State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210937085
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature: Garrett Green Date: 07/04/2022

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

OCD Only

Received by: Robert Hamlet Date: 7/18/2022

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

Closure Approved by: Robert Hamlet Date: 7/18/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2210937085
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Adrian Baker	Contact Telephone 432-236-3808
Contact email adrian.baker@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.21029 Longitude -103.90050
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 20-24-30 Battery	Site Type Tank Battery
Date Release Discovered 04/05/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	20	24S	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) 15.00	Volume Recovered (bbls) 15.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☒ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The water dump line on the three phase tester developed a hole due to corrosion, releasing fluids into lined containment. All fluids were recovered. A 48-hour advance liner inspection notice was sent to NMOCD District 2. Liner was visually inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210937085
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Application ID	

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

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

Initial Response

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

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

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

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

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

Printed Name: Shelby Pennington Title: Environmental Manager

Signature: Shelby Pennington Date: 4/19/22

email: shelby.g.pennington@exxonmobil.com Telephone: 281-723-9353

OCD Only

Received by: Jocelyn Harimon Date: 04/19/2022

Location:	**PLU 20-24-30 Battery**	
Spill Date:	**4/5/2022**	
Area 1		
Approximate Area =	84.22	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	15.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**15.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**15.00**	**bbls**

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210937085
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	NAPP2210937085
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: __07/04/2022_____

email: __garrett.green@exxonmobil.com_____ Telephone: _575-200-0729_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2210937085
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: __Garrett Green_____ Title: ___Environmental Coordinator_____

Signature: _____ Date: ___07/04/2022_____

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

July 4, 2022

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

Re: Closure Request
PLU 20-24-30 Battery
Incident Number NAPP2210937085
Eddy County, New Mexico

To Whom it May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment and soil sampling activities performed at the PLU 20-24-30 Battery (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water within lined containment at the Site. Based on field observations, field screening activities, and laboratory analytical results, XTO is submitting this Closure Request and requesting closure for Incident Number NAPP2210937085.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 20, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.21029° N, 103.90050° W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On April 5, 2022, corrosion on a water dump line resulted in the release of 15 barrels (bbls) of produced water into the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; all 15 bbls of produced water were recovered from within the lined containment. A 48-hour advance notice of liner inspection was provided via email to the New Mexico Oil Conservation Division (NMOCD) District II office. A liner integrity inspection was conducted on April 13, 2022, and the liner was determined to be insufficient. XTO reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on April 19, 2022. The release was assigned Incident Number NAPP2210937085.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to

groundwater data is New Mexico Office of the State Engineer well C-03960, located approximately 0.9 miles east of the Site. The well was drilled on November 12, 2016, and has a total depth of 475 feet bgs. Groundwater was encountered at a depth of 250 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 910 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On May 24, 2022 and June 7, 2022, Ensolum personnel were at the Site to evaluate the release extent and conduct site assessment activities. One borehole (BH01) was advanced via hand auger at the location of the tear in the liner to assess for the presence or absence of impacted soil. Delineation soil samples were collected from borehole BH01 at depths of 0.5 feet and 1-foot bgs. Four additional assessment samples (SS01 through SS04) were collected around the lined containment from a depth of 0.5 feet bgs to confirm the lateral extent of the release. Soil from the borehole was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix B. The borehole was backfilled with the soil removed and XTO repaired the tear in the liner. The borehole and delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Appendix C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for soil samples SS01 through SS04 and the delineation samples from borehole BH01 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure

Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

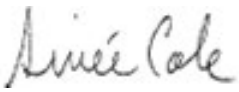
Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the April 5, 2022, produced water release within lined containment. Two delineation soil samples were collected from borehole BH01, at depths of approximately 0.5 feet and 1-foot bgs. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, TPH-DRO/TPH-GRO, TPH and chloride concentrations were compliant with the most stringent Closure Criteria. Additionally, laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the most stringent Table 1 Closure Criteria. The release was contained laterally by the lined containment and all released fluids were recovered during initial response activities. The tear in the liner was subsequently repaired.

Based on initial response efforts, depth to groundwater greater than 100 feet bgs, and soil sample laboratory analytical results compliant with the Closure Criteria directly beneath the tear in the liner, XTO respectfully requests closure for Incident Number NAPP2210937085.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely,
Ensolum, LLC

Tacoma Morrissey
Senior Geologist



Aimee Cole
Senior Managing Scientist

cc: Garrett Green, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor 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 Notifications

