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	NAPP2217546910
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 32.10139 Longitude -103.87601

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 27 Brushy Draw 161H	Site Type Production Well
Date Release Discovered 06/12/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	27	25S	30E	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)	Volume Recovered (bbls)
	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) Produced Water w/FR	Volume/Weight Released (provide units) 11.00 BBLS	Volume/Weight Recovered (provide units) 10.00 BBLS

Cause of Release: A high pressure discharge hose on a frac pump failed, releasing fluids both to containment and pad. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217546910
District RP	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A

Initial Response

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

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

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

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: 
Date: 06/24/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 06/24/2022

Location:	PLU 27 Brushy Draw 161H	
Spill Date:	6/12/2022	

Area 1		
Approximate Area =	44.92	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	8.00	bbls

Area 2		
Approximate Area =	2241.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	3.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**11.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**10.00**	**bbls**

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

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

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 120342
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	6/24/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217546910
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	NAPP2217546910
District RP	
Facility ID	
Application ID	

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:_____ Date: ____01/19/2023_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: __01/20/203_____

Incident ID	NAPP2217546910
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature: Date: 1/19/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 01/20/2023

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

Signature: Date:

Incident ID	NAPP2217546910
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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Printed Name: Garrett Green Title: Environmental Coordinator

Signature: Garrett Green Date: 1/19/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 01/20/2023

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

Signature: Robert Hamlet Date: 5/19/2023

January 19, 2023

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

Re: Remediation Work Plan
PLU 27 Brushy Draw 161H
Incident Numbers NAPP2217546910 & NAPP2218236445
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan* to document the site assessment and soil sampling activities completed to date and propose a work plan to address elevated soil concentrations identified at the PLU 27 Brushy Draw 161H (Site). The purpose of the site assessment and soil sampling activities was to asssess for the presence or absence of impacted soil following two releases of produced water with friction reducer that occurred during hydraulic fracturing operations at the Site. The following Work Plan proposes to install a soil boring to investigate depth to water to confirm the Closure Criteria and to complete additional delineation soil sampling.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit E, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.10139° N, 103.87601° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On June 12, 2022, a high-pressure hose on a pump failed, resulting in the release of 11 barrels (bbls) of produced water with friction reducer into a temporary liner containment and onto the well pad. A vacuum truck was immediately dispatched to the Site to the recover the free-standing fluids; approximately 10 bbls of fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Recovery Notification Form C-141 (Form C-141) on June 24, 2022. The release was assigned Incident Number NAPP2217546910.

On June 22, 2022, engine loss resulted in fluid discharge through a charger pump, resulting in the release of 104.52 bbls of produced water with friction reducer into a separate temporary liner containment and onto the well pad. Approximately 100 bbls of fluids were recovered. XTO reported the release to the NMOCD via email on June 22, 2022 and with a subsequent Form C-141 on July 1, 2022. The release was assigned Incident Number NAPP2218236445.

Each temporary liner containment was removed prior to beginning site assessment activities. As such, liner inspections could not be completed. The locations of each release extent and the temporary containment for Incident Number NAPP2217546910, was identified based on information provided on the Form C-141 and visual observations.

Released to Imaging: 5/19/2023 8:53:13 AM

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320628103533001, located approximately 1.0 mile northwest of the Site. The groundwater well has a reported depth to groundwater of 264 feet and a total depth of 288 feet bgs. Ground surface elevation at the groundwater well location is 3,207 feet above mean sea level (amsl), which is approximately 53 feet lower in elevation than the Site. All wells used for depth to water determination are depicted on Figure 1 and the included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 1,226 feet north 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). Potential Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On December 7, 2022, Ensolum personnel completed a site assessment to evaluate both release extents based on the information provided on the Form C-141's and visual observations. Eleven delineation soil samples (SS01 through SS11) were collected within and around each release extent from a depth of 0.5 feet bgs. Delineation soil samples SS01 through SS04 were collected within the release extent associated with Incident Number NAPP2218236445 (northern) and delineation soil samples SS05 and SS06 were collected within the release extent associated with Incident Number NAPP2217546910 (southern). Delineation soil samples SS07 through SS11 were collected around each release extent to determine lateral definition of the releases. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extents and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico,

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

On December 12, 2022, Ensolum personnel returned to the Site to oversee additional delineation activities. Seven potholes (PH01 through PH07) were advanced by use of heavy equipment to depths ranging from 1-foot bgs to 8 feet bgs. Potholes PH01 through PH04 were advanced in the northern release extent in the vicinity of SS01 through SS04, respectively. Potholes PH05 and PH06 were advanced in the southern release extent in the vicinity of SS05 and SS06, respectively. Pothole PH07 was advanced in the area of the temporary containment of the southern release. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs and are included in Appendix B. The delineation soil samples were handled and analyzed as described above and pothole locations are depicted on Figure 2. In order to remove surficial staining, surface scraping was conducted in the area of each release extent following delineation activities. Photographic documentation was conducted during the site visit and a photographic log is included in Appendix C.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria. Elevated chloride concentrations existed in several delineation soil samples collected within both release extents, values ranging from 635 mg/kg to 4,220 mg/kg for the northern release and 795 mg/kg to 7,980 mg/kg for the southern release. In general, chloride concentrations decreased with depth throughout all potholes completed. All lateral delineation soil samples indicated chloride concentrations were compliant with the strictest Table I Closure Criteria, except for SS07 (4,980 mg/kg) and SS08 (987 mg/kg), located near the southern release. TPH concentrations indicated non-detectable limits in all soil samples collected except for SS06 (88.0 mg/kg) and SS11 (61.2 mg/kg). BTEX concentrations indicated non-detectable limits in all soil samples. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site and validate assigned Closure Criteria, XTO proposes to advance a soil boring to a depth of 105 feet bgs. The soil boring will be located within a ½ mile of the Site and a field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the follow up Closure Report.

Site assessment and delineation activities were conducted to assess for the presence or absence of impacted soil resulting from two releases of produced water with friction reducer. Based on laboratory analytical results for all delineation soil samples indicating COC concentrations were compliant with the Table I Closure Criteria, vertical and horizontal definition for remediation has been established for both releases. Due to the presence of elevated chloride concentrations detected in SS07 and SS08 near the southern release, XTO proposes to collect additional lateral delineation soil samples to confirm the southern release did not flow off pad by comparing delineation results to the reclamation requirement.

NMOCD correspondence is provided in Appendix E and the safety data sheet (SDS) for friction reducer is provided in Appendix F.

The depth to water soil boring will be completed as soon as possible following approval from the surface landowner, receipt of the NMOSE drilling permit, and scheduling with a driller. Once depth to water is confirmed, XTO will proceed with additional delineation sampling and provide a Closure Request within 30 days of completion of the soil boring.

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

Sincerely,
Ensolum, LLC

Meredith Roberts
Field Geologist

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

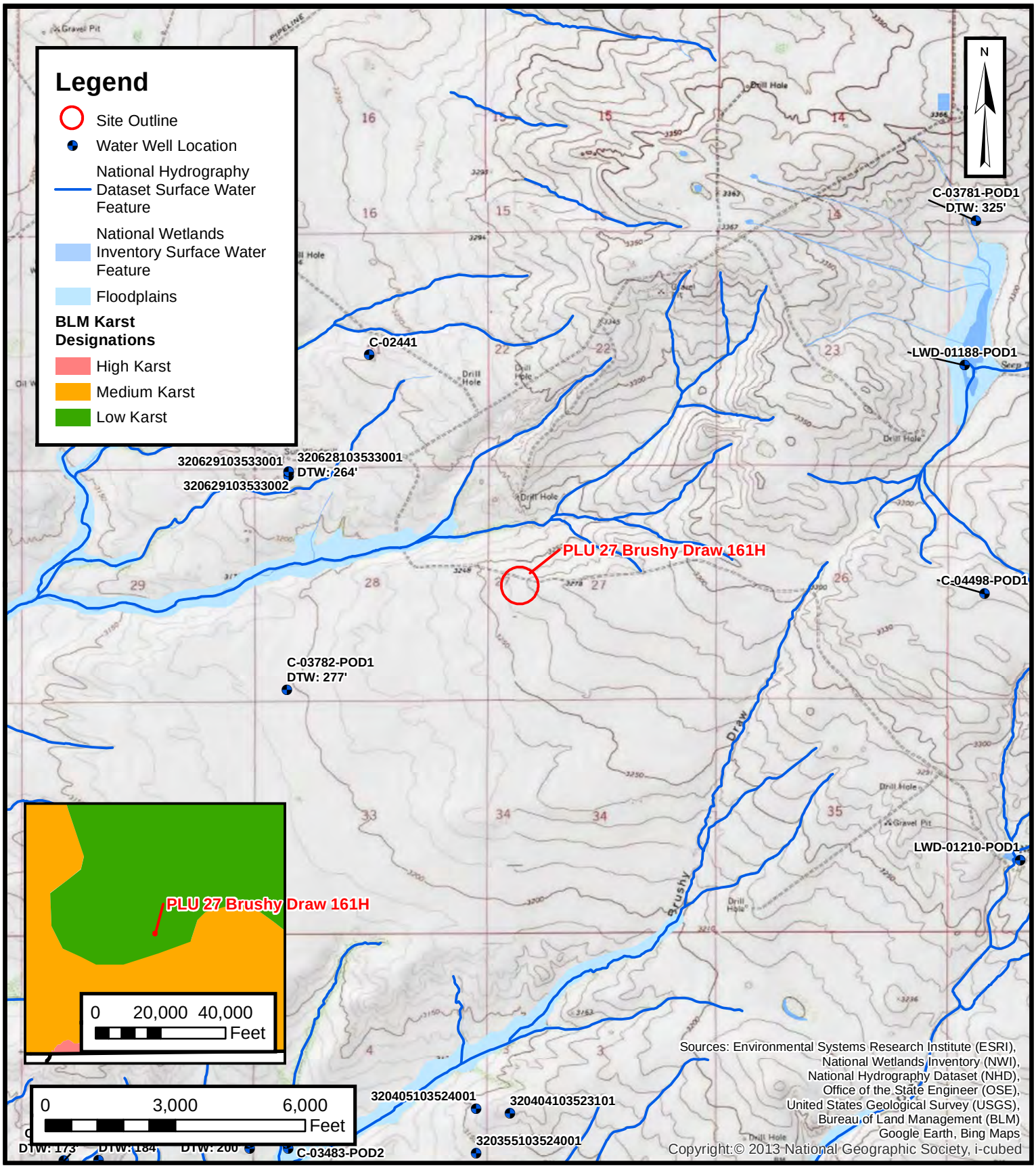
cc: Garrett Green, XTO
Shelby Pennington, XTO
BLM

Appendices:

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

ENSOLUM

FIGURES

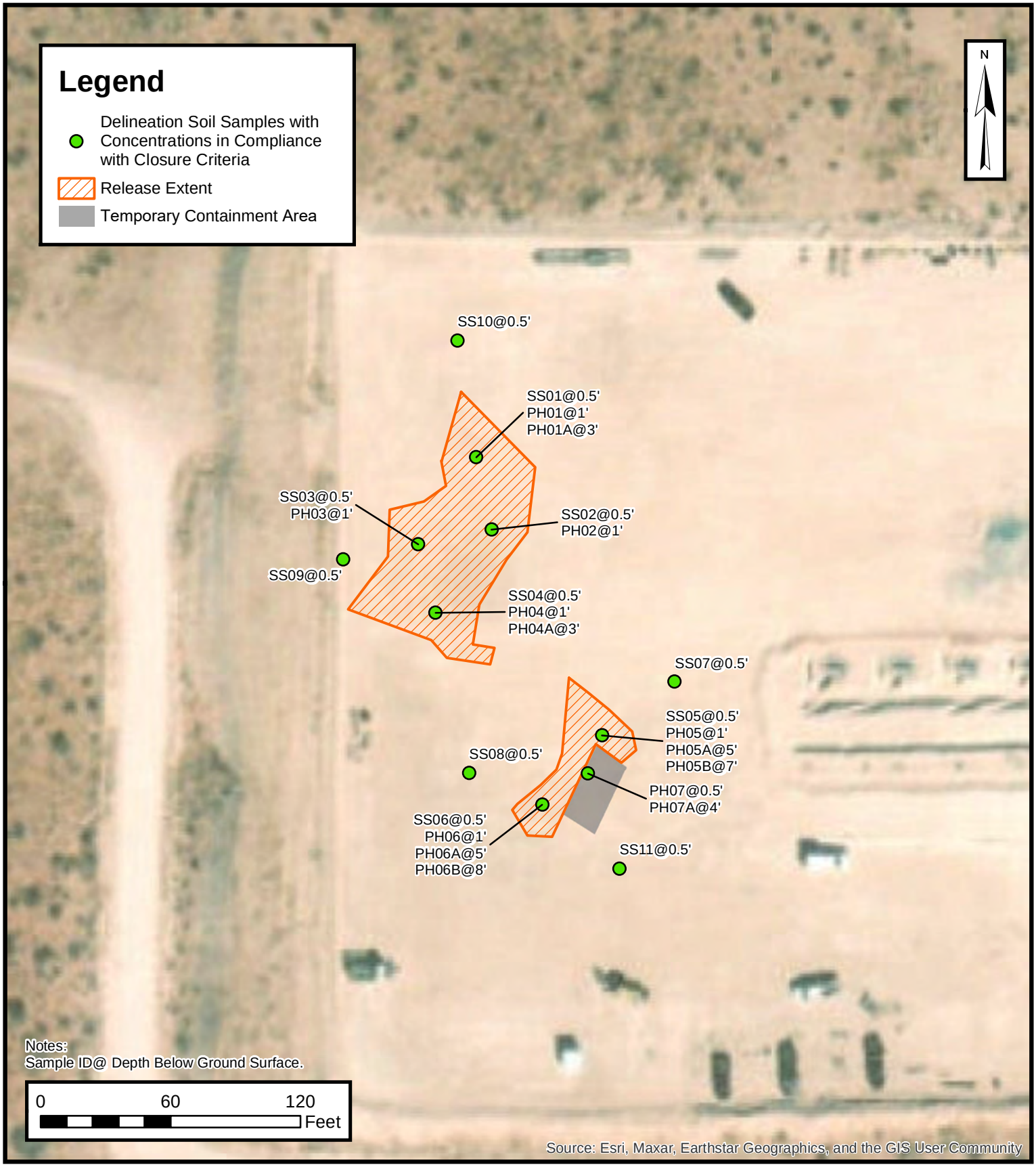


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 27 Brushy Draw 161H
NAPP2217546910 & NAPP2218236445
Unit E, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
PLU 27 Brushy Draw 161H
NAPP2217546910 & NAPP2218236445
Unit E, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
2

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 27 BD 161H
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01	12/07/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	65.4
PH01	12/12/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	1,250
PH01A	12/12/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	725
SS02	12/07/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	62.4
PH02	12/12/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	812
SS03	12/07/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	58.6
PH03	12/12/2022	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	714
SS04	12/07/2022	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	497
PH04	12/12/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	4,220
PH04A	12/12/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	635
SS05	12/07/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	6,580
PH05	12/12/2022	1	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	5,380
PH05A	12/12/2022	5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	3,690
PH05B	12/12/2022	7	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	795
SS06	12/07/2022	0.5	<0.00201	<0.00402	<49.9	88.0	<49.9	88.0	88.0	621
PH06	12/12/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	7,980
PH06A	12/12/2022	5	<0.00200	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,560
PH06B	12/12/2022	8	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	9.26
PH07	12/12/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7,400
PH07A	12/12/2022	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<50.0	<49.9	338
SS07	12/07/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	4,980
SS08	12/07/2022	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	987
SS09	12/07/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	43.0
SS10	12/07/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	195
SS11	12/07/2022	0.5	<0.00199	<0.00398	<50.0	61.2	<50.0	61.2	61.2	25.1

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.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

ENSOLUM

APPENDIX A

Referenced Well Records

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320628103533001

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

USGS 320628103533001 25S.30E.21.333424

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

Output formats

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

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

Explanation

Section	Code	Description

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

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: 2022-06-06 14:03:31 EDT
0.32 0.28 nadww01

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218236445	
	Job #: 03E1558091	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.101658, -103.87622	Hole Diameter: N/A	Total Depth: 3'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	<156.8	0.2	N	SS01	0.5	0.5		0.5'-3', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	1215	0	N	PH01	1	1		
D	946.4	0.0	N			2		
D	414.4	0	N	PH01A	3	3		
							TD	Total Depth at 3' bgs.

