3	FS01	Total/NA	Solid	Total BTEX	
890-3005-4	FS02	Total/NA	Solid	Total BTEX	
890-3005-5	SS02	Total/NA	Solid	Total BTEX	
890-3005-6	SS03	Total/NA	Solid	Total BTEX	
890-3005-7	SS04	Total/NA	Solid	Total BTEX	
890-3005-8	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 35018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-3	FS01	Total/NA	Solid	8015NM Prep	
890-3005-4	FS02	Total/NA	Solid	8015NM Prep	
890-3005-5	SS02	Total/NA	Solid	8015NM Prep	
890-3005-6	SS03	Total/NA	Solid	8015NM Prep	
890-3005-7	SS04	Total/NA	Solid	8015NM Prep	
890-3005-8	SS05	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
890-3005-3	FS01	Total/NA	Solid	8015B NM	35018
890-3005-4	FS02	Total/NA	Solid	8015B NM	35018
890-3005-5	SS02	Total/NA	Solid	8015B NM	35018
890-3005-6	SS03	Total/NA	Solid	8015B NM	35018
890-3005-7	SS04	Total/NA	Solid	8015B NM	35018
890-3005-8	SS05	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: 35294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	8015 NM	
890-3005-2	PH01A	Total/NA	Solid	8015 NM	
890-3005-3	FS01	Total/NA	Solid	8015 NM	
890-3005-4	FS02	Total/NA	Solid	8015 NM	
890-3005-5	SS02	Total/NA	Solid	8015 NM	
890-3005-6	SS03	Total/NA	Solid	8015 NM	
890-3005-7	SS04	Total/NA	Solid	8015 NM	
890-3005-8	SS05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

GC Semi VOA

Analysis Batch: 35341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	8015B NM	35422
890-3005-2	PH01A	Total/NA	Solid	8015B NM	35422
MB 880-35422/1-A	Method Blank	Total/NA	Solid	8015B NM	35422
LCS 880-35422/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	35422
LCSD 880-35422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	35422
890-3038-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	35422
890-3038-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	35422

Prep Batch: 35422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Total/NA	Solid	8015NM Prep	
890-3005-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-35422/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-35422/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-35422/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3038-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3038-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 35028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Soluble	Solid	DI Leach	
890-3005-2	PH01A	Soluble	Solid	DI Leach	
890-3005-3	FS01	Soluble	Solid	DI Leach	
890-3005-4	FS02	Soluble	Solid	DI Leach	
890-3005-5	SS02	Soluble	Solid	DI Leach	
890-3005-6	SS03	Soluble	Solid	DI Leach	
890-3005-7	SS04	Soluble	Solid	DI Leach	
890-3005-8	SS05	Soluble	Solid	DI Leach	
MB 880-35028/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-35028/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-35028/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3004-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3004-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 35075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3005-1	PH01	Soluble	Solid	300.0	35028
890-3005-2	PH01A	Soluble	Solid	300.0	35028
890-3005-3	FS01	Soluble	Solid	300.0	35028
890-3005-4	FS02	Soluble	Solid	300.0	35028
890-3005-5	SS02	Soluble	Solid	300.0	35028
890-3005-6	SS03	Soluble	Solid	300.0	35028
890-3005-7	SS04	Soluble	Solid	300.0	35028
890-3005-8	SS05	Soluble	Solid	300.0	35028
MB 880-35028/1-A	Method Blank	Soluble	Solid	300.0	35028
LCS 880-35028/2-A	Lab Control Sample	Soluble	Solid	300.0	35028
LCSD 880-35028/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	35028
890-3004-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	35028
890-3004-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	35028

Lab Chronicle

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: PH01
Date Collected: 09/19/22 09:35
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-1
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	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 17:50	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	35422	09/26/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35341	09/27/22 04:10	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:25	CH	EET MID

Client Sample ID: PH01A
Date Collected: 09/19/22 09:45
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 18:10	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	35422	09/26/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35341	09/27/22 04:29	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:29	CH	EET MID

Client Sample ID: FS01
Date Collected: 09/19/22 12:00
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	35061	09/21/22 13:04	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35073	09/22/22 12:20	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	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	09/22/22 22:22	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:34	CH	EET MID