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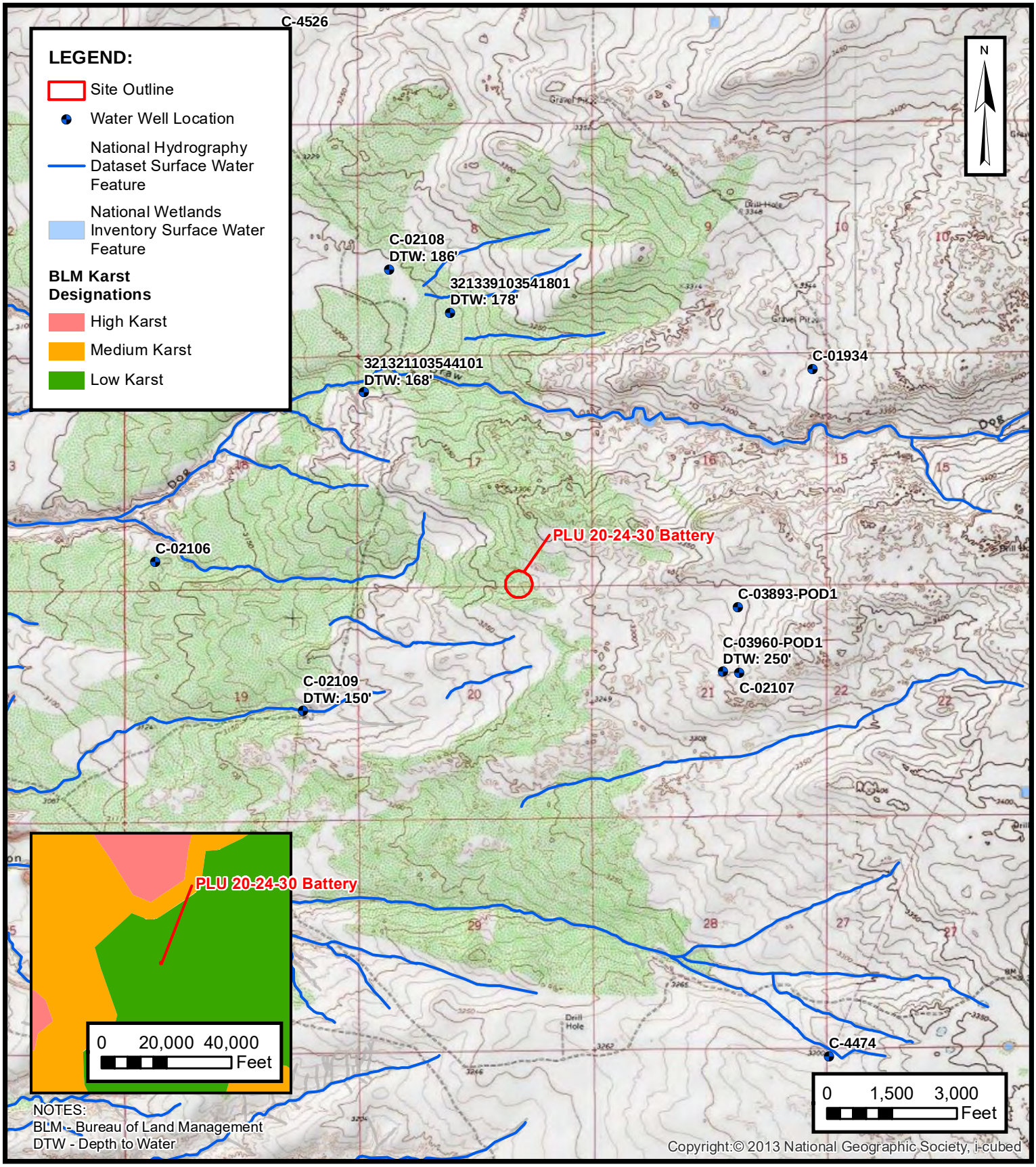
FIGURES

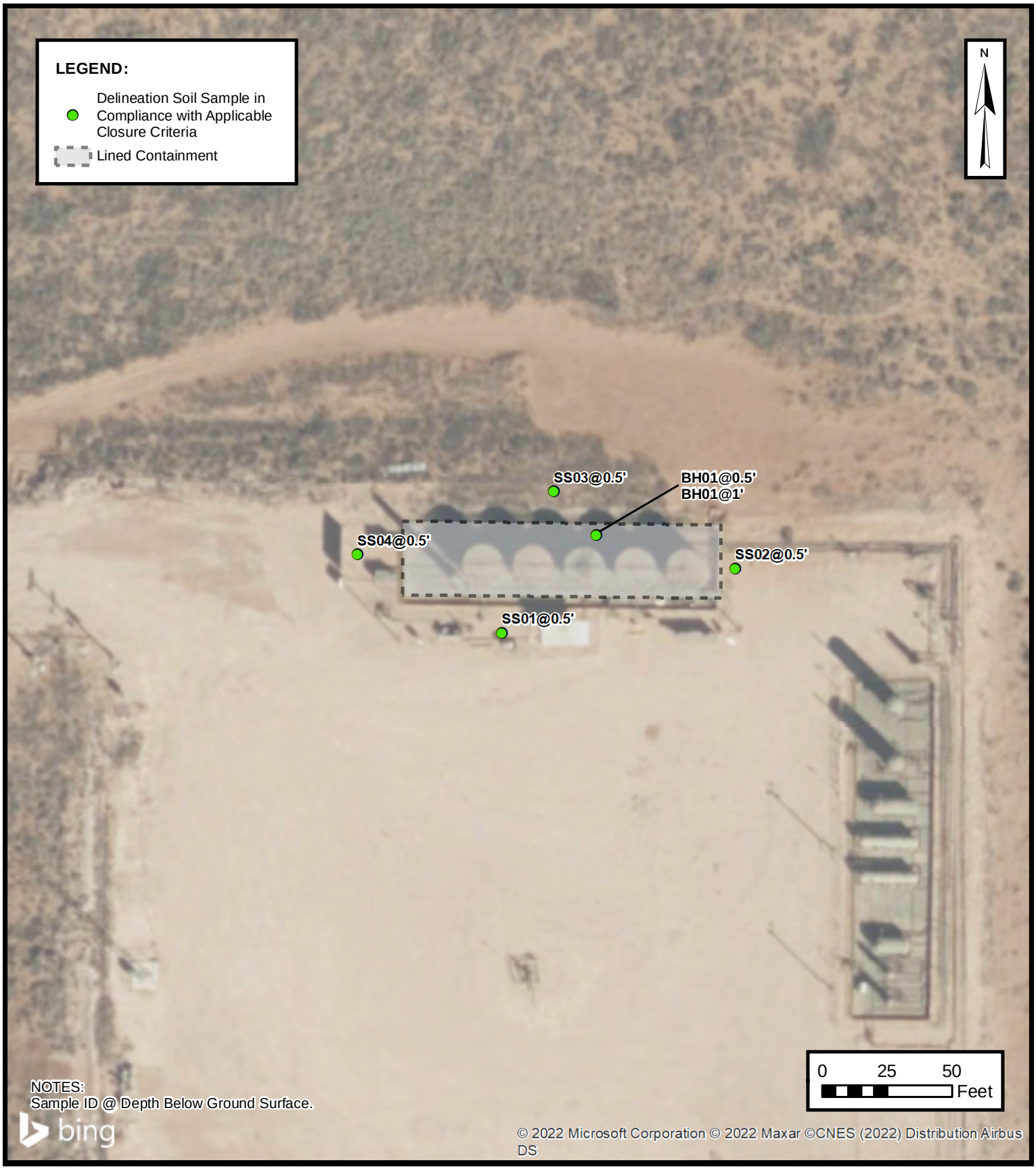


ENSOLUM
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
PLU 20-24-30 BATTERY
NAPP2210937085
Unit B Sec 20, T24S, R30E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental & Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU 20-24-30 BATTERY
NAPP2210937085
Unit B Sec 20, T24S, R30E
Eddy County, New Mexico

FIGURE

2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 20-24-30 Battery
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01	05/24/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	27.2
SS02	05/24/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	8.23
SS03	05/24/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	7.99
SS04	05/24/2022	0.5	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	349
BH01	06/07/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	36.4
BH01	06/07/2022	1	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	27.6

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

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
1	C-3960
WELL OWNER NAME(S)	**PHONE (OPTIONAL)**
BUREAU OF LAND MANAGEMENT	
WELL OWNER MAILING ADDRESS	**CITY / STATE / ZIP**
620 E. GREENE STREET	CARLSBAD NM 88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	12	519 31.14	N
	LONGITUDE	103	53	511 30.76	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

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

SECTION 21 TOWNSHIP 24 S. RANGE 30 S.