ENSOLUM

	Sample Name: PH02	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218236445	
	Job #: 03E1558091	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.101658, -103.87622	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	<156.8	0.3	N	SS02	0.5	0.5		0.5'-1', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	526.4	0.0	N	PH02	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

	Sample Name: PH03	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218236445	
	Job #: 03E1558091	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.101658, -103.87622	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	<156.8	0.1	N	SS03	0.5	0.5		0.5'-1', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	470.4	0.0	N	PH03	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

	Sample Name: PH04	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218236445	
	Job #: 03E1558091	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.101658, -103.87622	Hole Diameter: N/A	Total Depth: 3'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	520.8	2.1	N	SS04	0.5	0.5		0.5'-3', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	>3205	0.0	N	PH04	1	1		
D	1215	0	N			2		
D	470.4	0	N	PH04A	3	3		
							TD	Total Depth at 3' bgs.

ENSOLUM

	Sample Name: PH05	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2217546910	
	Job #: 03E1558089	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10139, -103.87601	Hole Diameter: N/A	Total Depth: 7'

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 in all chloride field screening results.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	>3544.8	1.7	N	SS05	0.5	0.5		0.5'-7', CALICHE w/ fine sand, dry, med. brown, small sub-rounded gravel, no staining, no odor.
D	3181	0.0	N	PH05	1	1		
D	2100	0	N			2		
D	2100	0	N			3		
D	3181	0	N			4		
D	1831	0	N	PH05A	5	5		
D	772.8	0	N			6		
D	515.2	0	N	PH05B	7	7		
							TD	Total Depth at 7' bgs.

ENSOLUM

Sample Name: PH06	Date: 12/12/2022	
Site Name: PLU 27 Brushy Draw 161H		
Incident Number: NAPP2217546910		
Job #: 03E1558089		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10139, -103.87601	Hole Diameter: N/A	Total Depth: 8'

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 in all chloride field screening results.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	929.6	1.8	N	SS06	0.5	0.5		0.5'-5', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	2873	0.0	N	PH06	1	1		
D	1423	0	N			2		
D	2679	0	N			3		
D	1422	0	N			4		
D	946.4	0	N	PH06A	5	5		5'-8', CALICHE w/ fine sand, dry, med. brown, small sub-rounded gravel, no staining, no odor.
D	1647	0	N			6		
D	716.8	0	N			7		
D	ND	0	N	PH06B	8	8		
							TD	Total Depth at 8' bgs.

ENSOLUM

	Sample Name: PH07	Date: 12/12/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2217546910	
	Job #: 03E1558089	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10139, -103.87601	Hole Diameter: N/A	Total Depth: 4'

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 in all chloride field screening results.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-0.5', CALICHE w/ fine sand, dry, tan, some small sub-round gravel, staining, no odor.
D	12006.4	0	N	PH07	0.5	0.5		0.5'-4', CALICHE w/ fine sand, dry, tan, some small sub-rounded gravel, no staining, no odor.
D	10281.6	0.0	N			1		
D	5499	0	N			2		
D	2957	0	N			3		
D	408.8	0	N	PH07A	4	4		
							TD	Total Depth at 4' bgs.

ENSOLUM

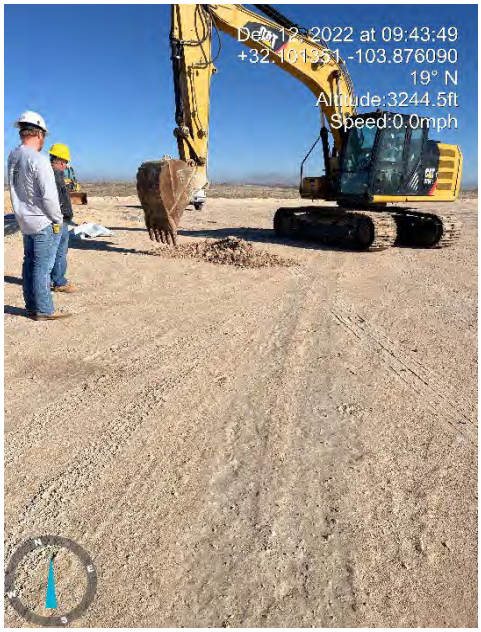
APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 27 Brushy Draw 161H
NAPP2217546910 & NAPP2218236445

Photograph 1 Date: 12/12/2022
Description: Site assessment, release areas.
View: North



Photograph 2 Date: 12/12/2022
Description: Delineation activities, PH01.
View: Northeast

Photograph 3 Date: 12/12/2022
Description: Delineation activities, PH05.
View: Southwest

Photograph 4 Date: 12/12/2022
Description: Surface scraping activities.
View: Northwest

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:58:24 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3637-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/13/2023 8:33:15 AM

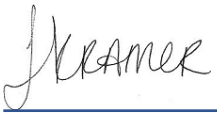
my EOL

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
12/22/2022 12:58:24 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3637-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Job ID: 890-3637-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3637-1

Receipt
The samples were received on 12/13/2022 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS05 (890-3637-1) and SS06 (890-3637-2).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-41926/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41926 and analytical batch 880-41982 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41926 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Client Sample ID: SS05

Lab Sample ID: 890-3637-1
Matrix: Solid
Date Collected: 12/07/22 12:45
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:17	1
Toluene	**0.00370**		0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 19:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:17*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 16:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		12/15/22 14:18	12/16/22 16:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 16:35*	*1*
o-Terphenyl	*107*		*70 - 130*	*12/15/22 14:18*	*12/16/22 16:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6580**		100		mg/Kg			12/19/22 21:18	20

Client Sample ID: SS06

Lab Sample ID: 890-3637-2
Matrix: Solid
Date Collected: 12/07/22 13:00
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/20/22 21:30	12/21/22 19:37	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/20/22 21:30	12/21/22 19:37	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/20/22 21:30	12/21/22 19:37	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/20/22 21:30	12/21/22 19:37	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/20/22 21:30	12/21/22 19:37	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/20/22 21:30	12/21/22 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:37*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Client Sample ID: SS06

Date Collected: 12/07/22 13:00
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3637-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**88.0**		49.9	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/15/22 14:18	12/16/22 16:57	1
Diesel Range Organics (Over C10-C28)	**88.0**	***1**	49.9	mg/Kg		12/15/22 14:18	12/16/22 16:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/15/22 14:18	12/16/22 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*12/15/22 14:18*	*12/16/22 16:57*	*1*
o-Terphenyl	*98*		*70 - 130*	*12/15/22 14:18*	*12/16/22 16:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**621**		24.9	mg/Kg			12/19/22 21:32	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3637-1	SS05	105	118
890-3637-2	SS06	102	107
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3615-A-1-E MS	Matrix Spike	109	98
890-3615-A-1-F MSD	Matrix Spike Duplicate	105	86
890-3637-1	SS05	112	107
890-3637-2	SS06	101	98
LCS 880-41926/2-A	Lab Control Sample	98	111
LCSD 880-41926/3-A	Lab Control Sample Dup	128	134 S1+
MB 880-41926/1-A	Method Blank	112	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-41926/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41926

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	918.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	903.8		mg/Kg		90	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-41926/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		105	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			1000	1147	*1	mg/Kg		115	70 - 130	24	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	134	S1+	70 - 130

Lab Sample ID: 890-3615-A-1-E MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	999	1096		mg/Kg		110	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-3615-A-1-F MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	988.5	F2	mg/Kg		99	70 - 130	26	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	997	942.5		mg/Kg		95	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3637-1 MS
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: SS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	6580		5020	11410		mg/Kg		96	90 - 110		

Lab Sample ID: 890-3637-1 MSD
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: SS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6580		5020	11440		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	5035	
890-3637-2	SS06	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	8021B	42357
890-3637-2	SS06	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	Total BTEX	
890-3637-2	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	8015NM Prep	
890-3637-2	SS06	Total/NA	Solid	8015NM Prep	
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	8015B NM	41926
890-3637-2	SS06	Total/NA	Solid	8015B NM	41926
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015B NM	41926
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41926
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41926
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41926
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41926

Analysis Batch: 42185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Total/NA	Solid	8015 NM	
890-3637-2	SS06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Soluble	Solid	DI Leach	
890-3637-2	SS06	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3637-1 MS	SS05	Soluble	Solid	DI Leach	
890-3637-1 MSD	SS05	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-1	SS05	Soluble	Solid	300.0	41923
890-3637-2	SS06	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3637-1 MS	SS05	Soluble	Solid	300.0	41923
890-3637-1 MSD	SS05	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Client Sample ID: SS05

Date Collected: 12/07/22 12:45
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3637-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 19:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42520	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42185	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 16:35	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	42049	12/19/22 21:18	CH	EET MID

Client Sample ID: SS06

Date Collected: 12/07/22 13:00
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3637-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 19:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42520	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42185	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 16:57	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42049	12/19/22 21:32	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 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3637-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3637-1	SS05	Solid	12/07/22 12:45	12/13/22 13:30	0.5'
890-3637-2	SS06	Solid	12/07/22 13:00	12/13/22 13:30	0.5'

Page 50 of 292

12/22/2022

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to (if different):	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 BD 161H	Turn Around	
Project Number:	03E1558089	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Chris Brown	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:	TNM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

Preservative Codes

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

890-3637 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS05	S	12/7/2022	1245	0.5'	Grab/	1		X	X	X
SS06	S	12/7/2022	1300	0.5'	Grab/	1		X	X	X

Sample Comments

Cost Center: 1666961001

Incident Number: NAPP2217546910

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	12/13/22 1530	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Page 19 of 23

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3637-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS05 (890-3637-1)	12/7/22	12 45 Mountain		Solid			X	X	X	X	X	1	
SS06 (890-3637-2)	12/7/22	13 00 Mountain		Solid			X	X	X	X	X	1	

Preservation Codes

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

Other:

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

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

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

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

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

Ver: 06/08/2021

Page 51 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 20 of 23
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3637-1
Address: 1211 W Florida Ave ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS05 (890-3637-1)	12/7/22	12 45 Mountain		Solid			X	X	X	X	X	1	
SS06 (890-3637-2)	12/7/22	13 00 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 52 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 21 of 23
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3637-1
SDG Number: Eddy County NM

Login Number: 3637
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3637-1
SDG Number: Eddy County NM

Login Number: 3637
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:58:24 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3638-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:55:15 AM

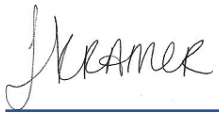
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/22/2022 12:58:24 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3638-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Job ID: 890-3638-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3638-1

Receipt
The sample was received on 12/13/2022 1:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS07 (890-3638-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-42002 and analytical batch 880-42108 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-42002 and analytical batch 880-42108 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Client Sample ID: SS07

Date Collected: 12/07/22 13:15
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3638-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 19:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 19:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:58*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 19:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 12:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 12:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/16/22 09:37*	*12/18/22 12:27*	*1*
o-Terphenyl	*105*		*70 - 130*	*12/16/22 09:37*	*12/18/22 12:27*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4980**		99.8		mg/Kg			12/19/22 21:36	20

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3638-1	SS07	120	102
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

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)
890-3638-1	SS07	112	105
890-3638-1 MS	SS07	92	72
890-3638-1 MSD	SS07	106	81
LCS 880-42002/2-A	Lab Control Sample	82	91
LCSD 880-42002/3-A	Lab Control Sample Dup	108	99
MB 880-42002/1-A	Method Blank	139 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-42002/1-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42002

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	843.1		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	745.4		mg/Kg		75	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

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

Lab Sample ID: LCSD 880-42002/3-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42002

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	871.7		mg/Kg		87	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	818.2		mg/Kg		82	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-3638-1 MS
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: SS07
Prep Type: Total/NA
Prep Batch: 42002

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	999	774.5		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	908.6		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 890-3638-1 MSD
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: SS07
Prep Type: Total/NA
Prep Batch: 42002

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	997	885.1		mg/Kg		86	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1027		mg/Kg		103	70 - 130	12	20

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3637-A-1-B MS
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11410		mg/Kg		96	90 - 110		

Lab Sample ID: 890-3637-A-1-C MSD
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11440		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 42002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	8015NM Prep	
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3638-1 MS	SS07	Total/NA	Solid	8015NM Prep	
890-3638-1 MSD	SS07	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	8015B NM	42002
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015B NM	42002
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42002
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42002
890-3638-1 MS	SS07	Total/NA	Solid	8015B NM	42002
890-3638-1 MSD	SS07	Total/NA	Solid	8015B NM	42002