Client Sample ID: FS02
Date Collected: 09/19/22 12:05
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-4
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	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 18:51	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: FS02
Date Collected: 09/19/22 12:05
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-4
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			35294	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	09/22/22 22:43	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:39	CH	EET MID

Client Sample ID: SS02
Date Collected: 09/19/22 12:45
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-5
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	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 19:12	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	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	09/22/22 23:05	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:54	CH	EET MID

Client Sample ID: SS03
Date Collected: 09/19/22 12:50
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 19:32	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	09/23/22 16:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	35018	09/21/22 08:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	35120	09/22/22 23:26	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:58	CH	EET MID

Client Sample ID: SS04
Date Collected: 09/19/22 12:55
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-7
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			4.97 g	5 mL	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 19:52	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	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	09/22/22 23:47	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Client Sample ID: SS04

Date Collected: 09/19/22 12:55
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-7
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	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 14:03	CH	EET MID

Client Sample ID: SS05

Date Collected: 09/19/22 13:00
Date Received: 09/19/22 15:49

Lab Sample ID: 890-3005-8
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			4.99 g	5 mL	35058	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 20:13	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35133	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35294	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 00:09	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 14:08	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

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

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3005-1
SDG: 03E1558112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3005-1	PH01	Solid	09/19/22 09:35	09/19/22 15:49	8
890-3005-2	PH01A	Solid	09/19/22 09:45	09/19/22 15:49	10
890-3005-3	FS01	Solid	09/19/22 12:00	09/19/22 15:49	9.5
890-3005-4	FS02	Solid	09/19/22 12:05	09/19/22 15:49	9.5
890-3005-5	SS02	Solid	09/19/22 12:45	09/19/22 15:49	0.5
890-3005-6	SS03	Solid	09/19/22 12:50	09/19/22 15:49	0.5
890-3005-7	SS04	Solid	09/19/22 12:55	09/19/22 15:49	0.5
890-3005-8	SS05	Solid	09/19/22 13:00	09/19/22 15:49	0.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 147	Turn Around	
Project Number:	03E1558112	☐ Routine ☑ Rush	
Project Location:	32.16472, -103.79703	Due Date:	24hr TAT
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	27.6	
Total Containers:		Corrected Temperature:	27.4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	9/19/2022	9:35	8'				x	x	x
PH01A	S	9/19/2022	9:45	10'				x	x	x
FS01	S	9/19/2022	12:00	9.5'				x	x	x
FS02	S	9/19/2022	12:05	9.5'				x	x	x
SS02	S	9/19/2022	12:45	0.5'				x	x	x
SS03	S	9/19/2022	12:50	0.5'				x	x	x
SS04	S	9/19/2022	12:55	0.5'				x	x	x
~~SS05~~	~~S~~	~~9/19/2022~~	13:00	0.5'				x	x	x

890-3005 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:

Cost Center:
03E1558112
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 Stuf	9/19/22 1549	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Received by OCD: 11/30/2022 2:29:40 PM

Released to Imaging: 2/24/2023 3:46:12 PM

9/27/2022 (Rev. 1)

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3005-1
SDG Number: 03E1558112

Login Number: 3005
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: 890-3005-1
SDG Number: 03E1558112

Login Number: 3005
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

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Generated 11/29/2022 9:56:59 AM Revision 1

JOB DESCRIPTION

PLU 147
SDG NUMBER 03E1558112

JOB NUMBER

890-3004-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 2/24/2023 3:46:12 PM

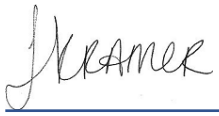
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
11/29/2022 9:56:59 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 147

Laboratory Job ID: 890-3004-1
SDG: 03E1558112

Table of Contents

Released to Imaging: 2/24/2023 3:46:12 PM

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Job ID: 890-3004-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3004-1

REVISION

The report being provided is a revision of the original report sent on 9/23/2022. The report (revision 1) is being revised due to Per client email, correcting sample depth.