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1753	JACOBO FRIESSEN	VANGUARD WATER WELLS

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)	STATIC WATER LEVEL IN COMPLETED WELL (FT)
11-12-16	11-12-16	475	475	250	200

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

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	250	11	STEEL BLANK	THREAD	6	.322	
250	290	11	STEEL SCREEN	THREAD	6	.25	.030
290	395	11	STEEL BLANK	THREAD	6	.322	
395	435	11	STEEL SCREEN	THREAD	6	.25	.030
435	475	11	STEEL BLANK	THREAD	6	.322	

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	11	CONCRETE	9	POURD
20	220	11	3/8 GRAVEL	93	POURED
220	310	11	SILCA SAND	41	POURED
310	370	11	3/8 GRAVEL	28	POURED
370	475	11	SILCA SAND	48	POURED

FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 10/29/15)

FILE NUMBER	C-3960	POD NUMBER	1	TRN NUMBER	588952
LOCATION	24.30.21.231				PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	TOPSOIL	Y ✔N	
1	42	41	SAND	Y ✔N	
42	182	140	SAND & SANDSTONE	Y ✔N	
182	250	68	SAND & GRAVEL	✔Y N	
250	402	152	FINE SAND	Y ✔N	
402	460	58	SAND & GRAVEL	✔Y N	
460	475	15	RED CLAY	Y ✔N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:
☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

RECEIVED
2016 NOV 17 P 3:53
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

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

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Jacob Friesen — JACOBO FRIESSEN — 11-16-16

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 10/29/2015)

FILE NUMBER	C-3960	POD NUMBER	1	TRN NUMBER	588952
LOCATION	24.30.21.231				PAGE 2 OF 2

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 321205103544701

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

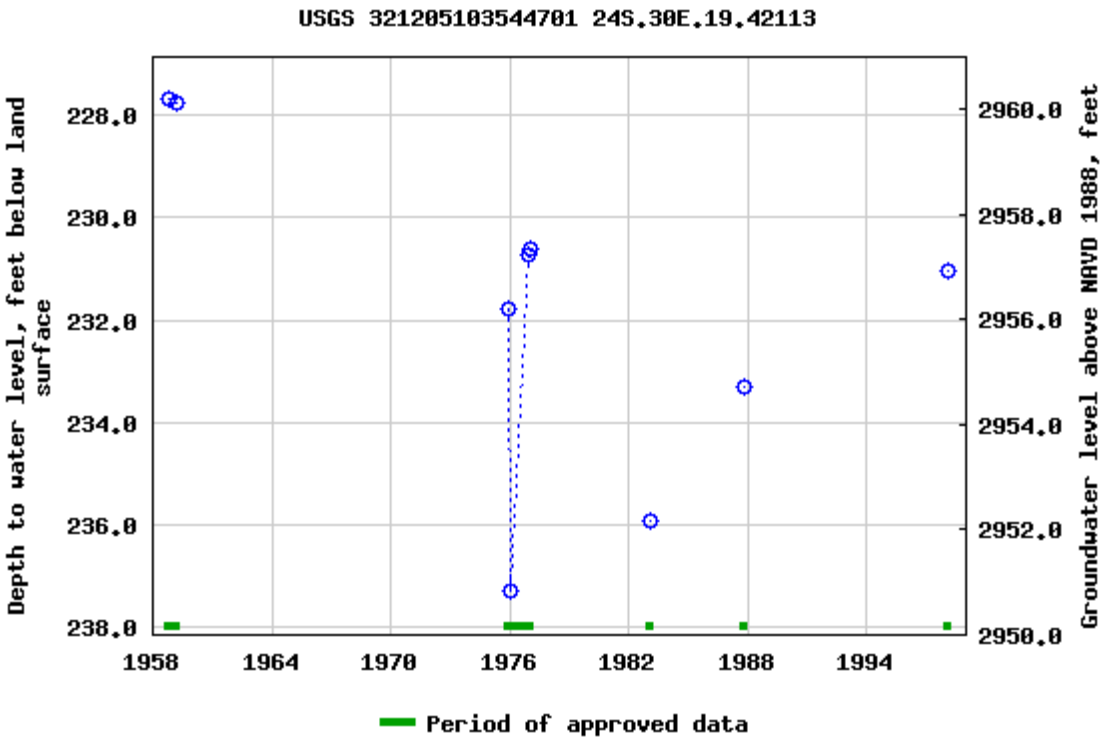
USGS 321205103544701 24S.30E.19.42113

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

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°12'05", Longitude 103°54'47" NAD27
Land-surface elevation 3,188 feet above NAVD88
The depth of the well is 452 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



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

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

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: BH01	Date: 6/07/2022
	Site Name: PLU 20-24-30 Battery	
	Incident Number: nAPP2201937085	
	Job Number: 03E1558052	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: SH	Method: Hand Auger
Coordinates: 32.211865°, -103.898389°	Hole Diameter: 3.5"	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. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1' CALICHE, dry, light brown/tan, no stain, and no odor.
D	<168	0.1	N	BH01	0.5			
D	<168	0	N	BH01	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU 20-24-30 Battery
Incident Number NAPP2201937085

Photograph 1 Date: June 7, 2022
Description: View of hole in liner facing northeast.

Photograph 2 Date: June 7, 2022
Description: View of delineation borehole (BH01) collected at the location of the hole in the liner facing east.

Photograph 3 Date: June 15, 2022
Description: View of repaired liner facing northwest.