Analysis Batch: 42204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 41923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3638-1	SS07	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41923
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Client Sample ID: SS07

Date Collected: 12/07/22 13:15
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3638-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 19:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42521	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42204	12/19/22 15:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42002	12/16/22 09:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42108	12/18/22 12:27	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	42049	12/19/22 21:36	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 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3638-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3638-1	SS07	Solid	12/07/22 13:15	12/13/22 13:30	0.5'

Page 72 of 292

12/22/2022

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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: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 BD 161H	Turn Around	
Project Number:	03E1558089	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Chris Brown	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#507
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS07	S	12/7/2022	1315	0.5'	Grab/	1		X	X	X	Cost Center: 1666961001

ANALYSIS REQUEST / Parameters

890-3638 Chain of Custody

Incident Numbers: ~~NAPP2217546910~~, NAPP2218236445

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	12/13/22 1330			
3			4		
5			6		

Page 18 of 22

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3638-1
Address: 1211 W Florida Ave ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: OKU 27 BD 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X						X	
SS07 (890-3638-1)	12/7/22	13 15 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 73 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 19 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM. Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail Jessica Kramer@et.eurofinsus com	State of Origin New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3638-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: OKU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
Preservation Code:													
SS07 (890-3638-1)	12/7/22	13 15 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

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

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

Ver: 06/08/2021

Page 74 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 20 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3638-1
SDG Number: Eddy County NM

Login Number: 3638
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3638-1
SDG Number: Eddy County NM

Login Number: 3638
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:59:19 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3639-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

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
12/22/2022 12:59:19 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3639-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3639-1
Project/Site: PLU 27 BD 161H SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Job ID: 890-3639-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3639-1

Receipt
The sample was received on 12/13/2022 1:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS08 (890-3639-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-42002 and analytical batch 880-42108 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-42002 and analytical batch 880-42108 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Client Sample ID: SS08

Date Collected: 12/07/22 13:30
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3639-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 20:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 20:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 20:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 20:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 20:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:18*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:32	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*12/16/22 09:37*	*12/18/22 13:32*	*1*
o-Terphenyl	*96*		*70 - 130*	*12/16/22 09:37*	*12/18/22 13:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**987**		25.3		mg/Kg			12/19/22 21:41	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3639-1	SS08	100	106
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

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)
890-3638-A-1-D MS	Matrix Spike	92	72
890-3638-A-1-E MSD	Matrix Spike Duplicate	106	81
890-3639-1	SS08	100	96
LCS 880-42002/2-A	Lab Control Sample	82	91
LCSD 880-42002/3-A	Lab Control Sample Dup	108	99
MB 880-42002/1-A	Method Blank	139 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-42002/1-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42002

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/16/22 09:37	12/18/22 09:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	843.1		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	745.4		mg/Kg		75	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

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

Lab Sample ID: LCSD 880-42002/3-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42002

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	871.7		mg/Kg		87	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	818.2		mg/Kg		82	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-3638-A-1-D MS
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42002

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	999	774.5		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	908.6		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 890-3638-A-1-E MSD
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42002

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	997	885.1		mg/Kg		86	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1027		mg/Kg		103	70 - 130	12	20

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3643-A-4-B MS
Matrix: Solid
Analysis Batch: 42049

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	497		1240	1620		mg/Kg		91	90 - 110		

Lab Sample ID: 890-3643-A-4-C MSD
Matrix: Solid
Analysis Batch: 42049

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	497		1240	1621		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 42002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	8015NM Prep	
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3638-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3638-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	8015B NM	42002
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015B NM	42002
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42002
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42002
890-3638-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42002
890-3638-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42002

Analysis Batch: 42205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 41923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3643-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3639-1	SS08	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3643-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	41923
890-3643-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Client Sample ID: SS08
Date Collected: 12/07/22 13:30
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3639-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 20:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42522	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42205	12/19/22 15:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42002	12/16/22 09:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42108	12/18/22 13:32	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42049	12/19/22 21:41	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 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3639-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3639-1	SS08	Solid	12/07/22 13:30	12/13/22 13:30	0.5'

Page 94 of 292

12/22/2022

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager	Ben Belill	Bill to (if different)	Garrett Green
Company Name	Ensolum, LLC	Company Name	XTO Energy, Inc.
Address	3122 National parks Hwy	Address	3104 E. Green Street
City, State ZIP	Carlsbad, NM 88220	City, State ZIP	Carlsbad, NM 88220
Phone	9898540852	Email	bbelill@ensolum.com

Work Order Comments

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

Project Name	PLU 27 BD 161H	Turn Around	
Project Number	03E1558089	☑ Routine ☐ Rush	
Project Location	EDDY COUNTY, NM	Due Date:	
Sampler's Name	Chris Brown	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-005	
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-0.2	
Sample Custody Seals	Yes No (N/A)	Temperature Reading	5.8	
Total Containers		Corrected Temperature	5.6	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS08	S	12/7/2022	1330	0.5'	Grab/	1		X	X	X

Parameters

890-3639 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
NaHSO4: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1666961001

Incident Numbers:
~~NAPP2217540910~~,
NAPP2218236445

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 Stutz	12/13/22 1330	2		
3			4		
5			6		

Page 18 of 22

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3639-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS08 (890-3639-1)	12/7/22	13 30 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

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

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

Ver: 06/08/2021

Page 95 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 19 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3639-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS08 (890-3639-1)	12/7/22	13 30 Mountain		Solid			X	X	X	X	X	1	

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

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

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

Relinquished by: Clue	Date/Time:	Company	Received by: Burstad	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Received by OCD: 1/20/2023 1:19:33 PM
Released to Imaging: 5/19/2023 8:53:13 AM
12/22/2022

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3639-1
SDG Number: Eddy County NM

Login Number: 3639
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3639-1
SDG Number: Eddy County NM

Login Number: 3639
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:59:25 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3640-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/13/2023 8:33:13 AM

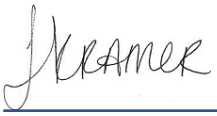
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3640-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Job ID: 890-3640-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3640-1

Receipt
The sample was received on 12/13/2022 1:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS09 (890-3640-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-42002 and analytical batch 880-42108 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-42002 and analytical batch 880-42108 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Client Sample ID: SS09

Date Collected: 12/07/22 13:45
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3640-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/20/22 21:30	12/21/22 20:39	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/20/22 21:30	12/21/22 20:39	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/20/22 21:30	12/21/22 20:39	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/20/22 21:30	12/21/22 20:39	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/20/22 21:30	12/21/22 20:39	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/20/22 21:30	12/21/22 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:39*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/16/22 09:37	12/18/22 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*12/16/22 09:37*	*12/18/22 13:55*	*1*
o-Terphenyl	*102*		*70 - 130*	*12/16/22 09:37*	*12/18/22 13:55*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**43.0**		5.04		mg/Kg			12/20/22 14:06	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3640-1	SS09	81	90
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

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)
890-3638-A-1-D MS	Matrix Spike	92	72
890-3638-A-1-E MSD	Matrix Spike Duplicate	106	81
890-3640-1	SS09	113	102
LCS 880-42002/2-A	Lab Control Sample	82	91
LCSD 880-42002/3-A	Lab Control Sample Dup	108	99
MB 880-42002/1-A	Method Blank	139 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-42002/1-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42002

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 09:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 09:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/16/22 09:37	12/18/22 09:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/16/22 09:37*	*12/18/22 09:55*	*1*

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	843.1		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)			1000	745.4		mg/Kg		75	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-42002/2-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42002

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

Lab Sample ID: LCSD 880-42002/3-A
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42002

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	871.7		mg/Kg		87	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	818.2		mg/Kg		82	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-3638-A-1-D MS
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42002

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	999	774.5		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	908.6		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 890-3638-A-1-E MSD
Matrix: Solid
Analysis Batch: 42108

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42002

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	997	885.1		mg/Kg		86	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1027		mg/Kg		103	70 - 130	12	20

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3643-A-4-B MS
Matrix: Solid
Analysis Batch: 42049

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	497		1240	1620		mg/Kg		91	90 - 110		

Lab Sample ID: 890-3643-A-4-C MSD
Matrix: Solid
Analysis Batch: 42049

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	497		1240	1621		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 42002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	8015NM Prep	
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3638-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3638-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	8015B NM	42002
MB 880-42002/1-A	Method Blank	Total/NA	Solid	8015B NM	42002
LCS 880-42002/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42002
LCSD 880-42002/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42002
890-3638-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42002
890-3638-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42002

Analysis Batch: 42206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 41923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3643-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3640-1	SS09	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3643-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	41923
890-3643-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Client Sample ID: SS09

Date Collected: 12/07/22 13:45
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3640-1

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			4.96 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 20:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42523	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42206	12/19/22 15:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42002	12/16/22 09:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42108	12/18/22 13:55	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/20/22 14:06	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 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3640-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3640-1	SS09	Solid	12/07/22 13:45	12/13/22 13:30	0.5'

Page 116 of 292

12/22/2022

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 BD 161H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558089	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Chris Brown		
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TPM 007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	0.2		
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8		
Total Containers:		Corrected Temperature:	5.6		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS09	S	12/7/2022	1345	0.5'	Grab/	1		X	X	X

Parameters

890-3640 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

Cost Center: 1666961001

Incident Number: NAPP2218236445

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 Stutz	12/13/22 1330			
3			4		
5			6		

Page 18 of 22

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3640-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
Preservation Code:													
SS09 (890-3640-1)	12/7/22	13 45 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 117 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 19 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3640-1
Address: 1211 W Florida Ave ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS09 (890-3640-1)	12/7/22	13 45 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

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

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

Ver: 06/08/2021

Page 118 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 20 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3640-1
SDG Number: Eddy County NM

Login Number: 3640
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3640-1
SDG Number: Eddy County NM

Login Number: 3640
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:59:25 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3641-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

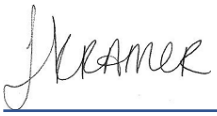
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/22/2022 12:59:25 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3641-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Job ID: 890-3641-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3641-1

Receipt
The sample was received on 12/13/2022 1:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS11 (890-3641-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-41926/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41926 and analytical batch 880-41982 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41926 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

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

Released to Imaging: 5/19/2023 8:53:13 AM

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Client Sample ID: SS11

Date Collected: 12/07/22 14:15
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3641-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 20:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 20:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 20:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 20:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/20/22 21:30	12/21/22 20:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/20/22 21:30	12/21/22 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:59*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*12/20/22 21:30*	*12/21/22 20:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**61.2**		50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:19	1
Diesel Range Organics (Over C10-C28)	**61.2**	***1**	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/15/22 14:18*	*12/16/22 17:19*	*1*
o-Terphenyl	*102*		*70 - 130*	*12/15/22 14:18*	*12/16/22 17:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.1**		5.00		mg/Kg			12/19/22 21:59	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3641-1	SS11	98	105
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

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)
890-3615-A-1-E MS	Matrix Spike	109	98
890-3615-A-1-F MSD	Matrix Spike Duplicate	105	86
890-3641-1	SS11	103	102
LCS 880-41926/2-A	Lab Control Sample	98	111
LCSD 880-41926/3-A	Lab Control Sample Dup	128	134 S1+
MB 880-41926/1-A	Method Blank	112	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-41926/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41926

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	918.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	903.8		mg/Kg		90	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-41926/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		105	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			1000	1147	*1	mg/Kg		115	70 - 130	24	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	134	S1+	70 - 130

Lab Sample ID: 890-3615-A-1-E MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	999	1096		mg/Kg		110	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-3615-A-1-F MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	988.5	F2	mg/Kg		99	70 - 130	26	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	997	942.5		mg/Kg		95	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3637-A-1-B MS
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11410		mg/Kg		96	90 - 110		

Lab Sample ID: 890-3637-A-1-C MSD
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11440		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	8015NM Prep	
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	8015B NM	41926
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015B NM	41926
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41926
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41926
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41926
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41926

Analysis Batch: 42186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 41923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3641-1	SS11	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41923
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Client Sample ID: SS11

Date Collected: 12/07/22 14:15
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3641-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 20:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42524	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42186	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 17:19	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/19/22 21:59	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3641-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3641-1	SS11	Solid	12/07/22 14:15	12/13/22 13:30	0.5'

Page 138 of 292

12/22/2022

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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: _____

www.xenco.com Page 1 of 1

Project Manager	Ben Belill	Bill to (if different)	Garrett Green
Company Name	Ensolum, LLC	Company Name	XTO Energy, Inc.
Address	3122 National parks Hwy	Address	3104 E. Green Street
City, State ZIP	Carlsbad, NM 88220	City, State ZIP	Carlsbad, NM 88220
Phone	9898540852	Email	bbelill@ensolum.com

Work Order Comments

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

Project Name	PLU 27 BD 161H	Turn Around	☑ Routine ☐ Rush
Project Number	03E1558089	Due Date:	
Project Location	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name	Chris Brown		
PO #			

SAMPLE RECEIPT				
Temp Blank	Yes No	Wet Ice	Yes No	
Samples Received Intact	Yes No	Thermometer ID	THM-007	
Cooler Custody Seals	Yes No N/A	Correction Factor	0.2	
Sample Custody Seals	Yes No N/A	Temperature Reading	3.8	
Total Containers		Corrected Temperature	3.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS11	S	12/7/2022	1415	0.5'	Grab/	1		X	X	X

Parameters

890-3641 Chain of Custody

Sample Comments

Cost Center: 1666961001

Incident Number: NAPP2217546910

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 Stuart	12/13/22 1330			
3			4		
5			6		

Page 18 of 22

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3641-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS11 (890-3641-1)	12/7/22	14 15 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

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

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

Ver: 06/08/2021

Page 139 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 19 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

Page 140 of 292

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3641-1
Address: 1211 W Florida Ave ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS11 (890-3641-1)	12/7/22	14 15 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time.	Method of Shipment:

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

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

Ver: 06/08/2021

Received by OCD: 1/20/2023 1:19:33 PM
Released to Imaging: 5/19/2023 8:53:13 AM
12/22/2022
Page 20 of 22

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3641-1
SDG Number: Eddy County NM

Login Number: 3641
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3641-1
SDG Number: Eddy County NM

Login Number: 3641
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 1:00:15 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3642-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

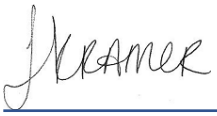
my EOL

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
12/22/2022 1:00:15 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3642-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Job ID: 890-3642-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3642-1