Report revision history

Receipt
The sample was received on 9/19/2022 3:44 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 27.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-35058 and analytical batch 880-35059 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 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: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Client Sample ID: SW01
Date Collected: 09/19/22 13:05
Date Received: 09/19/22 15:44
Sample Depth: 0-7' bgs

Lab Sample ID: 890-3004-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 17:29	1
Toluene	<0.00201	U F1	0.00201		mg/Kg		09/21/22 11:58	09/21/22 17:29	1
Ethylbenzene	<0.00201	U F1	0.00201		mg/Kg		09/21/22 11:58	09/21/22 17:29	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402		mg/Kg		09/21/22 11:58	09/21/22 17:29	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/21/22 11:58	09/21/22 17:29	1
Xylenes, Total	<0.00402	U F1	0.00402		mg/Kg		09/21/22 11:58	09/21/22 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:29*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/22/22 09:48	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			09/23/22 16:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		09/21/22 08:32	09/23/22 00:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 00:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/21/22 08:32	09/23/22 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*09/21/22 08:32*	*09/23/22 00:30*	*1*
o-Terphenyl	*102*		*70 - 130*	*09/21/22 08:32*	*09/23/22 00:30*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.70**		4.96		mg/Kg			09/21/22 13:10	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

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)
890-3004-1	SW01	91	109
890-3004-1 MS	SW01	97	123
890-3004-1 MSD	SW01	80	112
LCS 880-35058/1-A	Lab Control Sample	81	110
LCSD 880-35058/2-A	Lab Control Sample Dup	76	107
MB 880-35058/5-A	Method Blank	105	115

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-19424-A-53-C MS	Matrix Spike	85	76
880-19424-A-53-D MSD	Matrix Spike Duplicate	82	74
890-3004-1	SW01	115	102
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: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-35058/5-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35058

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/22 11:58	09/21/22 17:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/22 11:58	09/21/22 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:00*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*09/21/22 11:58*	*09/21/22 17:00*	*1*

Lab Sample ID: LCS 880-35058/1-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35058

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.08187		mg/Kg		82	70 - 130		
Ethylbenzene			0.100	0.07908		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1612		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.07941		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-35058/2-A
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35058

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1007		mg/Kg		101	70 - 130	2	35
Toluene			0.100	0.08108		mg/Kg		81	70 - 130	1	35
Ethylbenzene			0.100	0.07828		mg/Kg		78	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1586		mg/Kg		79	70 - 130	2	35
o-Xylene			0.100	0.07788		mg/Kg		78	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3004-1 MS
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0990	0.08566		mg/Kg		87	70 - 130		
Toluene	<0.00201	U F1	0.0990	0.06932	F1	mg/Kg		69	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

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

Lab Sample ID: 890-3004-1 MS
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.0990	0.06333	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.1283	F1	mg/Kg		65	70 - 130
o-Xylene	<0.00201	U	0.0990	0.06949		mg/Kg		70	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: 890-3004-1 MSD
Matrix: Solid
Analysis Batch: 35059

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 35058

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1022		mg/Kg		102	70 - 130	18	35
Toluene	<0.00201	U F1	0.100	0.07930		mg/Kg		79	70 - 130	13	35
Ethylbenzene	<0.00201	U F1	0.100	0.07439		mg/Kg		74	70 - 130	16	35
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1492		mg/Kg		74	70 - 130	15	35
o-Xylene	<0.00201	U	0.100	0.07353		mg/Kg		73	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

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

Lab Sample ID: MB 880-35018/1-A
Matrix: Solid
Analysis Batch: 35120

Client Sample ID: Method Blank
Prep Type: Total/NA
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
Oil 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*

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

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

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
o-Terphenyl	74		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-35028/1-A
Matrix: Solid
Analysis Batch: 35075

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 12:55	1

Lab Sample ID: LCS 880-35028/2-A
Matrix: Solid
Analysis Batch: 35075

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.9		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-35028/3-A
Matrix: Solid
Analysis Batch: 35075

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	248.8		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3004-1 MS
Matrix: Solid
Analysis Batch: 35075

Client Sample ID: SW01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.70		248	251.4		mg/Kg		98	90 - 110		