Photograph 4 Date: June 15, 2022
Description: View of repaired liner facing west.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2345-1
Laboratory Sample Delivery Group: 03E1558052
Client Project/Site: PLU 20-24-30 BATTERY

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
6/2/2022 11:18:20 AM

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

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Laboratory Job ID: 890-2345-1
SDG: 03E1558052

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2345-1
Project/Site: PLU 20-24-30 BATTERY SDG: 03E1558052

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
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 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Job ID: 890-2345-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2345-1

Receipt
The samples were received on 5/25/2022 4:13 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-26594 and analytical batch 880-26643 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-26464 and analytical batch 880-26542 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS01

Lab Sample ID: 890-2345-1
Matrix: Solid
Date Collected: 05/24/22 15:30
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/27/22 15:07	05/31/22 20:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/27/22 15:07	05/31/22 20:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/27/22 15:07	05/31/22 20:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/27/22 15:07	05/31/22 20:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/27/22 15:07	05/31/22 20:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/27/22 15:07	05/31/22 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:10*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:10*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/01/22 10:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 05:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 05:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*05/27/22 11:19*	*05/28/22 05:29*	*1*
o-Terphenyl	*105*		*70 - 130*	*05/27/22 11:19*	*05/28/22 05:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27.2**		5.03		mg/Kg			05/30/22 00:37	1

Client Sample ID: SS02

Lab Sample ID: 890-2345-2
Matrix: Solid
Date Collected: 05/24/22 15:35
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 20:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 20:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 20:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/27/22 15:07	05/31/22 20:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 20:31	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/27/22 15:07	05/31/22 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:31*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS02

Date Collected: 05/24/22 15:35
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Lab Sample ID: 890-2345-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:31*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/01/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		05/27/22 11:19	05/28/22 05:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/27/22 11:19	05/28/22 05:51	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/27/22 11:19	05/28/22 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*05/27/22 11:19*	*05/28/22 05:51*	*1*
o-Terphenyl	*85*		*70 - 130*	*05/27/22 11:19*	*05/28/22 05:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.23**		5.01	mg/Kg			05/30/22 00:43	1

Client Sample ID: SS03

Date Collected: 05/24/22 15:40
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Lab Sample ID: 890-2345-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/27/22 15:07	05/31/22 20:51	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/27/22 15:07	05/31/22 20:51	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/27/22 15:07	05/31/22 20:51	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/27/22 15:07	05/31/22 20:51	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/27/22 15:07	05/31/22 20:51	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/27/22 15:07	05/31/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:51*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*05/27/22 15:07*	*05/31/22 20:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/01/22 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/31/22 09:45	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS03

Date Collected: 05/24/22 15:40
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Lab Sample ID: 890-2345-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		05/27/22 11:19	05/28/22 06:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/27/22 11:19	05/28/22 06:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/27/22 11:19	05/28/22 06:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*05/27/22 11:19*	*05/28/22 06:12*	*1*
o-Terphenyl	*83*		*70 - 130*	*05/27/22 11:19*	*05/28/22 06:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.99**		4.97		mg/Kg			05/30/22 00:49	1

Client Sample ID: SS04

Date Collected: 05/24/22 15:45
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Lab Sample ID: 890-2345-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/01/22 16:19	06/02/22 09:25	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/01/22 16:19	06/02/22 09:25	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/01/22 16:19	06/02/22 09:25	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		06/01/22 16:19	06/02/22 09:25	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/01/22 16:19	06/02/22 09:25	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		06/01/22 16:19	06/02/22 09:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/01/22 16:19*	*06/02/22 09:25*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*06/01/22 16:19*	*06/02/22 09:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			06/01/22 10:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/27/22 11:19	05/28/22 06:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/27/22 11:19	05/28/22 06:32	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/27/22 11:19	05/28/22 06:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*05/27/22 11:19*	*05/28/22 06:32*	*1*
o-Terphenyl	*89*		*70 - 130*	*05/27/22 11:19*	*05/28/22 06:32*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS04
Date Collected: 05/24/22 15:45
Date Received: 05/25/22 16:13
Sample Depth: 0.5

Lab Sample ID: 890-2345-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	349		25.0		mg/Kg			05/30/22 00:56	5

Surrogate Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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)
880-15244-A-5-D MS	Matrix Spike	95	103
880-15244-A-5-E MSD	Matrix Spike Duplicate	105	101
880-15333-A-1-A MS	Matrix Spike	113	97
880-15333-A-1-B MSD	Matrix Spike Duplicate	110	91
890-2345-1	SS01	113	97
890-2345-2	SS02	101	104
890-2345-3	SS03	96	103
890-2345-4	SS04	116	98
LCS 880-26464/1-A	Lab Control Sample	103	102
LCS 880-26594/1-A	Lab Control Sample	99	98
LCSD 880-26464/2-A	Lab Control Sample Dup	87	104
LCSD 880-26594/2-A	Lab Control Sample Dup	106	99
MB 880-26464/5-A	Method Blank	102	100
MB 880-26594/5-A	Method Blank	97	96
MB 880-26634/5-A	Method Blank	99	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2339-A-1-C MS	Matrix Spike	91	87
890-2339-A-1-D MSD	Matrix Spike Duplicate	86	83
890-2345-1	SS01	99	105
890-2345-2	SS02	83	85
890-2345-3	SS03	81	83
890-2345-4	SS04	87	89
LCS 880-26433/2-A	Lab Control Sample	101	100
LCSD 880-26433/3-A	Lab Control Sample Dup	102	104
MB 880-26433/1-A	Method Blank	103	119

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-26464/5-A
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26464

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 13:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/27/22 15:07	05/31/22 13:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/27/22 15:07	05/31/22 13:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*05/27/22 15:07*	*05/31/22 13:12*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*05/27/22 15:07*	*05/31/22 13:12*	*1*

Lab Sample ID: LCS 880-26464/1-A
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26464

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09145		mg/Kg		91	70 - 130		
Toluene			0.100	0.08551		mg/Kg		86	70 - 130		
Ethylbenzene			0.100	0.09034		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1798		mg/Kg		90	70 - 130		
o-Xylene			0.100	0.08334		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-26464/2-A
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26464

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1022		mg/Kg		102	70 - 130	11	35
Toluene			0.100	0.08769		mg/Kg		88	70 - 130	3	35
Ethylbenzene			0.100	0.09090		mg/Kg		91	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1731		mg/Kg		87	70 - 130	4	35
o-Xylene			0.100	0.07906		mg/Kg		79	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-15244-A-5-D MS
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.09274		mg/Kg		92	70 - 130		
Toluene	<0.00202	U	0.101	0.07569		mg/Kg		75	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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