Receipt
The sample was received on 12/13/2022 1:30 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS10 (890-3642-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-22528-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-41926/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41926 and analytical batch 880-41982 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41926 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Client Sample ID: SS10

Date Collected: 12/07/22 14:00
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3642-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 21:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 21:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 21:20	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/20/22 21:30	12/21/22 21:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 21:20	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/20/22 21:30	12/21/22 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*12/20/22 21:30*	*12/21/22 21:20*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/20/22 21:30*	*12/21/22 21:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/22/22 13:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*12/15/22 14:18*	*12/16/22 17:41*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/15/22 14:18*	*12/16/22 17:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**195**		5.00		mg/Kg			12/19/22 22:03	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

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)
880-22528-A-1-C MS	Matrix Spike	97	109
880-22528-A-1-D MSD	Matrix Spike Duplicate	104	117
890-3642-1	SS10	104	106
LCS 880-42357/1-A	Lab Control Sample	109	113
LCSD 880-42357/2-A	Lab Control Sample Dup	123	117
MB 880-42357/5-A	Method Blank	85	102

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)
890-3615-A-1-E MS	Matrix Spike	109	98
890-3615-A-1-F MSD	Matrix Spike Duplicate	105	86
890-3642-1	SS10	123	116
LCS 880-41926/2-A	Lab Control Sample	98	111
LCSD 880-41926/3-A	Lab Control Sample Dup	128	134 S1+
MB 880-41926/1-A	Method Blank	112	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42357/5-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 21:30	12/21/22 17:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 21:30	12/21/22 17:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 21:30*	*12/21/22 17:53*	*1*

Lab Sample ID: LCS 880-42357/1-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.09102		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09651		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2008		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-42357/2-A
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09835		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	11	35
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.2388		mg/Kg		119	70 - 130	17	35
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09286		mg/Kg		92	70 - 130		
Toluene	<0.00199	U	0.101	0.08719		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22528-A-1-C MS
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08338		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.101	0.08628		mg/Kg		85	70 - 130

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

Lab Sample ID: 880-22528-A-1-D MSD
Matrix: Solid
Analysis Batch: 42409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09619		mg/Kg		97	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08829		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0996	0.08535		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1807		mg/Kg		91	70 - 130	5	35
o-Xylene	<0.00199	U	0.0996	0.09565		mg/Kg		95	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-41926/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41926

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	918.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	903.8		mg/Kg		90	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-41926/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		105	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			1000	1147	*1	mg/Kg		115	70 - 130	24	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	134	S1+	70 - 130

Lab Sample ID: 890-3615-A-1-E MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	999	1096		mg/Kg		110	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-3615-A-1-F MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	988.5	F2	mg/Kg		99	70 - 130	26	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	997	942.5		mg/Kg		95	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3637-A-1-B MS
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11410		mg/Kg		96	90 - 110		

Lab Sample ID: 890-3637-A-1-C MSD
Matrix: Solid
Analysis Batch: 42049

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	6580		5020	11440		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	5035	
MB 880-42357/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	8021B	42357
MB 880-42357/5-A	Method Blank	Total/NA	Solid	8021B	42357
LCS 880-42357/1-A	Lab Control Sample	Total/NA	Solid	8021B	42357
LCSD 880-42357/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42357
880-22528-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42357
880-22528-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42357

Analysis Batch: 42525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	8015NM Prep	
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	8015B NM	41926
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015B NM	41926
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41926
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41926
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41926
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41926

Analysis Batch: 42187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 41923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3642-1	SS10	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3637-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41923
890-3637-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Client Sample ID: SS10

Date Collected: 12/07/22 14:00
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3642-1

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	42357	12/20/22 21:30	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42409	12/21/22 21:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42525	12/22/22 13:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			42187	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 17:41	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/19/22 22:03	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 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3642-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3642-1	SS10	Solid	12/07/22 14:00	12/13/22 13:30	0.5'

Page 160 of 292

12/22/2022

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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: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 BD 161H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558089	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Chris Brown		
PO #:			

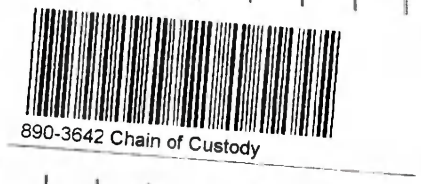
SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TNN 107	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.8	
Total Containers:		Corrected Temperature:	5.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS10	S	12/7/2022	1400	0.5'	Grab/	1		X	X	X

Parameters



Sample Comments

Cost Center: 1666961001

Incident Number: NAPP2218236445

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 Short	12/13/22 1330	2		
3			4		
5			6		

Page 18 of 22

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No.: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3642-1
Address: 1211 W Florida Ave ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
SS10 (890-3642-1)	12/7/22	14 00 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 161 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 19 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3642-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
SS10 (890-3642-1)	12/7/22	14 00 Mountain		Solid			X	X	X	X	X	1	

Preservation Codes

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

Other:

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

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

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

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

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

Ver: 06/08/2021

Page 162 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 20 of 22
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3642-1
SDG Number: Eddy County NM

Login Number: 3642
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3642-1
SDG Number: Eddy County NM

Login Number: 3642
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/22/2022 12:14:04 PM

JOB DESCRIPTION

PLU 27 BD 161H
SDG NUMBER Eddy County NM

JOB NUMBER

890-3643-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

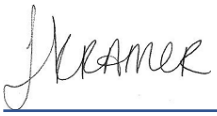
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/22/2022 12:14:04 PM

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

Client: Ensolum
Project/Site: PLU 27 BD 161H

Laboratory Job ID: 890-3643-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Job ID: 890-3643-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3643-1

Receipt
The samples were received on 12/13/2022 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3643-1), SS02 (890-3643-2), SS03 (890-3643-3) and SS04 (890-3643-4).

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-41926/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41926 and analytical batch 880-41982 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41926 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

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

Released to Imaging: 5/19/2023 8:53:13 AM

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS01

Lab Sample ID: 890-3643-1
Matrix: Solid
Date Collected: 12/07/22 11:45
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/20/22 15:23	12/21/22 16:56	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/20/22 15:23	12/21/22 16:56	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/20/22 15:23	12/21/22 16:56	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/20/22 15:23	12/21/22 16:56	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/20/22 15:23	12/21/22 16:56	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/20/22 15:23	12/21/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*12/20/22 15:23*	*12/21/22 16:56*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 15:23*	*12/21/22 16:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			12/22/22 08:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:03	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:03*	*1*
o-Terphenyl	*102*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:03*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.4**		5.03		mg/Kg			12/20/22 14:10	1

Client Sample ID: SS02

Lab Sample ID: 890-3643-2
Matrix: Solid
Date Collected: 12/07/22 12:00
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/20/22 15:23	12/21/22 17:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/20/22 15:23	12/21/22 17:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/20/22 15:23	12/21/22 17:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/20/22 15:23	12/21/22 17:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/20/22 15:23	12/21/22 17:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/20/22 15:23	12/21/22 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:16*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS02

Lab Sample ID: 890-3643-2
Matrix: Solid
Date Collected: 12/07/22 12:00
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/22/22 08:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 14:18	12/16/22 18:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		12/15/22 14:18	12/16/22 18:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/22 14:18	12/16/22 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:25*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**62.4**		5.02	mg/Kg			12/20/22 14:15	1

Client Sample ID: SS03

Lab Sample ID: 890-3643-3
Matrix: Solid
Date Collected: 12/07/22 12:15
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/20/22 15:23	12/21/22 17:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/20/22 15:23	12/21/22 17:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/20/22 15:23	12/21/22 17:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/20/22 15:23	12/21/22 17:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/20/22 15:23	12/21/22 17:37	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/20/22 15:23	12/21/22 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:37*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/22/22 08:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS03

Lab Sample ID: 890-3643-3
Matrix: Solid
Date Collected: 12/07/22 12:15
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:47*	*1*
o-Terphenyl	*95*		*70 - 130*	*12/15/22 14:18*	*12/16/22 18:47*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**58.6**		4.98		mg/Kg			12/19/22 22:16	1

Client Sample ID: SS04

Lab Sample ID: 890-3643-4
Matrix: Solid
Date Collected: 12/07/22 12:30
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 17:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 17:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 17:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 15:23	12/21/22 17:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 17:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 15:23	12/21/22 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:57*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/20/22 15:23*	*12/21/22 17:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			12/22/22 08:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 19:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		12/15/22 14:18	12/16/22 19:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:18	12/16/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*12/15/22 14:18*	*12/16/22 19:09*	*1*
o-Terphenyl	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 19:09*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS04
Date Collected: 12/07/22 12:30
Date Received: 12/13/22 13:30
Sample Depth: 0.5'

Lab Sample ID: 890-3643-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	497		24.8		mg/Kg			12/19/22 22:21	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

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)
880-22567-A-20-D MS	Matrix Spike	99	99
880-22567-A-20-E MSD	Matrix Spike Duplicate	104	99
890-3643-1	SS01	95	102
890-3643-2	SS02	101	99
890-3643-3	SS03	99	103
890-3643-4	SS04	105	102
LCS 880-42329/1-A	Lab Control Sample	98	100
LCSD 880-42329/2-A	Lab Control Sample Dup	96	99
MB 880-42329/5-A	Method Blank	87	101

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)
890-3615-A-1-E MS	Matrix Spike	109	98
890-3615-A-1-F MSD	Matrix Spike Duplicate	105	86
890-3643-1	SS01	105	102
890-3643-2	SS02	123	115
890-3643-3	SS03	97	95
890-3643-4	SS04	121	112
LCS 880-41926/2-A	Lab Control Sample	98	111
LCSD 880-41926/3-A	Lab Control Sample Dup	128	134 S1+
MB 880-41926/1-A	Method Blank	112	115

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42329/5-A
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42329

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 11:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 11:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 11:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/20/22 15:23	12/21/22 11:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/20/22 15:23	12/21/22 11:22	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/20/22 15:23	12/21/22 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*12/20/22 15:23*	*12/21/22 11:22*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*12/20/22 15:23*	*12/21/22 11:22*	*1*

Lab Sample ID: LCS 880-42329/1-A
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42329

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09235		mg/Kg		92	70 - 130		
Toluene			0.100	0.08850		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.08780		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1828		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.08816		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-42329/2-A
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42329

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09353		mg/Kg		94	70 - 130	1	35
Toluene			0.100	0.08701		mg/Kg		87	70 - 130	2	35
Ethylbenzene			0.100	0.08572		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1790		mg/Kg		90	70 - 130	2	35
o-Xylene			0.100	0.08705		mg/Kg		87	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-22567-A-20-D MS
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42329

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.08508		mg/Kg		84	70 - 130		
Toluene	<0.00200	U	0.101	0.07808		mg/Kg		77	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

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

Lab Sample ID: 880-22567-A-20-D MS
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42329

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.101	0.07305		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1518		mg/Kg		75	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.07296		mg/Kg		72	70 - 130

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

Lab Sample ID: 880-22567-A-20-E MSD
Matrix: Solid
Analysis Batch: 42368

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42329

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.07864		mg/Kg		79	70 - 130	8	35
Toluene	<0.00200	U	0.0996	0.07159		mg/Kg		72	70 - 130	9	35
Ethylbenzene	<0.00200	U F1	0.0996	0.06671	F1	mg/Kg		67	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1402		mg/Kg		70	70 - 130	8	35
o-Xylene	<0.00200	U F1	0.0996	0.06795	F1	mg/Kg		68	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 880-41926/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41926

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:18	12/16/22 08:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:18*	*12/16/22 08:33*	*1*

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	918.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	903.8		mg/Kg		90	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-41926/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41926

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-41926/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		105	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			1000	1147	*1	mg/Kg		115	70 - 130	24	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	134	S1+	70 - 130

Lab Sample ID: 890-3615-A-1-E MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	999	1096		mg/Kg		110	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-3615-A-1-F MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	988.5	F2	mg/Kg		99	70 - 130	26	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	997	942.5		mg/Kg		95	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41923/1-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/19/22 21:05	1

Lab Sample ID: LCS 880-41923/2-A
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.6		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-41923/3-A
Matrix: Solid
Analysis Batch: 42049

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	237.1		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-3643-4 MS
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: SS04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	497		1240	1620		mg/Kg		91	90 - 110		

Lab Sample ID: 890-3643-4 MSD
Matrix: Solid
Analysis Batch: 42049

Client Sample ID: SS04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	497		1240	1621		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

GC VOA

Prep Batch: 42329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	5035	
890-3643-2	SS02	Total/NA	Solid	5035	
890-3643-3	SS03	Total/NA	Solid	5035	
890-3643-4	SS04	Total/NA	Solid	5035	
MB 880-42329/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42329/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42329/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22567-A-20-D MS	Matrix Spike	Total/NA	Solid	5035	
880-22567-A-20-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	8021B	42329
890-3643-2	SS02	Total/NA	Solid	8021B	42329
890-3643-3	SS03	Total/NA	Solid	8021B	42329
890-3643-4	SS04	Total/NA	Solid	8021B	42329
MB 880-42329/5-A	Method Blank	Total/NA	Solid	8021B	42329
LCS 880-42329/1-A	Lab Control Sample	Total/NA	Solid	8021B	42329
LCSD 880-42329/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42329
880-22567-A-20-D MS	Matrix Spike	Total/NA	Solid	8021B	42329
880-22567-A-20-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42329

Analysis Batch: 42478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	Total BTEX	
890-3643-2	SS02	Total/NA	Solid	Total BTEX	
890-3643-3	SS03	Total/NA	Solid	Total BTEX	
890-3643-4	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	8015NM Prep	
890-3643-2	SS02	Total/NA	Solid	8015NM Prep	
890-3643-3	SS03	Total/NA	Solid	8015NM Prep	
890-3643-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	8015B NM	41926
890-3643-2	SS02	Total/NA	Solid	8015B NM	41926
890-3643-3	SS03	Total/NA	Solid	8015B NM	41926
890-3643-4	SS04	Total/NA	Solid	8015B NM	41926
MB 880-41926/1-A	Method Blank	Total/NA	Solid	8015B NM	41926
LCS 880-41926/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41926

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Analysis Batch: 41982 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-41926/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41926
890-3615-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41926
890-3615-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41926

Analysis Batch: 42188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Total/NA	Solid	8015 NM	
890-3643-2	SS02	Total/NA	Solid	8015 NM	
890-3643-3	SS03	Total/NA	Solid	8015 NM	
890-3643-4	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Soluble	Solid	DI Leach	
890-3643-2	SS02	Soluble	Solid	DI Leach	
890-3643-3	SS03	Soluble	Solid	DI Leach	
890-3643-4	SS04	Soluble	Solid	DI Leach	
MB 880-41923/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3643-4 MS	SS04	Soluble	Solid	DI Leach	
890-3643-4 MSD	SS04	Soluble	Solid	DI Leach	