Lab Sample ID: 890-3004-1 MSD
Matrix: Solid
Analysis Batch: 35075

Client Sample ID: SW01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.70		248	253.0		mg/Kg		99	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

GC VOA

Prep Batch: 35058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Total/NA	Solid	5035	
MB 880-35058/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-35058/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-35058/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3004-1 MS	SW01	Total/NA	Solid	5035	
890-3004-1 MSD	SW01	Total/NA	Solid	5035	

Analysis Batch: 35059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Total/NA	Solid	8021B	35058
MB 880-35058/5-A	Method Blank	Total/NA	Solid	8021B	35058
LCS 880-35058/1-A	Lab Control Sample	Total/NA	Solid	8021B	35058
LCSD 880-35058/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	35058
890-3004-1 MS	SW01	Total/NA	Solid	8021B	35058
890-3004-1 MSD	SW01	Total/NA	Solid	8021B	35058

Analysis Batch: 35132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 35018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	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
890-3004-1	SW01	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: 35295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 35028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Soluble	Solid	DI Leach	
MB 880-35028/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-35028/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-35028/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

HPLC/IC (Continued)

Leach Batch: 35028 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1 MS	SW01	Soluble	Solid	DI Leach	
890-3004-1 MSD	SW01	Soluble	Solid	DI Leach	

Analysis Batch: 35075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3004-1	SW01	Soluble	Solid	300.0	35028
MB 880-35028/1-A	Method Blank	Soluble	Solid	300.0	35028
LCS 880-35028/2-A	Lab Control Sample	Soluble	Solid	300.0	35028
LCSD 880-35028/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	35028
890-3004-1 MS	SW01	Soluble	Solid	300.0	35028
890-3004-1 MSD	SW01	Soluble	Solid	300.0	35028

Lab Chronicle

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Client Sample ID: SW01
Date Collected: 09/19/22 13:05
Date Received: 09/19/22 15:44

Lab Sample ID: 890-3004-1
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	35058	09/21/22 11:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35059	09/21/22 17:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			35132	09/22/22 09:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			35295	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 00:30	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	35028	09/21/22 10:25	SMC	EET MID
Soluble	Analysis	300.0		1			35075	09/21/22 13:10	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 147

Job ID: 890-3004-1
SDG: 03E1558112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3004-1	SW01	Solid	09/19/22 13:05	09/19/22 15:44	0-7' bgs

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

Work Order Comments

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

Project Name:	PLU 147	**Turn Around**	
Project Number:	03E1558112	☐ Routine ☑ Rush	
Project Location:	32.16472, -103.79703	Due Date:	24hr TAT
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	27.6	
Total Containers:		Corrected Temperature:	27.4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW01	S	9/19/2022	13:05	0-10'				x	x	x

890-3004 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:

Cost Center:
03E1558112
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		9-19-22 1544			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

11/29/2022 (Rev. 1)
Received by OCD: 11/30/2022 2:29:40 PM
Released to Imaging: 2/24/2023 3:46:12 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3004-1
SDG Number: 03E1558112

Login Number: 3004
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: 890-3004-1
SDG Number: 03E1558112

Login Number: 3004
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	

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Green, Garrett J
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 9/19/22 - 9/23/22)
Date: Friday, September 16, 2022 4:34:08 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Sep 19, 2022.

Monday
- PLU 147 / Spill Date 09/10/2022
- ADU 624 / NAPP2123634554
- ADU 641/ NAPP2215449179
- PLU 411/ nAPP2219646774
- ADU 816 / NAB1435334641

Tuesday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 411/ nAPP2219646774
- ADU 816 / NAB1435334641
- Stan 32 State 71H / NRM2004938133

Wednesday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 27 BD 167/ nAPP2222741514
- Stan 32 State 71H / NRM2004938133

Thursday
- BEU 29W Vader 100H / nAPP2102831345
- Stan 32 State 71H / NRM2004938133

Friday
- BEU 29W Vader 100H / nAPP2102831345
- PLU 184H / nAPP2219648561

Thank you!

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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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 162733

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 162733
	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 #NAPP2226339427 POKER LAKE UNIT 147, thank you. This closure is approved.	2/24/2023