Lab Sample ID: 880-15244-A-5-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 26542 — **Prep Batch: 26464**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F1	0.101	0.06897	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.202	0.1325	F1	mg/Kg		66	70 - 130
o-Xylene	<0.00202	U F1	0.101	0.06031	F1	mg/Kg		60	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-15244-A-5-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 26542 — **Prep Batch: 26464**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0998	0.09451		mg/Kg		95	70 - 130	2	35
Toluene	<0.00202	U	0.0998	0.08715		mg/Kg		87	70 - 130	14	35
Ethylbenzene	<0.00202	U F1	0.0998	0.08866		mg/Kg		89	70 - 130	25	35
m-Xylene & p-Xylene	<0.00403	U F1	0.200	0.1739		mg/Kg		87	70 - 130	27	35
o-Xylene	<0.00202	U F1	0.0998	0.07883		mg/Kg		79	70 - 130	27	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 880-26594/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 26643 — **Prep Batch: 26594**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/31/22 16:19	06/02/22 01:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/31/22 16:19	06/02/22 01:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/31/22 16:19	06/02/22 01:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/31/22 16:19	06/02/22 01:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/31/22 16:19	06/02/22 01:41	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/31/22 16:19	06/02/22 01:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/31/22 16:19*	*06/02/22 01:41*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/31/22 16:19*	*06/02/22 01:41*	*1*

Lab Sample ID: LCS 880-26594/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 26643 — **Prep Batch: 26594**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08799		mg/Kg		88	70 - 130
Toluene	0.100	0.09392		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.08626		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1953		mg/Kg		98	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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

Lab Sample ID: LCS 880-26594/1-A
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26594

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.09675		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-26594/2-A
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26594

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09569		mg/Kg		96	70 - 130	8	35
Toluene			0.100	0.1025		mg/Kg		102	70 - 130	9	35
Ethylbenzene			0.100	0.09549		mg/Kg		95	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2175		mg/Kg		109	70 - 130	11	35
o-Xylene			0.100	0.1071		mg/Kg		107	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-15333-A-1-A MS
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F1 F2	0.0996	0.04287	F1	mg/Kg		43	70 - 130		
Toluene	<0.00199	U F1 F2	0.0996	0.04839	F1	mg/Kg		49	70 - 130		
Ethylbenzene	<0.00199	U F1 F2	0.0996	0.04763	F1	mg/Kg		48	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.199	0.1098	F1	mg/Kg		55	70 - 130		
o-Xylene	<0.00199	U F1 F2	0.0996	0.05829	F1	mg/Kg		59	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-15333-A-1-B MSD
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.101	0.006088	F1 F2	mg/Kg		6	70 - 130	150	35
Toluene	<0.00199	U F1 F2	0.101	0.006930	F1 F2	mg/Kg		7	70 - 130	150	35
Ethylbenzene	<0.00199	U F1 F2	0.101	0.008770	F1 F2	mg/Kg		9	70 - 130	138	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.201	0.01836	F1 F2	mg/Kg		9	70 - 130	143	35
o-Xylene	<0.00199	U F1 F2	0.101	0.01326	F1 F2	mg/Kg		13	70 - 130	126	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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

Lab Sample ID: 880-15333-A-1-B MSD
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26594

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: MB 880-26634/5-A
Matrix: Solid
Analysis Batch: 26643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26634

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/01/22 10:25	06/01/22 14:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/01/22 10:25	06/01/22 14:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/01/22 10:25	06/01/22 14:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/01/22 10:25	06/01/22 14:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/01/22 10:25	06/01/22 14:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/01/22 10:25	06/01/22 14:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/01/22 10:25*	*06/01/22 14:03*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/01/22 10:25*	*06/01/22 14:03*	*1*

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

Lab Sample ID: MB 880-26433/1-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26433

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		05/27/22 11:19	05/27/22 21:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/27/22 21:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/27/22 21:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*103*		*70 - 130*	*05/27/22 11:19*	*05/27/22 21:34*	*1*
o-Terphenyl	*119*		*70 - 130*	*05/27/22 11:19*	*05/27/22 21:34*	*1*

Lab Sample ID: LCS 880-26433/2-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26433

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1020		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	956.6		mg/Kg		96	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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

Lab Sample ID: LCSD 880-26433/3-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26433

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	928.2		mg/Kg		93	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	970.6		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-2339-A-1-C MS
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26433

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	1000	881.3		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	803.2		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-2339-A-1-D MSD
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	773.2		mg/Kg		76	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	776.1		mg/Kg		78	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-26324/1-A
Matrix: Solid
Analysis Batch: 26501

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			05/29/22 21:46	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-26324/2-A
Matrix: Solid
Analysis Batch: 26501

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.0		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-26324/3-A
Matrix: Solid
Analysis Batch: 26501

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	257.7		mg/Kg		103	90 - 110	1	20

Lab Sample ID: 890-2343-A-1-B MS
Matrix: Solid
Analysis Batch: 26501

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	19.0		250	266.4		mg/Kg		99	90 - 110		

Lab Sample ID: 890-2343-A-1-C MSD
Matrix: Solid
Analysis Batch: 26501

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	19.0		250	274.8		mg/Kg		102	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

GC VOA

Prep Batch: 26464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	5035	
890-2345-2	SS02	Total/NA	Solid	5035	
890-2345-3	SS03	Total/NA	Solid	5035	
MB 880-26464/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26464/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26464/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-15244-A-5-D MS	Matrix Spike	Total/NA	Solid	5035	
880-15244-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 26542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	8021B	26464
890-2345-2	SS02	Total/NA	Solid	8021B	26464
890-2345-3	SS03	Total/NA	Solid	8021B	26464
MB 880-26464/5-A	Method Blank	Total/NA	Solid	8021B	26464
LCS 880-26464/1-A	Lab Control Sample	Total/NA	Solid	8021B	26464
LCSD 880-26464/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26464
880-15244-A-5-D MS	Matrix Spike	Total/NA	Solid	8021B	26464
880-15244-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26464