Analysis Batch: 42049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3643-1	SS01	Soluble	Solid	300.0	41923
890-3643-2	SS02	Soluble	Solid	300.0	41923
890-3643-3	SS03	Soluble	Solid	300.0	41923
890-3643-4	SS04	Soluble	Solid	300.0	41923
MB 880-41923/1-A	Method Blank	Soluble	Solid	300.0	41923
LCS 880-41923/2-A	Lab Control Sample	Soluble	Solid	300.0	41923
LCSD 880-41923/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41923
890-3643-4 MS	SS04	Soluble	Solid	300.0	41923
890-3643-4 MSD	SS04	Soluble	Solid	300.0	41923

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS01
Date Collected: 12/07/22 11:45
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3643-1
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			4.96 g	5 mL	42329	12/20/22 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42368	12/21/22 16:56	SM	EET MID
Total/NA	Analysis	Total BTEX		1			42478	12/22/22 08:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42188	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 18:03	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/20/22 14:10	CH	EET MID

Client Sample ID: SS02
Date Collected: 12/07/22 12:00
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3643-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42329	12/20/22 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42368	12/21/22 17:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			42478	12/22/22 08:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42188	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 18:25	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/20/22 14:15	CH	EET MID

Client Sample ID: SS03
Date Collected: 12/07/22 12:15
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3643-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42329	12/20/22 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42368	12/21/22 17:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			42478	12/22/22 08:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42188	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 18:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42049	12/19/22 22:16	CH	EET MID

Client Sample ID: SS04
Date Collected: 12/07/22 12:30
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3643-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	42329	12/20/22 15:23	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42368	12/21/22 17:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			42478	12/22/22 08:57	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Client Sample ID: SS04

Date Collected: 12/07/22 12:30
Date Received: 12/13/22 13:30

Lab Sample ID: 890-3643-4

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			42188	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41926	12/15/22 14:18	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 19:09	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	41923	12/15/22 14:14	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42049	12/19/22 22:21	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

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 27 BD 161H

Job ID: 890-3643-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3643-1	SS01	Solid	12/07/22 11:45	12/13/22 13:30	0.5'
890-3643-2	SS02	Solid	12/07/22 12:00	12/13/22 13:30	0.5'
890-3643-3	SS03	Solid	12/07/22 12:15	12/13/22 13:30	0.5'
890-3643-4	SS04	Solid	12/07/22 12:30	12/13/22 13:30	0.5'

Page 186 of 292

12/22/2022

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 BD 161H	Turn Around	Pres. Code
Project Number:	03E1558089	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Chris Brown	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:	THM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	12/7/2022	1145	0.5'	Grab/	1	X	X	X
SS02	S	12/7/2022	1200	0.5'	Grab/	1	X	X	X
SS03	S	12/7/2022	1215	0.5'	Grab/	1	X	X	X
SS04	S	12/7/2022	1230	0.5'	Grab/	1	X	X	X

890-3643 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

Cost Center: 1666961001

Incident Number: NAPP2218236445

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 Estrada	12/15/22 1330	2		
3			4		
5			6		

Page 22 of 26

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3643-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8016MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/8035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS01 (890-3643-1)	12/7/22	11 45 Mountain		Solid			X	X	X	X	X	1	
SS02 (890-3643-2)	12/7/22	12 00 Mountain		Solid			X	X	X	X	X	1	
SS03 (890-3643-3)	12/7/22	12 15 Mountain		Solid			X	X	X	X	X	1	
SS04 (890-3643-4)	12/7/22	12 30 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time:	Method of Shipment:

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

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

Ver: 06/08/2021

Page 187 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 23 of 26
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3643-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BD 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS01 (890-3643-1)	12/7/22	11 45 Mountain		Solid			X	X	X	X	X	1	
SS02 (890-3643-2)	12/7/22	12 00 Mountain		Solid			X	X	X	X	X	1	
SS03 (890-3643-3)	12/7/22	12.15 Mountain		Solid			X	X	X	X	X	1	
SS04 (890-3643-4)	12/7/22	12 30 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 188 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/22/2022
Page 24 of 26
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3643-1
SDG Number: Eddy County NM

Login Number: 3643
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3643-1
SDG Number: Eddy County NM

Login Number: 3643
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/27/2022 8:39:00 AM

JOB DESCRIPTION

PLU 27 Brushy Draw 161H
SDG NUMBER 03E11558091

JOB NUMBER

890-3646-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

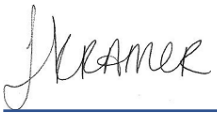
my EOL

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
12/27/2022 8:39:00 AM

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

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Laboratory Job ID: 890-3646-1
SDG: 03E11558091

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3646-1
Project/Site: PLU 27 Brushy Draw 161H SDG: 03E11558091

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Job ID: 890-3646-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3646-1

Receipt
The sample was received on 12/13/2022 3:30 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 9.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH06B (W) (890-3646-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41930 and analytical batch 880-41982 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41930 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41925 and analytical batch 880-42330 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.The associated samples are: PH06B (W) (890-3646-1), (890-3644-A-11-A), (890-3644-A-11-B MS) and (890-3644-A-11-C MSD).

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 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Client Sample ID: PH06B (W)

Date Collected: 12/12/22 13:50
Date Received: 12/13/22 15:30
Sample Depth: 8'

Lab Sample ID: 890-3646-1

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		12/22/22 10:23	12/23/22 21:02	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/22/22 10:23	12/23/22 21:02	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/22/22 10:23	12/23/22 21:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/22/22 10:23	12/23/22 21:02	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/22/22 10:23	12/23/22 21:02	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/22/22 10:23	12/23/22 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/22/22 10:23*	*12/23/22 21:02*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*12/22/22 10:23*	*12/23/22 21:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/24/22 08:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	50.0		mg/Kg		12/15/22 14:22	12/16/22 21:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 21:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*12/15/22 14:22*	*12/16/22 21:00*	*1*
o-Terphenyl	*89*		*70 - 130*	*12/15/22 14:22*	*12/16/22 21:00*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.26**		5.05		mg/Kg			12/23/22 00:44	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

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)
890-3646-1	PH06B (W)	115	84
890-3646-1 MS	PH06B (W)	120	85
890-3646-1 MSD	PH06B (W)	111	87
LCS 880-42486/1-A	Lab Control Sample	107	85
LCS 880-42486/2-A	Lab Control Sample	111	86
LCSD 880-42483/2-A	Lab Control Sample Dup	94	95
MB 880-42420/5-A	Method Blank	97	90
MB 880-42483/5-A	Method Blank	101	86
MB 880-42486/5-A	Method Blank	105	76

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3646-1	PH06B (W)	90	89
890-3646-1 MS	PH06B (W)	98	88
890-3646-1 MSD	PH06B (W)	84	78
LCS 880-41930/2-A	Lab Control Sample	114	122
LCSD 880-41930/3-A	Lab Control Sample Dup	114	120
MB 880-41930/1-A	Method Blank	133 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42420/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42420

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/21/22 12:40	12/22/22 22:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*12/21/22 12:40*	*12/22/22 22:51*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*12/21/22 12:40*	*12/22/22 22:51*	*1*

Lab Sample ID: MB 880-42483/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42483

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 09:22	12/23/22 09:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*12/22/22 09:22*	*12/23/22 09:36*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*12/22/22 09:22*	*12/23/22 09:36*	*1*

Lab Sample ID: LCSD 880-42483/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08380		mg/Kg		84	70 - 130	20	35
Toluene			0.100	0.07951		mg/Kg		80	70 - 130	19	35
Ethylbenzene			0.100	0.07270		mg/Kg		73	70 - 130	21	35
m-Xylene & p-Xylene			0.200	0.1547		mg/Kg		77	70 - 130	22	35
o-Xylene			0.100	0.07994		mg/Kg		80	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: MB 880-42486/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

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

Lab Sample ID: MB 880-42486/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 10:23	12/23/22 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/22/22 10:23*	*12/23/22 20:41*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*12/22/22 10:23*	*12/23/22 20:41*	*1*

Lab Sample ID: LCS 880-42486/1-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09622		mg/Kg		96	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.1028		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2274		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1119		mg/Kg		112	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: LCS 880-42486/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09788		mg/Kg		98	70 - 130
Toluene	0.100	0.1020		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1044		mg/Kg		104	70 - 130
m-Xylene & p-Xylene	0.200	0.2327		mg/Kg		116	70 - 130
o-Xylene	0.100	0.1151		mg/Kg		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-3646-1 MS
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: PH06B (W)
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.08133		mg/Kg		81	70 - 130
Toluene	<0.00201	U	0.0998	0.09387		mg/Kg		94	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.1032		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

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

Lab Sample ID: 890-3646-1 MS
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: PH06B (W)
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2296		mg/Kg		115	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1123		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-3646-1 MSD
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: PH06B (W)
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08250		mg/Kg		83	70 - 130	1	35
Toluene	<0.00201	U	0.0990	0.08671		mg/Kg		88	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0990	0.08708		mg/Kg		88	70 - 130	17	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1918		mg/Kg		97	70 - 130	18	35
o-Xylene	<0.00201	U	0.0990	0.09425		mg/Kg		95	70 - 130	17	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

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

Lab Sample ID: MB 880-41930/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41930

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*

Lab Sample ID: LCS 880-41930/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	961.8		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1013		mg/Kg		101	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

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

Lab Sample ID: LCS 880-41930/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41930

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	122		70 - 130

Lab Sample ID: LCSD 880-41930/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	979.2		mg/Kg		98	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-3646-1 MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: PH06B (W)
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1005		mg/Kg		101	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-3646-1 MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: PH06B (W)
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	1006	F2	mg/Kg		101	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	889.7		mg/Kg		89	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41925/1-A
Matrix: Solid
Analysis Batch: 42330

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/22/22 20:57	1

Lab Sample ID: LCS 880-41925/2-A
Matrix: Solid
Analysis Batch: 42330

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	268.0		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-41925/3-A
Matrix: Solid
Analysis Batch: 42330

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	266.1		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3644-A-11-B MS
Matrix: Solid
Analysis Batch: 42330

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	165	F1	249	505.8	F1	mg/Kg		137	90 - 110		

Lab Sample ID: 890-3644-A-11-C MSD
Matrix: Solid
Analysis Batch: 42330

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	165	F1	249	484.9	F1	mg/Kg		129	90 - 110	4	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

GC VOA

Prep Batch: 42420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42420/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 42466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	8021B	42486
MB 880-42420/5-A	Method Blank	Total/NA	Solid	8021B	42420
MB 880-42483/5-A	Method Blank	Total/NA	Solid	8021B	42483
MB 880-42486/5-A	Method Blank	Total/NA	Solid	8021B	42486
LCS 880-42486/1-A	Lab Control Sample	Total/NA	Solid	8021B	42486
LCS 880-42486/2-A	Lab Control Sample	Total/NA	Solid	8021B	42486
LCSD 880-42483/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42483
890-3646-1 MS	PH06B (W)	Total/NA	Solid	8021B	42486
890-3646-1 MSD	PH06B (W)	Total/NA	Solid	8021B	42486

Prep Batch: 42483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42483/5-A	Method Blank	Total/NA	Solid	5035	
LCSD 880-42483/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 42486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	5035	
MB 880-42486/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42486/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-42486/2-A	Lab Control Sample	Total/NA	Solid	5035	
890-3646-1 MS	PH06B (W)	Total/NA	Solid	5035	
890-3646-1 MSD	PH06B (W)	Total/NA	Solid	5035	

Analysis Batch: 42582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	8015NM Prep	
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3646-1 MS	PH06B (W)	Total/NA	Solid	8015NM Prep	
890-3646-1 MSD	PH06B (W)	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	8015B NM	41930
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015B NM	41930
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41930
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41930
890-3646-1 MS	PH06B (W)	Total/NA	Solid	8015B NM	41930
890-3646-1 MSD	PH06B (W)	Total/NA	Solid	8015B NM	41930

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

GC Semi VOA

Analysis Batch: 42189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Soluble	Solid	DI Leach	
MB 880-41925/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41925/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41925/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3644-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3644-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3646-1	PH06B (W)	Soluble	Solid	300.0	41925
MB 880-41925/1-A	Method Blank	Soluble	Solid	300.0	41925
LCS 880-41925/2-A	Lab Control Sample	Soluble	Solid	300.0	41925
LCSD 880-41925/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41925
890-3644-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	41925
890-3644-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41925

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Client Sample ID: PH06B (W)

Date Collected: 12/12/22 13:50
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3646-1

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	42486	12/22/22 10:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42466	12/23/22 21:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42582	12/24/22 08:27	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42189	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 21:00	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	41925	12/15/22 14:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42330	12/23/22 00:44	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

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 27 Brushy Draw 161H

Job ID: 890-3646-1
SDG: 03E11558091

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3646-1	PH06B (W)	Solid	12/12/22 13:50	12/13/22 15:30	8'

Page 209 of 292

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 11H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558091	Due Date:	
Project Location:	32.10165, -103.87622	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Meredith Roberts		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	9.2
Total Containers:		Corrected Temperature:	9.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	BTEX	TPH	Sample Comments
PH06B	S	12/12/22	1350	8'	G	1		X	X	X	WEST - Sample jar has "west" after name

NR

890-3646 Chain of Custody

Incident #:
NAPP2217546910
NAPP2218236445

Cost Center:
1666961001

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

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 Stef	12/13/22 1530			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 1/20/2023 1:19:33 PM
Released to Imaging: 5/19/2023 8:53:13 AM
12/27/2022
Page 19 of 23

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3646-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 Brushy Draw 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
PH06B (W) (890-3646-1)	12/12/22	13 50 Mountain		Solid			X	X	X	X	X	1	

Preservation Codes

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

Other:

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

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

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

Ver: 06/08/2021

Received by OCD: 1/20/2023 1:19:33 PM
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3646-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 Brushy Draw 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
PH06B (W) (890-3646-1)	12/12/22	13 50 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

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

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

Ver: 06/08/2021

Page 211 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/27/2022
Page 21 of 23
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3646-1
SDG Number: 03E11558091

Login Number: 3646
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3646-1
SDG Number: 03E11558091

Login Number: 3646
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/27/2022 8:39:16 AM

JOB DESCRIPTION

PLU 27 Brushy Draw 161H
SDG NUMBER 03E1558091

JOB NUMBER

890-3648-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

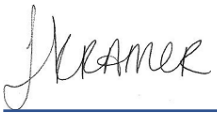
my EOL

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
12/27/2022 8:39:16 AM

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

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Laboratory Job ID: 890-3648-1
SDG: 03E1558091

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Job ID: 890-3648-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3648-1

Receipt
The sample was received on 12/13/2022 3:30 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 9.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH05B (890-3648-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41930 and analytical batch 880-41982 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41930 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41924 and analytical batch 880-42328 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.The associated samples are: PH05B (890-3648-1), (890-3647-A-5-A) and (890-3647-A-5-B MS).

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 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Client Sample ID: PH05B

Date Collected: 12/12/22 13:10
Date Received: 12/13/22 15:30
Sample Depth: 7'

Lab Sample ID: 890-3648-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 10:23	12/23/22 21:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 10:23	12/23/22 21:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 10:23	12/23/22 21:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 10:23	12/23/22 21:23	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 10:23	12/23/22 21:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 10:23	12/23/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*12/22/22 10:23*	*12/23/22 21:23*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*12/22/22 10:23*	*12/23/22 21:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/24/22 08:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:06*	*1*
o-Terphenyl	*94*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:06*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**795**		24.8		mg/Kg			12/22/22 13:25	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

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)
890-3646-A-1-E MS	Matrix Spike	120	85
890-3646-A-1-F MSD	Matrix Spike Duplicate	111	87
890-3648-1	PH05B	132 S1+	88
LCS 880-42486/1-A	Lab Control Sample	107	85
LCS 880-42486/2-A	Lab Control Sample	111	86
LCSD 880-42483/2-A	Lab Control Sample Dup	94	95
MB 880-42420/5-A	Method Blank	97	90
MB 880-42483/5-A	Method Blank	101	86
MB 880-42486/5-A	Method Blank	105	76

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3646-A-1-C MS	Matrix Spike	98	88
890-3646-A-1-D MSD	Matrix Spike Duplicate	84	78
890-3648-1	PH05B	96	94
LCS 880-41930/2-A	Lab Control Sample	114	122
LCSD 880-41930/3-A	Lab Control Sample Dup	114	120
MB 880-41930/1-A	Method Blank	133 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42420/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42420

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/21/22 12:40	12/22/22 22:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*12/21/22 12:40*	*12/22/22 22:51*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*12/21/22 12:40*	*12/22/22 22:51*	*1*

Lab Sample ID: MB 880-42483/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42483

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:22	12/23/22 09:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 09:22	12/23/22 09:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*12/22/22 09:22*	*12/23/22 09:36*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*12/22/22 09:22*	*12/23/22 09:36*	*1*

Lab Sample ID: LCSD 880-42483/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08380		mg/Kg		84	70 - 130	20	35
Toluene			0.100	0.07951		mg/Kg		80	70 - 130	19	35
Ethylbenzene			0.100	0.07270		mg/Kg		73	70 - 130	21	35
m-Xylene & p-Xylene			0.200	0.1547		mg/Kg		77	70 - 130	22	35
o-Xylene			0.100	0.07994		mg/Kg		80	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: MB 880-42486/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

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

Lab Sample ID: MB 880-42486/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 10:23	12/23/22 20:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 10:23	12/23/22 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/22/22 10:23*	*12/23/22 20:41*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*12/22/22 10:23*	*12/23/22 20:41*	*1*

Lab Sample ID: LCS 880-42486/1-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09622		mg/Kg		96	70 - 130		
Toluene			0.100	0.1007		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.1028		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.2274		mg/Kg		114	70 - 130		
o-Xylene			0.100	0.1119		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: LCS 880-42486/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09788		mg/Kg		98	70 - 130		
Toluene			0.100	0.1020		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.1044		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2327		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1151		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-3646-A-1-E MS
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.08133		mg/Kg		81	70 - 130		
Toluene	<0.00201	U	0.0998	0.09387		mg/Kg		94	70 - 130		
Ethylbenzene	<0.00201	U	0.0998	0.1032		mg/Kg		103	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

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

Lab Sample ID: 890-3646-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42466 — **Prep Batch: 42486**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2296		mg/Kg		115	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1123		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-3646-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42466 — **Prep Batch: 42486**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08250		mg/Kg		83	70 - 130	1	35
Toluene	<0.00201	U	0.0990	0.08671		mg/Kg		88	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0990	0.08708		mg/Kg		88	70 - 130	17	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1918		mg/Kg		97	70 - 130	18	35
o-Xylene	<0.00201	U	0.0990	0.09425		mg/Kg		95	70 - 130	17	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

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

Lab Sample ID: MB 880-41930/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 19:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 19:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 19:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*

Lab Sample ID: LCS 880-41930/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	961.8		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1013		mg/Kg		101	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

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

Lab Sample ID: LCS 880-41930/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41930

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	122		70 - 130

Lab Sample ID: LCSD 880-41930/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	979.2		mg/Kg		98	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-3646-A-1-C MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1005		mg/Kg		101	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-3646-A-1-D MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	1006	F2	mg/Kg		101	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	889.7		mg/Kg		89	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	78		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41924/1-A
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/22/22 12:07	1

Lab Sample ID: LCS 880-41924/2-A
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	274.8		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-41924/3-A
Matrix: Solid
Analysis Batch: 42328

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	274.8		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 890-3647-A-5-B MS
Matrix: Solid
Analysis Batch: 42328

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	198	F1	250	495.3	F1	mg/Kg		119	90 - 110		

Lab Sample ID: 890-3647-A-5-C MSD
Matrix: Solid
Analysis Batch: 42328

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	198	F1	250	469.1		mg/Kg		108	90 - 110	5	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

GC VOA

Prep Batch: 42420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42420/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 42466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	8021B	42486
MB 880-42420/5-A	Method Blank	Total/NA	Solid	8021B	42420
MB 880-42483/5-A	Method Blank	Total/NA	Solid	8021B	42483
MB 880-42486/5-A	Method Blank	Total/NA	Solid	8021B	42486
LCS 880-42486/1-A	Lab Control Sample	Total/NA	Solid	8021B	42486
LCS 880-42486/2-A	Lab Control Sample	Total/NA	Solid	8021B	42486
LCSD 880-42483/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42483
890-3646-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	42486
890-3646-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42486

Prep Batch: 42483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42483/5-A	Method Blank	Total/NA	Solid	5035	
LCSD 880-42483/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 42486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	5035	
MB 880-42486/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42486/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-42486/2-A	Lab Control Sample	Total/NA	Solid	5035	
890-3646-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3646-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	8015NM Prep	
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	8015B NM	41930
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015B NM	41930
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41930
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41930
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41930
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41930

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

GC Semi VOA

Analysis Batch: 42190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Soluble	Solid	DI Leach	
MB 880-41924/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3647-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3647-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3648-1	PH05B	Soluble	Solid	300.0	41924
MB 880-41924/1-A	Method Blank	Soluble	Solid	300.0	41924
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	300.0	41924
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41924
890-3647-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	41924
890-3647-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41924

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Client Sample ID: PH05B

Date Collected: 12/12/22 13:10
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3648-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	42486	12/22/22 10:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42466	12/23/22 21:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42583	12/24/22 08:27	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42190	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 22:06	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 13:25	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

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 27 Brushy Draw 161H

Job ID: 890-3648-1
SDG: 03E1558091

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3648-1	PH05B	Solid	12/12/22 13:10	12/13/22 15:30	7'

Page 232 of 292

12/27/2022

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 16H	Turn Around	
Project Number:	03E1558091	☑ Routine ☐ Rush	
Project Location:	32.10165, 103.87622	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	9.2
Total Containers:		Corrected Temperature:	9.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	BTEX	TPH
PH05B	S	12/12/22	1310	7'	G	1		X	X	X

890-3648 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

WEST
- Sample jars have "west" after name
Incident #s:
NAPP2217546910
NAPP2218236445

Cost Center:
1666961001

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	[signature]	Amanda Stiff	12/13/22 1530			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Page 19 of 23

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3648-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 Brushy Draw 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
			Preservation Code:										
PH05B (W) (890-3648-1)	12/12/22	13 10 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by	Date	Time	Method of Shipment:

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

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

Ver: 06/08/2021

Page 233 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/27/2022
Page 20 of 23
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3648-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email				
Project Name: PLU 27 Brushy Draw 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
PH05B (W) (890-3648-1)	12/12/22	13 10 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 234 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/27/2022
Page 21 of 23
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3648-1
SDG Number: 03E1558091

Login Number: 3648
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3648-1
SDG Number: 03E1558091

Login Number: 3648
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/23/2022 9:50:20 PM

JOB DESCRIPTION

PLU 27 BRUSHY DRAW 161H
SDG NUMBER 03E1558091

JOB NUMBER

890-3649-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 3/19/2023 8:33:15 AM

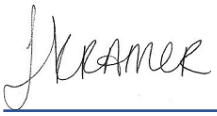
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/23/2022 9:50:20 PM

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

Table of Contents

Released to Imaging: 5/19/2023 8:53:13 AM

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Job ID: 890-3649-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3649-1

Receipt
The samples were received on 12/13/2022 3:30 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 9.0°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42485 and analytical batch 880-42557 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41930 and analytical batch 880-41982 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41930 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41924 and 880-41924 and analytical batch 880-42328 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.The associated samples are: PH01 (890-3649-1), PH01A (890-3649-2), PH02 (890-3649-3), PH03 (890-3649-4) and PH04 (890-3649-5).

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 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH01

Date Collected: 12/12/22 09:45
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3649-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 02:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 02:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 02:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 02:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 02:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 02:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*12/22/22 09:49*	*12/23/22 02:39*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*12/22/22 09:49*	*12/23/22 02:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:29	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:29*	*1*
o-Terphenyl	*95*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:29*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1250**		25.2		mg/Kg			12/22/22 13:52	5

Client Sample ID: PH01A

Date Collected: 12/12/22 10:15
Date Received: 12/13/22 15:30
Sample Depth: 3

Lab Sample ID: 890-3649-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 03:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 03:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 03:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 03:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 03:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 03:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/22/22 09:49*	*12/23/22 03:06*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH01A

Date Collected: 12/12/22 10:15
Date Received: 12/13/22 15:30
Sample Depth: 3

Lab Sample ID: 890-3649-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/22/22 09:49*	*12/23/22 03:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 22:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 22:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 22:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:51*	*1*
o-Terphenyl	*109*		*70 - 130*	*12/15/22 14:22*	*12/16/22 22:51*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**725**		5.01	mg/Kg			12/22/22 14:00	1

Client Sample ID: PH02

Date Collected: 12/12/22 10:35
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3649-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 04:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 04:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 04:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/22/22 09:49	12/23/22 04:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 04:55	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/22/22 09:49	12/23/22 04:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*12/22/22 09:49*	*12/23/22 04:55*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/22/22 09:49*	*12/23/22 04:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH02

Lab Sample ID: 890-3649-3
Matrix: Solid
Date Collected: 12/12/22 10:35
Date Received: 12/13/22 15:30
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:13	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:13*	*1*
o-Terphenyl	*96*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:13*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**812**		25.0		mg/Kg			12/22/22 14:09	5

Client Sample ID: PH03

Lab Sample ID: 890-3649-4
Matrix: Solid
Date Collected: 12/12/22 10:55
Date Received: 12/13/22 15:30
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/22/22 09:49	12/23/22 05:22	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/22/22 09:49	12/23/22 05:22	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/22/22 09:49	12/23/22 05:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/22/22 09:49	12/23/22 05:22	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/22/22 09:49	12/23/22 05:22	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/22/22 09:49	12/23/22 05:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*12/22/22 09:49*	*12/23/22 05:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/22/22 09:49*	*12/23/22 05:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 23:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 23:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:35*	*1*
o-Terphenyl	*100*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:35*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH03

Lab Sample ID: 890-3649-4
Matrix: Solid
Date Collected: 12/12/22 10:55
Date Received: 12/13/22 15:30
Sample Depth: 1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	714		24.8		mg/Kg			12/22/22 14:18	5

Client Sample ID: PH04

Lab Sample ID: 890-3649-5
Matrix: Solid
Date Collected: 12/12/22 12:10
Date Received: 12/13/22 15:30
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 05:50	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 05:50	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 05:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 05:50	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 05:50	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 05:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*12/22/22 09:49*	*12/23/22 05:50*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/22/22 09:49*	*12/23/22 05:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/16/22 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:58*	*1*
o-Terphenyl	*103*		*70 - 130*	*12/15/22 14:22*	*12/16/22 23:58*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4220		49.6		mg/Kg			12/22/22 14:27	10

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH04A

Date Collected: 12/12/22 12:20
Date Received: 12/13/22 15:30
Sample Depth: 3

Lab Sample ID: 890-3649-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 06:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 06:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 06:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 06:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 06:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*12/22/22 09:49*	*12/23/22 06:17*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/22/22 09:49*	*12/23/22 06:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 00:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 00:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*12/15/22 14:22*	*12/17/22 00:21*	*1*
o-Terphenyl	*101*		*70 - 130*	*12/15/22 14:22*	*12/17/22 00:21*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**635**		4.95		mg/Kg			12/22/22 14:35	1

Client Sample ID: PH05

Date Collected: 12/12/22 14:35
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3649-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/22/22 09:49	12/23/22 06:44	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/22/22 09:49	12/23/22 06:44	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/22/22 09:49	12/23/22 06:44	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/22/22 09:49	12/23/22 06:44	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/22/22 09:49	12/23/22 06:44	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/22/22 09:49	12/23/22 06:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*12/22/22 09:49*	*12/23/22 06:44*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH05

Date Collected: 12/12/22 14:35
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3649-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*12/22/22 09:49*	*12/23/22 06:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 00:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 00:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*12/15/22 14:22*	*12/17/22 00:43*	*1*
o-Terphenyl	*103*		*70 - 130*	*12/15/22 14:22*	*12/17/22 00:43*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5380**		50.5	mg/Kg			12/22/22 15:01	10

Client Sample ID: PH05A

Date Collected: 12/12/22 14:55
Date Received: 12/13/22 15:30
Sample Depth: 5

Lab Sample ID: 890-3649-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 07:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 07:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 07:11	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/22/22 09:49	12/23/22 07:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:49	12/23/22 07:11	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/22/22 09:49	12/23/22 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*12/22/22 09:49*	*12/23/22 07:11*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/22/22 09:49*	*12/23/22 07:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH05A