Prep Batch: 26594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-4	SS04	Total/NA	Solid	5035	
MB 880-26594/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26594/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26594/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-15333-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-15333-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 26633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	Total BTEX	
890-2345-2	SS02	Total/NA	Solid	Total BTEX	
890-2345-3	SS03	Total/NA	Solid	Total BTEX	
890-2345-4	SS04	Total/NA	Solid	Total BTEX	

Prep Batch: 26634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-26634/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 26643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-4	SS04	Total/NA	Solid	8021B	26594
MB 880-26594/5-A	Method Blank	Total/NA	Solid	8021B	26594
MB 880-26634/5-A	Method Blank	Total/NA	Solid	8021B	26634
LCS 880-26594/1-A	Lab Control Sample	Total/NA	Solid	8021B	26594
LCSD 880-26594/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26594
880-15333-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	26594
880-15333-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26594

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

GC Semi VOA

Analysis Batch: 26398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	8015B NM	26433
890-2345-2	SS02	Total/NA	Solid	8015B NM	26433
890-2345-3	SS03	Total/NA	Solid	8015B NM	26433
890-2345-4	SS04	Total/NA	Solid	8015B NM	26433
MB 880-26433/1-A	Method Blank	Total/NA	Solid	8015B NM	26433
LCS 880-26433/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	26433
LCSD 880-26433/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	26433
890-2339-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	26433
890-2339-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	26433

Prep Batch: 26433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	8015NM Prep	
890-2345-2	SS02	Total/NA	Solid	8015NM Prep	
890-2345-3	SS03	Total/NA	Solid	8015NM Prep	
890-2345-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-26433/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-26433/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-26433/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2339-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2339-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 26556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Total/NA	Solid	8015 NM	
890-2345-2	SS02	Total/NA	Solid	8015 NM	
890-2345-3	SS03	Total/NA	Solid	8015 NM	
890-2345-4	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 26324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Soluble	Solid	DI Leach	
890-2345-2	SS02	Soluble	Solid	DI Leach	
890-2345-3	SS03	Soluble	Solid	DI Leach	
890-2345-4	SS04	Soluble	Solid	DI Leach	
MB 880-26324/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-26324/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-26324/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2343-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2343-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 26501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2345-1	SS01	Soluble	Solid	300.0	26324
890-2345-2	SS02	Soluble	Solid	300.0	26324
890-2345-3	SS03	Soluble	Solid	300.0	26324
890-2345-4	SS04	Soluble	Solid	300.0	26324
MB 880-26324/1-A	Method Blank	Soluble	Solid	300.0	26324
LCS 880-26324/2-A	Lab Control Sample	Soluble	Solid	300.0	26324

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

HPLC/IC (Continued)

Analysis Batch: 26501 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-26324/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	26324
890-2343-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	26324
890-2343-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	26324

Lab Chronicle

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS01

Lab Sample ID: 890-2345-1
Matrix: Solid
Date Collected: 05/24/22 15:30
Date Received: 05/25/22 16:13

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	26464	05/27/22 15:07	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26542	05/31/22 20:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26633	06/01/22 10:25	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26556	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 05:29	SM	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/30/22 00:37	SC	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-2345-2
Matrix: Solid
Date Collected: 05/24/22 15:35
Date Received: 05/25/22 16:13

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	26464	05/27/22 15:07	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26542	05/31/22 20:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26633	06/01/22 10:25	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26556	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 05:51	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/30/22 00:43	SC	XEN MID

Client Sample ID: SS03

Lab Sample ID: 890-2345-3
Matrix: Solid
Date Collected: 05/24/22 15:40
Date Received: 05/25/22 16:13

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	26464	05/27/22 15:07	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26542	05/31/22 20:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26633	06/01/22 10:25	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26556	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 06:12	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/30/22 00:49	SC	XEN MID

Client Sample ID: SS04

Lab Sample ID: 890-2345-4
Matrix: Solid
Date Collected: 05/24/22 15:45
Date Received: 05/25/22 16:13

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	26594	06/01/22 16:19	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26643	06/02/22 09:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26633	06/01/22 10:25	SM	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Client Sample ID: SS04
Date Collected: 05/24/22 15:45
Date Received: 05/25/22 16:13

Lab Sample ID: 890-2345-4
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			26556	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 06:32	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		5			26501	05/30/22 00:56	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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	T104704400-21-22	06-30-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 20-24-30 BATTERY

Job ID: 890-2345-1
SDG: 03E1558052

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2345-1	SS01	Solid	05/24/22 15:30	05/25/22 16:13	0.5
890-2345-2	SS02	Solid	05/24/22 15:35	05/25/22 16:13	0.5
890-2345-3	SS03	Solid	05/24/22 15:40	05/25/22 16:13	0.5
890-2345-4	SS04	Solid	05/24/22 15:45	05/25/22 16:13	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum	Company Name:	XTO
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	337-257-8307	Email:	

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 20-24-30 Battery	Turn Around	
Project Number:	03E1558052	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Kasse Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM_007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	6.0
Total Containers:		Corrected Temperature:	5.8

ANALYSIS REQUEST

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

890-2345 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides
SS01	S	5/24/22	1530	0.5				X	X	X
SS02			1535							
SS03			1540							
SS04			1545							

Sample Comments

Incident ID:
NAPP2210937085
CC: 1081091601

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			5.25.22 1613			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2345-1
SDG Number: 03E1558052

Login Number: 2345
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2345-1
SDG Number: 03E1558052

Login Number: 2345
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 05/27/22 10:54 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2385-1
Laboratory Sample Delivery Group: 03E1558052
Client Project/Site: PLU 20-24-30
Revision: 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
6/20/2022 9:30:48 AM

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

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

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

Client: Ensolum
Project/Site: PLU 20-24-30

Laboratory Job ID: 890-2385-1
SDG: 03E1558052

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
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 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Job ID: 890-2385-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2385-1

REVISION

The report being provided is a revision of the original report sent on 6/13/2022. The report (revision 1) is being revised due to per client email, updating BH01 @ 0-3' depth to 0.5'.

Report revision history

Receipt
The samples were received on 6/7/2022 3:07 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 24.4°C

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-27248 and analytical batch 880-27332 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Client Sample ID: BH01 @ 0.5'

Lab Sample ID: 890-2385-1
Matrix: Solid
Date Collected: 06/07/22 12:00
Date Received: 06/07/22 15:07
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/22 11:24	06/09/22 21:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/22 11:24	06/09/22 21:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/22 11:24	06/09/22 21:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/22 11:24	06/09/22 21:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/22 11:24	06/09/22 21:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/22 11:24	06/09/22 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*06/09/22 11:24*	*06/09/22 21:49*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/09/22 11:24*	*06/09/22 21:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			06/13/22 09:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 22:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 22:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*06/10/22 08:24*	*06/11/22 22:57*	*1*
o-Terphenyl	*102*		*70 - 130*	*06/10/22 08:24*	*06/11/22 22:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**36.4**		4.98		mg/Kg			06/10/22 22:57	1

Client Sample ID: BH01 @ 1'

Lab Sample ID: 890-2385-2
Matrix: Solid
Date Collected: 06/07/22 12:10
Date Received: 06/07/22 15:07
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/09/22 11:24	06/09/22 22:10	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/09/22 11:24	06/09/22 22:10	1
Ethylbenzene	**0.00262**		0.00202		mg/Kg		06/09/22 11:24	06/09/22 22:10	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		06/09/22 11:24	06/09/22 22:10	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/09/22 11:24	06/09/22 22:10	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		06/09/22 11:24	06/09/22 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*06/09/22 11:24*	*06/09/22 22:10*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Client Sample ID: BH01 @ 1'

Date Collected: 06/07/22 12:10
Date Received: 06/07/22 15:07
Sample Depth: 1'

Lab Sample ID: 890-2385-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*4*	*S1-*	*70 - 130*	*06/09/22 11:24*	*06/09/22 22:10*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			06/13/22 09:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 23:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 23:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/10/22 08:24	06/11/22 23:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*06/10/22 08:24*	*06/11/22 23:18*	*1*
o-Terphenyl	*88*		*70 - 130*	*06/10/22 08:24*	*06/11/22 23:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27.6**		4.95		mg/Kg			06/10/22 23:25	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2381-A-1-K MS	Matrix Spike	107	104
890-2381-A-1-L MSD	Matrix Spike Duplicate	103	102
890-2385-1	BH01 @ 0.5'	121	97
890-2385-2	BH01 @ 1'	92	4 S1-
LCS 880-27169/1-A	Lab Control Sample	104	99
LCSD 880-27169/2-A	Lab Control Sample Dup	109	95
MB 880-27169/5-A	Method Blank	98	97

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2385-1	BH01 @ 0.5'	94	102
890-2385-2	BH01 @ 1'	85	88
890-2388-A-61-I MS	Matrix Spike	93	90
890-2388-A-61-J MSD	Matrix Spike Duplicate	82	80
LCS 880-27248/2-A	Lab Control Sample	99	104
LCSD 880-27248/3-A	Lab Control Sample Dup	93	96
MB 880-27248/1-A	Method Blank	91	102

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-27169/5-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27169

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/22 11:24	06/09/22 16:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/09/22 11:24*	*06/09/22 16:24*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/09/22 11:24*	*06/09/22 16:24*	*1*

Lab Sample ID: LCS 880-27169/1-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27169

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08701		mg/Kg		87	70 - 130		
Toluene			0.100	0.09313		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.08725		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1998		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.09882		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-27169/2-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08058		mg/Kg		81	70 - 130	8	35
Toluene			0.100	0.08864		mg/Kg		89	70 - 130	5	35
Ethylbenzene			0.100	0.08534		mg/Kg		85	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1981		mg/Kg		99	70 - 130	1	35
o-Xylene			0.100	0.09984		mg/Kg		100	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2381-A-1-K MS
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.1070		mg/Kg		106	70 - 130		
Toluene	<0.00199	U	0.101	0.1057		mg/Kg		105	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

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

Lab Sample ID: 890-2381-A-1-K MS
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.09944		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.2272		mg/Kg		113	70 - 130
o-Xylene	<0.00199	U	0.101	0.1108		mg/Kg		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-2381-A-1-L MSD
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27169

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	0.09863		mg/Kg		99	70 - 130	8	35
Toluene	<0.00199	U	0.0996	0.09833		mg/Kg		99	70 - 130	7	35
Ethylbenzene	<0.00199	U	0.0996	0.09226		mg/Kg		93	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.2103		mg/Kg		106	70 - 130	8	35
o-Xylene	<0.00199	U	0.0996	0.1033		mg/Kg		104	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-27248/1-A
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27248

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		06/10/22 08:24	06/11/22 20:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/10/22 08:24	06/11/22 20:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/10/22 08:24	06/11/22 20:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*06/10/22 08:24*	*06/11/22 20:47*	*1*
o-Terphenyl	*102*		*70 - 130*	*06/10/22 08:24*	*06/11/22 20:47*	*1*

Lab Sample ID: LCS 880-27248/2-A
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1011		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1113		mg/Kg		111	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

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

Lab Sample ID: LCS 880-27248/2-A
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27248

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-27248/3-A
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27248

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	938.2		mg/Kg		94	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	1062		mg/Kg		106	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-2388-A-61-I MS
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2 F1	997	1007		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	817.8		mg/Kg		82	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-2388-A-61-J MSD
Matrix: Solid
Analysis Batch: 27332

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27248

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2 F1	1000	2753	F1 F2	mg/Kg		271	70 - 130	93	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	703.5		mg/Kg		70	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	80		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27175/1-A
Matrix: Solid
Analysis Batch: 27311

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			06/10/22 19:43	1

Lab Sample ID: LCS 880-27175/2-A
Matrix: Solid
Analysis Batch: 27311

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.1		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-27175/3-A
Matrix: Solid
Analysis Batch: 27311

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	260.4		mg/Kg		104	90 - 110	2	20

Lab Sample ID: 820-4502-A-11-D MS
Matrix: Solid
Analysis Batch: 27311

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	78.5		249	325.5		mg/Kg		99	90 - 110		

Lab Sample ID: 820-4502-A-11-E MSD
Matrix: Solid
Analysis Batch: 27311

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	78.5		249	318.7		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

GC VOA

Prep Batch: 27169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	5035	
890-2385-2	BH01 @ 1'	Total/NA	Solid	5035	
MB 880-27169/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2381-A-1-K MS	Matrix Spike	Total/NA	Solid	5035	
890-2381-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 27183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	8021B	27169
890-2385-2	BH01 @ 1'	Total/NA	Solid	8021B	27169
MB 880-27169/5-A	Method Blank	Total/NA	Solid	8021B	27169
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	8021B	27169
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27169
890-2381-A-1-K MS	Matrix Spike	Total/NA	Solid	8021B	27169
890-2381-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	27169