Date Collected: 12/12/22 14:55
Date Received: 12/13/22 15:30
Sample Depth: 5

Lab Sample ID: 890-3649-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 01:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 01:05	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*12/15/22 14:22*	*12/17/22 01:05*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/15/22 14:22*	*12/17/22 01:05*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3690**		25.2		mg/Kg			12/22/22 15:10	5

Client Sample ID: PH06

Date Collected: 12/12/22 12:40
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3649-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 07:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 07:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 07:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 07:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 07:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*12/22/22 09:49*	*12/23/22 07:38*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/22/22 09:49*	*12/23/22 07:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 01:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 01:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*12/15/22 14:22*	*12/17/22 01:50*	*1*
o-Terphenyl	*97*		*70 - 130*	*12/15/22 14:22*	*12/17/22 01:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH06

Lab Sample ID: 890-3649-9
Matrix: Solid
Date Collected: 12/12/22 12:40
Date Received: 12/13/22 15:30
Sample Depth: 1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7980		100		mg/Kg			12/22/22 15:36	20

Client Sample ID: PH06A

Lab Sample ID: 890-3649-10
Matrix: Solid
Date Collected: 12/12/22 13:10
Date Received: 12/13/22 15:30
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 08:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 08:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/22/22 09:49*	*12/23/22 08:06*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/22/22 09:49*	*12/23/22 08:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:12*	*1*
o-Terphenyl	*117*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:12*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1560		25.1		mg/Kg			12/22/22 15:45	5

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH07

Lab Sample ID: 890-3649-11
Matrix: Solid

Date Collected: 12/12/22 14:05
Date Received: 12/13/22 15:30
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 08:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 09:49	12/23/22 08:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 09:49	12/23/22 08:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*12/22/22 09:49*	*12/23/22 08:33*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/22/22 09:49*	*12/23/22 08:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/17/22 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:35*	*1*
o-Terphenyl	*100*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7400**		100		mg/Kg			12/22/22 15:54	20

Client Sample ID: PH07A

Lab Sample ID: 890-3649-12
Matrix: Solid

Date Collected: 12/12/22 14:20
Date Received: 12/13/22 15:30
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 09:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 09:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 09:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 09:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/23/22 09:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/22 09:49	12/23/22 09:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*12/22/22 09:49*	*12/23/22 09:00*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH07A
Date Collected: 12/12/22 14:20
Date Received: 12/13/22 15:30
Sample Depth: 4

Lab Sample ID: 890-3649-12
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*12/22/22 09:49*	*12/23/22 09:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/23/22 09:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 02:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 02:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/15/22 14:22	12/17/22 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:57*	*1*
o-Terphenyl	*101*		*70 - 130*	*12/15/22 14:22*	*12/17/22 02:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**338**		5.00	mg/Kg			12/22/22 16:03	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

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)
890-3629-A-1-C MS	Matrix Spike	93	104
890-3629-A-1-D MSD	Matrix Spike Duplicate	91	0.2 S1-
890-3649-1	PH01	106	108
890-3649-2	PH01A	105	99
890-3649-3	PH02	94	99
890-3649-4	PH03	98	95
890-3649-5	PH04	99	95
890-3649-6	PH04A	110	99
890-3649-7	PH05	107	101
890-3649-8	PH05A	111	103
890-3649-9	PH06	103	102
890-3649-10	PH06A	115	102
890-3649-11	PH07	107	102
890-3649-12	PH07A	106	101
LCS 880-42485/1-A	Lab Control Sample	94	93
MB 880-42485/5-A	Method Blank	67 S1-	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3646-A-1-C MS	Matrix Spike	98	88
890-3646-A-1-D MSD	Matrix Spike Duplicate	84	78
890-3649-1	PH01	98	95
890-3649-2	PH01A	117	109
890-3649-3	PH02	98	96
890-3649-4	PH03	102	100
890-3649-5	PH04	105	103
890-3649-6	PH04A	104	101
890-3649-7	PH05	107	103
890-3649-8	PH05A	123	115
890-3649-9	PH06	99	97
890-3649-10	PH06A	124	117
890-3649-11	PH07	103	100
890-3649-12	PH07A	102	101
LCS 880-41930/2-A	Lab Control Sample	114	122
LCSD 880-41930/3-A	Lab Control Sample Dup	114	120
MB 880-41930/1-A	Method Blank	133 S1+	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42485/5-A
Matrix: Solid
Analysis Batch: 42557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42485

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/22/22 22:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/22/22 22:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/22/22 22:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 09:49	12/22/22 22:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:49	12/22/22 22:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 09:49	12/22/22 22:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*12/22/22 09:49*	*12/22/22 22:35*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*12/22/22 09:49*	*12/22/22 22:35*	*1*

Lab Sample ID: LCS 880-42485/1-A
Matrix: Solid
Analysis Batch: 42557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42485

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07863		mg/Kg		79	70 - 130		
Toluene			0.100	0.07872		mg/Kg		79	70 - 130		
Ethylbenzene			0.100	0.09193		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1868		mg/Kg		93	70 - 130		
o-Xylene			0.100	0.09522		mg/Kg		95	70 - 130		

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

Lab Sample ID: 890-3629-A-1-C MS
Matrix: Solid
Analysis Batch: 42557

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.0996	0.08128		mg/Kg		82	70 - 130		
Toluene	<0.00201	U F1	0.0996	0.07219		mg/Kg		72	70 - 130		
Ethylbenzene	<0.00201	U	0.0996	0.08223		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.1020	F1	mg/Kg		51	70 - 130		
o-Xylene	<0.00201	U	0.0996	0.08745		mg/Kg		88	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3629-A-1-D MSD
Matrix: Solid
Analysis Batch: 42557

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0990	0.05757	F1	mg/Kg		58	70 - 130	34	35
Toluene	<0.00201	U F1	0.0990	0.06333	F1	mg/Kg		64	70 - 130	13	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

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

Lab Sample ID: 890-3629-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42557 — **Prep Batch: 42485**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U	0.0990	0.07534		mg/Kg		76	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.198	0.1539	F2	mg/Kg		78	70 - 130	41	35
o-Xylene	<0.00201	U	0.0990	0.07738		mg/Kg		78	70 - 130	12	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*0.2*	*S1-*	*70 - 130*

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

Lab Sample ID: MB 880-41930/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*

Lab Sample ID: LCS 880-41930/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	961.8		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1013		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Lab Sample ID: LCSD 880-41930/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	979.2		mg/Kg		98	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	1	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

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

Lab Sample ID: LCSD 880-41930/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41930

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-3646-A-1-C MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	1283		mg/Kg		128	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1005		mg/Kg		101	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-3646-A-1-D MSD
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41930

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	1006	F2	mg/Kg		101	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	889.7		mg/Kg		89	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	78		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41924/1-A
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/22/22 12:07	1

Lab Sample ID: LCS 880-41924/2-A
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	274.8		mg/Kg		110	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-41924/3-A
Matrix: Solid
Analysis Batch: 42328

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	274.8		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 890-3649-6 MS
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: PH04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	635		248	881.9		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3649-6 MSD
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: PH04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	635		248	863.1		mg/Kg		92	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

GC VOA

Prep Batch: 42485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	5035	
890-3649-2	PH01A	Total/NA	Solid	5035	
890-3649-3	PH02	Total/NA	Solid	5035	
890-3649-4	PH03	Total/NA	Solid	5035	
890-3649-5	PH04	Total/NA	Solid	5035	
890-3649-6	PH04A	Total/NA	Solid	5035	
890-3649-7	PH05	Total/NA	Solid	5035	
890-3649-8	PH05A	Total/NA	Solid	5035	
890-3649-9	PH06	Total/NA	Solid	5035	
890-3649-10	PH06A	Total/NA	Solid	5035	
890-3649-11	PH07	Total/NA	Solid	5035	
890-3649-12	PH07A	Total/NA	Solid	5035	
MB 880-42485/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42485/1-A	Lab Control Sample	Total/NA	Solid	5035	
890-3629-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3629-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	8021B	42485
890-3649-2	PH01A	Total/NA	Solid	8021B	42485
890-3649-3	PH02	Total/NA	Solid	8021B	42485
890-3649-4	PH03	Total/NA	Solid	8021B	42485
890-3649-5	PH04	Total/NA	Solid	8021B	42485
890-3649-6	PH04A	Total/NA	Solid	8021B	42485
890-3649-7	PH05	Total/NA	Solid	8021B	42485
890-3649-8	PH05A	Total/NA	Solid	8021B	42485
890-3649-9	PH06	Total/NA	Solid	8021B	42485
890-3649-10	PH06A	Total/NA	Solid	8021B	42485
890-3649-11	PH07	Total/NA	Solid	8021B	42485
890-3649-12	PH07A	Total/NA	Solid	8021B	42485
MB 880-42485/5-A	Method Blank	Total/NA	Solid	8021B	42485
LCS 880-42485/1-A	Lab Control Sample	Total/NA	Solid	8021B	42485
890-3629-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42485
890-3629-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42485

Analysis Batch: 42566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	Total BTEX	
890-3649-2	PH01A	Total/NA	Solid	Total BTEX	
890-3649-3	PH02	Total/NA	Solid	Total BTEX	
890-3649-4	PH03	Total/NA	Solid	Total BTEX	
890-3649-5	PH04	Total/NA	Solid	Total BTEX	
890-3649-6	PH04A	Total/NA	Solid	Total BTEX	
890-3649-7	PH05	Total/NA	Solid	Total BTEX	
890-3649-8	PH05A	Total/NA	Solid	Total BTEX	
890-3649-9	PH06	Total/NA	Solid	Total BTEX	
890-3649-10	PH06A	Total/NA	Solid	Total BTEX	
890-3649-11	PH07	Total/NA	Solid	Total BTEX	
890-3649-12	PH07A	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

GC Semi VOA

Prep Batch: 41930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	8015NM Prep	
890-3649-2	PH01A	Total/NA	Solid	8015NM Prep	
890-3649-3	PH02	Total/NA	Solid	8015NM Prep	
890-3649-4	PH03	Total/NA	Solid	8015NM Prep	
890-3649-5	PH04	Total/NA	Solid	8015NM Prep	
890-3649-6	PH04A	Total/NA	Solid	8015NM Prep	
890-3649-7	PH05	Total/NA	Solid	8015NM Prep	
890-3649-8	PH05A	Total/NA	Solid	8015NM Prep	
890-3649-9	PH06	Total/NA	Solid	8015NM Prep	
890-3649-10	PH06A	Total/NA	Solid	8015NM Prep	
890-3649-11	PH07	Total/NA	Solid	8015NM Prep	
890-3649-12	PH07A	Total/NA	Solid	8015NM Prep	
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	8015B NM	41930
890-3649-2	PH01A	Total/NA	Solid	8015B NM	41930
890-3649-3	PH02	Total/NA	Solid	8015B NM	41930
890-3649-4	PH03	Total/NA	Solid	8015B NM	41930
890-3649-5	PH04	Total/NA	Solid	8015B NM	41930
890-3649-6	PH04A	Total/NA	Solid	8015B NM	41930
890-3649-7	PH05	Total/NA	Solid	8015B NM	41930
890-3649-8	PH05A	Total/NA	Solid	8015B NM	41930
890-3649-9	PH06	Total/NA	Solid	8015B NM	41930
890-3649-10	PH06A	Total/NA	Solid	8015B NM	41930
890-3649-11	PH07	Total/NA	Solid	8015B NM	41930
890-3649-12	PH07A	Total/NA	Solid	8015B NM	41930
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015B NM	41930
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41930
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41930
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41930
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41930

Analysis Batch: 42191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Total/NA	Solid	8015 NM	
890-3649-2	PH01A	Total/NA	Solid	8015 NM	
890-3649-3	PH02	Total/NA	Solid	8015 NM	
890-3649-4	PH03	Total/NA	Solid	8015 NM	
890-3649-5	PH04	Total/NA	Solid	8015 NM	
890-3649-6	PH04A	Total/NA	Solid	8015 NM	
890-3649-7	PH05	Total/NA	Solid	8015 NM	
890-3649-8	PH05A	Total/NA	Solid	8015 NM	
890-3649-9	PH06	Total/NA	Solid	8015 NM	
890-3649-10	PH06A	Total/NA	Solid	8015 NM	
890-3649-11	PH07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

GC Semi VOA (Continued)

Analysis Batch: 42191 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-12	PH07A	Total/NA	Solid	8015 NM	

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Leach Batch: 41924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Soluble	Solid	DI Leach	
890-3649-2	PH01A	Soluble	Solid	DI Leach	
890-3649-3	PH02	Soluble	Solid	DI Leach	
890-3649-4	PH03	Soluble	Solid	DI Leach	
890-3649-5	PH04	Soluble	Solid	DI Leach	
890-3649-6	PH04A	Soluble	Solid	DI Leach	
890-3649-7	PH05	Soluble	Solid	DI Leach	
890-3649-8	PH05A	Soluble	Solid	DI Leach	
890-3649-9	PH06	Soluble	Solid	DI Leach	
890-3649-10	PH06A	Soluble	Solid	DI Leach	
890-3649-11	PH07	Soluble	Solid	DI Leach	
890-3649-12	PH07A	Soluble	Solid	DI Leach	
MB 880-41924/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3649-6 MS	PH04A	Soluble	Solid	DI Leach	
890-3649-6 MSD	PH04A	Soluble	Solid	DI Leach	

Analysis Batch: 42328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3649-1	PH01	Soluble	Solid	300.0	41924
890-3649-2	PH01A	Soluble	Solid	300.0	41924
890-3649-3	PH02	Soluble	Solid	300.0	41924
890-3649-4	PH03	Soluble	Solid	300.0	41924
890-3649-5	PH04	Soluble	Solid	300.0	41924
890-3649-6	PH04A	Soluble	Solid	300.0	41924
890-3649-7	PH05	Soluble	Solid	300.0	41924
890-3649-8	PH05A	Soluble	Solid	300.0	41924
890-3649-9	PH06	Soluble	Solid	300.0	41924
890-3649-10	PH06A	Soluble	Solid	300.0	41924
890-3649-11	PH07	Soluble	Solid	300.0	41924
890-3649-12	PH07A	Soluble	Solid	300.0	41924
MB 880-41924/1-A	Method Blank	Soluble	Solid	300.0	41924
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	300.0	41924
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41924
890-3649-6 MS	PH04A	Soluble	Solid	300.0	41924
890-3649-6 MSD	PH04A	Soluble	Solid	300.0	41924