Analysis Batch: 27285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	Total BTEX	
890-2385-2	BH01 @ 1'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 27248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	8015NM Prep	
890-2385-2	BH01 @ 1'	Total/NA	Solid	8015NM Prep	
MB 880-27248/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-27248/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-27248/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2388-A-61-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2388-A-61-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 27332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	8015B NM	27248
890-2385-2	BH01 @ 1'	Total/NA	Solid	8015B NM	27248
MB 880-27248/1-A	Method Blank	Total/NA	Solid	8015B NM	27248
LCS 880-27248/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	27248
LCSD 880-27248/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	27248
890-2388-A-61-I MS	Matrix Spike	Total/NA	Solid	8015B NM	27248
890-2388-A-61-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	27248

Analysis Batch: 27367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Total/NA	Solid	8015 NM	
890-2385-2	BH01 @ 1'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

HPLC/IC

Leach Batch: 27175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Soluble	Solid	DI Leach	
890-2385-2	BH01 @ 1'	Soluble	Solid	DI Leach	
MB 880-27175/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27175/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27175/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-4502-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
820-4502-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 27311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2385-1	BH01 @ 0.5'	Soluble	Solid	300.0	27175
890-2385-2	BH01 @ 1'	Soluble	Solid	300.0	27175
MB 880-27175/1-A	Method Blank	Soluble	Solid	300.0	27175
LCS 880-27175/2-A	Lab Control Sample	Soluble	Solid	300.0	27175
LCSD 880-27175/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27175
820-4502-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	27175
820-4502-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	27175

Lab Chronicle

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Client Sample ID: BH01 @ 0.5'
Date Collected: 06/07/22 12:00
Date Received: 06/07/22 15:07

Lab Sample ID: 890-2385-1
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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 21:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27285	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27367	06/13/22 09:04	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27248	06/10/22 08:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27332	06/11/22 22:57	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 22:57	CH	XEN MID

Client Sample ID: BH01 @ 1'
Date Collected: 06/07/22 12:10
Date Received: 06/07/22 15:07

Lab Sample ID: 890-2385-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	27183	06/09/22 22:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27285	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27367	06/13/22 09:04	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27248	06/10/22 08:24	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27332	06/11/22 23:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 23:25	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

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	T104704400-21-22	06-30-22

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

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

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

Sample Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2385-1
SDG: 03E1558052

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2385-1	BH01 @ 0.5'	Solid	06/07/22 12:00	06/07/22 15:07	0.5
890-2385-2	BH01 @ 1'	Solid	06/07/22 12:10	06/07/22 15:07	1'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

AS
CIP-Cooling in Progress

Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum	Company Name:	XTO Energy Inc
Address:	~~6401 N Holiday Hill Dr~~	Address:	6401 N Hol. day Hill Dr
City, State ZIP:	~~Midland, TX 79707~~	City, State ZIP:	Midland, Tx 79707
Phone:	337-257-8307 Email:		adrian.baker@exxonmobil.com

Work Order Comments

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

Project Name:	PLU 20-24-30	Turn Around	
Project Number:	03E1558053	☒ Routine ☐ Rush	
Project Location:	32.21029, -103.9005	Due Date:	
Sampler's Name:	Stuart Hyde	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	1081091001		

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	T-AM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	24.6
Total Containers:		Corrected Temperature:	24.4

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: TPH	BTEX	Chloride	Sample Comments
BH01@0-3"	S	6/7/21	1200	0'	grab	1		X	X	X	
BH01@1'	↓	↓	1210	1'	↓	1		X	X	X	
BH01@4'	↓	↓	1230	4'	↓	1					Hold

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

Incident No: nAPP2201937085
Cost Center: 1081091001

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Araceli Stuff	6/7/22 1507			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-784 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 #: 890-2385-1
Address: 1211 W Florida Ave	Due Date Requested: 6/13/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 20-24-30	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:										
BH01@0-3" (890-2385-1)	6/7/22	12 00 Mountain		Solid			X	X	X	X	X	1	
BH01@1' (890-2385-2)	6/7/22	12 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 out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

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

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		1.2/1.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2385-1
SDG Number: 03E1558052

Login Number: 2385
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2385-1
SDG Number: 03E1558052

Login Number: 2385
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/09/22 11:11 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Green, Garrett J

From: Green, Garrett J
Sent: Monday, April 11, 2022 10:13 AM
To: Mike Bratcher; Victoria Venegas; Rob Hamlet; ocd.enviro@state.nm.us
Cc: DelawareSpills /SM; McSpadden, Wes; Sanders, David; Pennington, Shelby G
Subject: XTO 48 Hour Liner Inspection Notification - PLU 20-24-30

Follow Up Flag: Follow up
Flag Status: Completed

Good morning,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 20-24-30 released on (4/5/2022), on Wednesday, April 13, 2022, at 8 a.m. MST. A 24 hour release notification was not sent since the release was less than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.21029,-103.90050)

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: Aimee Cole
To: Tacoma Morrissey
Subject: FW: XTO - Sampling Notification (week of 6/6/22 - 6/10/22)
Date: Thursday, June 2, 2022 3:30:36 PM
Attachments: image001.png
image002.png
image003.png
image004.png

For your records, I think these are all your sites!

Aimee Cole
Senior Managing Scientist
720-384-7365
Ensolum, LLC

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, June 2, 2022 12:25 PM
To: 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>; Aimee Cole <acole@ensolum.com>
Subject: XTO - Sampling Notification (week of 6/6/22 - 6/10/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of June 6, 2022.

Tuesday, June 7th
- PLU 20-24-30 / nAPP2210937085

Wednesday, June 8th
- PLU 28 Big Sinks 127H / nAPP2210143304

Thursday, June 9th
- PLU 28 Big Sinks 127H / nAPP2210143304
- Remuda Basin 1 / NAB1836137253

Friday, June 10th
- Remuda Basin 1/ NAB1836137253

Thank you,

Garrett Green

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

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

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

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

CONDITIONS

Action 120249

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 120249
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2210937085 PLU 20-24-30 TANK BATTERY, thank you. This closure is approved.	7/18/2022