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH01

Date Collected: 12/12/22 09:45
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 02:39	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 22:29	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 13:52	SMC	EET MID

Client Sample ID: PH01A

Date Collected: 12/12/22 10:15
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 03:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 22:51	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 14:00	SMC	EET MID

Client Sample ID: PH02

Date Collected: 12/12/22 10:35
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-3
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			4.99 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 04:55	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 23:13	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 14:09	SMC	EET MID

Client Sample ID: PH03

Date Collected: 12/12/22 10:55
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-4
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			4.97 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 05:22	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH03

Date Collected: 12/12/22 10:55
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-4
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			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 23:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 14:18	SMC	EET MID

Client Sample ID: PH04

Date Collected: 12/12/22 12:10
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-5
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			5.02 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 05:50	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/16/22 23:58	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	42328	12/22/22 14:27	SMC	EET MID

Client Sample ID: PH04A

Date Collected: 12/12/22 12:20
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-6
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			5.03 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 06:17	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 00:21	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 14:35	SMC	EET MID

Client Sample ID: PH05

Date Collected: 12/12/22 14:35
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 06:44	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 00:43	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH05
Date Collected: 12/12/22 14:35
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-7
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			4.95 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	42328	12/22/22 15:01	SMC	EET MID

Client Sample ID: PH05A
Date Collected: 12/12/22 14:55
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-8
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	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 07:11	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 01:05	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 15:10	SMC	EET MID

Client Sample ID: PH06
Date Collected: 12/12/22 12:40
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 07:38	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 01:50	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	42328	12/22/22 15:36	SMC	EET MID

Client Sample ID: PH06A
Date Collected: 12/12/22 13:10
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 08:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 02:12	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42328	12/22/22 15:45	SMC	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Client Sample ID: PH07

Date Collected: 12/12/22 14:05
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 08:33	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:19	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 02:35	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	42328	12/22/22 15:54	SMC	EET MID

Client Sample ID: PH07A

Date Collected: 12/12/22 14:20
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3649-12
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	42485	12/22/22 09:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42557	12/23/22 09:00	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42566	12/23/22 09:20	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42191	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 02:57	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 16:03	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

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 27 BRUSHY DRAW 161H

Job ID: 890-3649-1
SDG: 03E1558091

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3649-1	PH01	Solid	12/12/22 09:45	12/13/22 15:30	1
890-3649-2	PH01A	Solid	12/12/22 10:15	12/13/22 15:30	3
890-3649-3	PH02	Solid	12/12/22 10:35	12/13/22 15:30	1
890-3649-4	PH03	Solid	12/12/22 10:55	12/13/22 15:30	1
890-3649-5	PH04	Solid	12/12/22 12:10	12/13/22 15:30	1
890-3649-6	PH04A	Solid	12/12/22 12:20	12/13/22 15:30	3
890-3649-7	PH05	Solid	12/12/22 14:35	12/13/22 15:30	1
890-3649-8	PH05A	Solid	12/12/22 14:55	12/13/22 15:30	5
890-3649-9	PH06	Solid	12/12/22 12:40	12/13/22 15:30	1
890-3649-10	PH06A	Solid	12/12/22 13:10	12/13/22 15:30	5
890-3649-11	PH07	Solid	12/12/22 14:05	12/13/22 15:30	0.5
890-3649-12	PH07A	Solid	12/12/22 14:20	12/13/22 15:30	4

Page 267 of 292

12/23/2022

Page 31 of 38

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 1&H	Turn Around	
Project Number:	03E1558091	☑ Routine ☐ Rush	
Project Location:	32.10165, -103.87622	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	9.2
Total Containers:		Corrected Temperature:	9.0

Preservative Codes

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

ANALYSIS REQUEST

890-3649 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	BTEX	TPH	Sample Comments
PH01	S	12/12/22	0945	1'	G	1		X	X	X	WEST
PH01A			1015	3'							-Sample jars
PH02			1035	1'							have "west"
PH03			1055	1'							after name
PH04			1210	1'							Incident #s:
PH04A			1220	3'							NAPP2217546910
PH05			1435	1'							NAPP2218236445
PH05A			1455	5'							
PH06			1240	1'							Cost Center:
PH06A	↓	↓	1310	5'	↓	↓		↓	↓	↓	1066961001

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.13.22 1530			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

Page 268 of 292

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	PLU 27 Brushy Draw 16H	Turn Around	
Project Number:	03E1558091	☑ Routine ☐ Rush	
Project Location:	32.10165, -103.87622	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	BTEX	TPH	Sample Comments
PH07	S	12/12/22	1405	0.5'	G	1		X	X	X	WEST
PH07A	↓	↓	1420	4'	↓	↓		↓	↓	↓	- sample jars have "west" after name
											Incident #s:
											NAPP2217546910
											NAPP2218236445
											Cost Center:
											1066961001

NR

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

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

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

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 1/20/2023 1:19:33 PM

Released to Imaging: 5/19/2023 8:53:13 AM

12/23/2022

Page 32 of 38

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3649-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email:				
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
PH01 W (890-3649-1)	12/12/22	09 45 Mountain		Solid			X	X	X	X	X	1	
PH01A W (890-3649-2)	12/12/22	10 15 Mountain		Solid			X	X	X	X	X	1	
PH02 W (890-3649-3)	12/12/22	10 35 Mountain		Solid			X	X	X	X	X	1	
PH03 W (890-3649-4)	12/12/22	10 55 Mountain		Solid			X	X	X	X	X	1	
PH04 W (890-3649-5)	12/12/22	12 10 Mountain		Solid			X	X	X	X	X	1	
PH04A W (890-3649-6)	12/12/22	12 20 Mountain		Solid			X	X	X	X	X	1	
PH05 W (890-3649-7)	12/12/22	14 35 Mountain		Solid			X	X	X	X	X	1	
PH05A W (890-3649-8)	12/12/22	14 55 Mountain		Solid			X	X	X	X	X	1	
PH06 W (890-3649-9)	12/12/22	12 40 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

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

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

Ver: 06/08/2021

Page 269 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/23/2022
Page 33 of 38
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3649-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X							
PH06A W (890-3649-10)	12/12/22	13 10 Mountain		Solid			X	X	X	X	X	1	
PH07 W (890-3649-11)	12/12/22	14 05 Mountain		Solid			X	X	X	X	X	1	
PH07A W (890-3649-12)	12/12/22	14 20 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 270 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/23/2022
Page 34 of 38
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3649-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
			Preservation Code:										
PH01 W (890-3649-1)	12/12/22	09 45 Mountain		Solid			X	X	X	X	X	1	
PH01A W (890-3649-2)	12/12/22	10 15 Mountain		Solid			X	X	X	X	X	1	
PH02 W (890-3649-3)	12/12/22	10 35 Mountain		Solid			X	X	X	X	X	1	
PH03 W (890-3649-4)	12/12/22	10 55 Mountain		Solid			X	X	X	X	X	1	
PH04 W (890-3649-5)	12/12/22	12 10 Mountain		Solid			X	X	X	X	X	1	
PH04A W (890-3649-6)	12/12/22	12 20 Mountain		Solid			X	X	X	X	X	1	
PH05 W (890-3649-7)	12/12/22	14 35 Mountain		Solid			X	X	X	X	X	1	
PH05A W (890-3649-8)	12/12/22	14 55 Mountain		Solid			X	X	X	X	X	1	
PH06 W (890-3649-9)	12/12/22	12 40 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 271 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/23/2022
Page 35 of 38
Released to Imaging: 5/19/2023 8:53:13 AM

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3649-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
PH06A W (890-3649-10)	12/12/22	13 10 Mountain		Solid			X	X	X	X	X	1	
PH07 W (890-3649-11)	12/12/22	14 05 Mountain		Solid			X	X	X	X	X	1	
PH07A W (890-3649-12)	12/12/22	14 20 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

Page 272 of 292
Received by OCD: 1/20/2023 1:19:33 PM
12/23/2022
Page 36 of 38
Released to Imaging: 5/19/2023 8:53:13 AM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3649-1
SDG Number: 03E1558091

Login Number: 3649
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3649-1
SDG Number: 03E1558091

Login Number: 3649
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Collins, Melanie

From: Green, Garrett J
Sent: Wednesday, June 22, 2022 5:52 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Nobui, Jennifer, EMNRD
Cc: DelawareSpills /SM; Pennington, Shelby G
Subject: XTO 24 Hour Notification - PLU 27 BD 102H

All,

This is notification of a release greater than 25 barrels that occurred today at the PLU 27 BD 102H near the GPS coordinates given below. Most of the fluids remained in containment and all standing fluids were recovered by vacuum truck. Details will be provided with a form C-141. Please contact us with any questions or concerns.

GPS: 32.10129,-103.87592

Thank you,

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

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

Tacoma Morrissey

From: Kalei Jennings
Sent: Monday, September 12, 2022 9:31 AM
To: Tacoma Morrissey
Subject: FW: (Extension Approval) - XTO - PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

FYI

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Monday, September 12, 2022 8:59 AM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Kalei Jennings <kjennings@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: (Extension Approval) - XTO - PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

[**EXTERNAL EMAIL**]

RE: Incident **#NAPP2217546910, NAPP2218236445, NAPP2218943007**

Melanie,

Your request for an extension to **December 9th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure reports.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Friday, September 9, 2022 3:12 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Kalei Jennings <kjennings@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>
Subject: [EXTERNAL] XTO - Extension Requests PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

XTO is requesting an extension for the current deadlines of September 10, 2022, September 20, 2022, and September 23, 2022 for submitting a remediation work plan, closure, or deferral report required in 19.15.29.12.B.(1) NMAC at the PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)**.** The releases occurred on June 12, 2022, June 22, 2022, and June 25, 2022, respectively. Fluids were released into containment and onto pad during frac operations. Initial assessment of the releases has not been completed. Remediation activities cannot proceed until frac operations are complete. XTO operations will provide status updates and indicate when the Site is clear for remediation activities to commence.

Due to all three releases occurring on the same pad, delineation and remediation activities are scheduled to be completed concurrently. XTO requests to extend the deadline to complete remediation activities and submit a closure or deferral report for Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007 to December 9, 2022, which is a 90-day extension of the due date for the first release.

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

Tacoma Morrissey

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, December 8, 2022 10:38 AM
To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 12/12/22 - 12/16/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Dec 12, 2022.

- PLU 27 BD 161H / nAPP2217546910, nAPP2218236445, nAPP2218943007
- PLU 18 TWR Sat Battery/ nAPP2230551957
- Pickett Draw Federal #001/ NAB1919955454

Thank you,

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

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

Tacoma Morrissey

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, December 29, 2022 10:35 AM
To: Green, Garrett J; Collins, Melanie
Cc: DelawareSpills /SM; Ashley Ager; Tacoma Morrissey; Ben Belill; Kalei Jennings; Stuart Hyde; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Denied) XTO -PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2217546910**

Garrett,

An extension for these releases have already been granted. Your request for another extension is **denied**. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Wednesday, December 28, 2022 8:52 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: [EXTERNAL] RE: XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Mr. Hamlet,

As requested, please see the attached laboratory analytical reports and the Form C-141 detailing the Site Characterization. The analytical reports include results from soil samples collected from the release extent during the initial site assessment conducted on December 7, 2022, immediately following the completion of XTO flowback

operations. More extensive delineation activities were conducted on December 12, 2022 and December 13, 2022, but analytical data is currently pending.

NMOCD should note that there were multiple releases, all of which occurred on pad. Initial surface samples collected within one release extent met the most stringent closure criteria. Initial samples from a second release contained chloride concentrations ranging from 621 mg/kg to 6,580 mg/kg, which met Table I closure criteria.

As explained above, we have not received all delineation analytical results but results from the initial assessment indicate four lateral delineation samples were below the most stringent closure criteria and the release stayed on pad.

In order to review pending laboratory analytical results from the delineation event and submit a Closure Request or Remediation Work Plan for Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007, XTO requests a shorter, 30-day extension until January 22, 2022.

Thank you,

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

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From: Hamlet, Robert, EMNRD [mailto:Robert.Hamlet@emnrd.nm.gov]
Sent: Friday, December 9, 2022 10:37 AM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

External Email – Think Before You Click

Melanie,

An extension for these releases has already been granted. We are almost at 180 days from the release dates. The OCD requests a Site Assessment/Characterization before another extension can be granted. Please email the Site Assessment with soil sample results after the lab samples come back. At that point we can take a look at granting another extension.

Regards,

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau

EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Friday, December 9, 2022 10:18 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com
Subject: [EXTERNAL] XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

XTO is requesting an extension for the current deadline of December 9, 2022 for submitting a remediation work plan, closure, or deferral report required in 19.15.29.12.B.(1) NMAC at the PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)**.** The releases occurred on June 12, 2022, June 22, 2022, and June 25, 2022, respectively. Fluids were released into a temporary containment and onto the well pad during frac operations. Remediation activities have been delayed due to XTO flowback operations onsite. XTO flowback operations cleared the site on December 5, 2022. An initial site assessment of the releases was completed on December 6, 2022 and analytical data is currently pending. Excavation activities are scheduled to begin December 12, 2022. XTO requests to extend the deadline to complete remediation activities and submit a closure or deferral report for Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007 to February 7, 2022, which is a 60-day extension of the current due date.

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

ENSOLUM

APPENDIX F

Friction Reducer SDS

PFP INDUSTRIES

SAFETY DATA SHEET

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

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

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

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

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

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

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

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Received by OCD: 1/20/2023 1:19:33 PM

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

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

Precautionary Statements - Response

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

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

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

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

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

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

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

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

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

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

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

5. FIRE-FIGHTING MEASURES

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

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

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

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

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

Methods and material for containment and cleaning up

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

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

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

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

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Skin and body protection

No special protective equipment required.

Respiratory protection

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

General hygiene considerations

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

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

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

Other Information

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

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

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

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

Component Information

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

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

Skin corrosion/irritation No information available.

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

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

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

International Inventories

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

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

PICCS	Complies
AICS	Complies

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

US Federal Regulations

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

SARA 311/312 Hazard Categories

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

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

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

US State Regulations

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

U.S. State Right-to-Know Regulations

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

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Released to Imaging: 5/19/2023 8:53:13 AM

Received by OCD: 1/20/2023 1:19:33 PM

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

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

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

Disclaimer

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End of Safety Data Sheet

Released to Imaging: 5/19/2023 8:53:13 AM

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District II
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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 178046

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 178046
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. Please, include in the closure report the driller's log for the borehole to 105 feet for depth to groundwater determination. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the work plan has been reviewed.	5/19/2023