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	nAPP2315148242
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.208754° Longitude -103.770761°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 15 Twin Wells Ranch CTB	Site Type Tank Battery
Date Release Discovered 05/17/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	22	24S	31E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 6.18	Volume Recovered (bbls) 0.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A hole developed on the main water liner on the pipe rack due to internal corrosion, releasing fluids to pad. No fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315148242
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

NA

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

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

Printed Name: Garrett Green Title: SSHE Coordinator

Signature:  Date: 5/31/2023

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

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2315148242
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?	>110 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2315148242
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: SSHE Coordinator

Signature:  Date: 08/11/2023

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

OCD Only

Received by: Shelly Wells Date: 8/15/2023

Incident ID	nAPP2315148242
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☒ Extents of contamination must be fully delineated.

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

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

Printed Name: Garrett Green Title: SSHE Coordinator

Signature: Garrett Green Date: 08/11/2023

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

OCD Only

Received by: Shelly Wells Date: 8/15/2023

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

Signature: _____ Date: _____

ENSOLUM

August 11, 2023

New Mexico Energy Minerals and Natural Resources Department
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Deferral Request
PLU 15 Twin Wells Ranch Central Tank Battery
Incident Number NAPP2315148242
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document excavation and soil sampling activities at the PLU 15 Twin Wells Ranch Central Tank Battery (CTB; Site). The purpose of the site assessment and soil sampling activities was to address impacts to soil following a release of produced water onto the wellpad. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing site assessment and excavation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2315148242 until the Site is reconstructed, and/or the well pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in in Unit D, Section 22, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.208754°, -103.770761°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On May 17, 2023, a hole developed on the main water line on the pipe rack due to internal corrosion. This resulted in the release of approximately 6.18 barrels (bbls) of produced water onto the pad. The release occurred near active production equipment and beneath active surface piping; no fluid was recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on May 31, 2023. The release was assigned Incident Number NAPP2315148242.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-4508 with a depth to water measurement greater than 110 feet below ground surface (bgs). The well is located 0.31 miles northeast of the Site and the most recent

documented water level measurement was collected on December 29, 2020. 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 an intermitten dry wash, located approximately 2.8 miles northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Potential site receptors are identified on Figure 1.

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

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

DELINEATION SOIL SAMPLING ACTIVITIES

On June 16, 2023, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five delineation soil samples (SS01 through SS05) were collected around and within the release extent at a depth 0.5 feet bgs to assess the lateral extent of impacted soil. The soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was collected and a photographic log is included in Appendix B.

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

Laboratory analytical results from preliminary soil sample SS01 indicated that TPH concentrations exceeded the Closure Criteria at 0.5 feet bgs. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the soil samples, additional remediation activities were warranted.

EXCAVATION ACTIVITIES

Between July 12, 2023 and July 13, 2023, Ensolum personnel were onsite to conduct delineation soil sampling and oversee the removal of impacted soils. One borehole (SS01A) was advanced via hand auger to determine the vertical extent of the impacted soil in the vicinity of delineation soil sample SS01.

Soil sample SS01A was advanced to a depth of 5 feet bgs. Four additional boreholes were advanced to a depth of 5 feet bgs in the vicinity of sample locations (SS02 through SS05). Samples (SS02A through SS05A) were collected at 5 feet bgs. Soil from the boreholes was field screened for VOCs and chloride. Field screening results and observations from the boreholes were logged on a lithologic/soil sampling log, which is included in Appendix C, and the locations of the boreholes are depicted on Figure 2.

This release occurred on the well pad near active production equipment and beneath active surface piping. XTO safety policy restricts soil disturbing activities within a 2-foot radius of any on-site, active production equipment; however, the accesbile spill area was excavated to the maximum extent possible (MEP) with a hydrovac and hand tools. Following the removal of impacted soil, 5-point composite excavation confirmation soil samples were collected every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thouroughly mixing. Due to the shallow nature of the excavation, the composite samples included soil from the sidewalls and floors Ensolum personnel collected two composite floor samples from the excavated area (FS01 and FS02) at a depth ranging from ground surface to 1.5 feet bgs. Confirmation soil samples were handled and analyzed in the same manner as described above.

The excavation area measured approximately 109 square feet. A total of approximately 6 cubic yards of impacted soil was removed during excavation activities and was properly disposed of at the R360 Facility in Hobbs, New Mexico.

Laboratory analytical results for delineation soil sample SS01 collected at a depth of 0.5 feet bgs indicated TPH concentrations exceeded the applicable Closure Criteria, however, the terminal sample collected at 5 feet bgs indicated all COC concentrations were compliant with the Closure Criteria, vertically defining the release extent. Laboratory analytical results for all confirmation soil samples indicated concentrations of all COCs were in compliance with the Closure Criteria. Confirmation sample locations are identified on Figure 3, laboratory anlaytical results summarized in Table 1, and laboratory analytical reports are included in Appendix D. NMOCD notifications are provided in Appendix E.

The estimated area of remaining impacted soil measures approximately 344 square feet and assuming a depth of 5 feet based on the analytical results for delineation borehole SS01A, a total of approximately 64 cubic yards of impacted soil remains in place. The deferral area and delineation soil samples are depicted on Figure 4.

DEFFERAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment and process piping preventing full excavation of impacted soil. The impacted soil is limited to the area beneath production equipment and surface piping, where remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by soil sample SS01A, collected at 5 feet bgs and by soil samples SS02A through SS05A collected at 5 feet bgs. The soil is laterally delineated by delineation soil samples SS02 through SS05 at 0.5 feet bgs.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 110 feet, and the entirety of the release remained on pad. Any gross impacts were removed via scraping of the surface soils.

Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2315148242 until final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely,
Ensolum, LLC

Ashley Giovengo
Senior Engineer

Ashley L. Ager, MS, PG
Principal

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

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Confirmation Soil Sample Locations
Figure 4	Deferral Area Map
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Sample Notification

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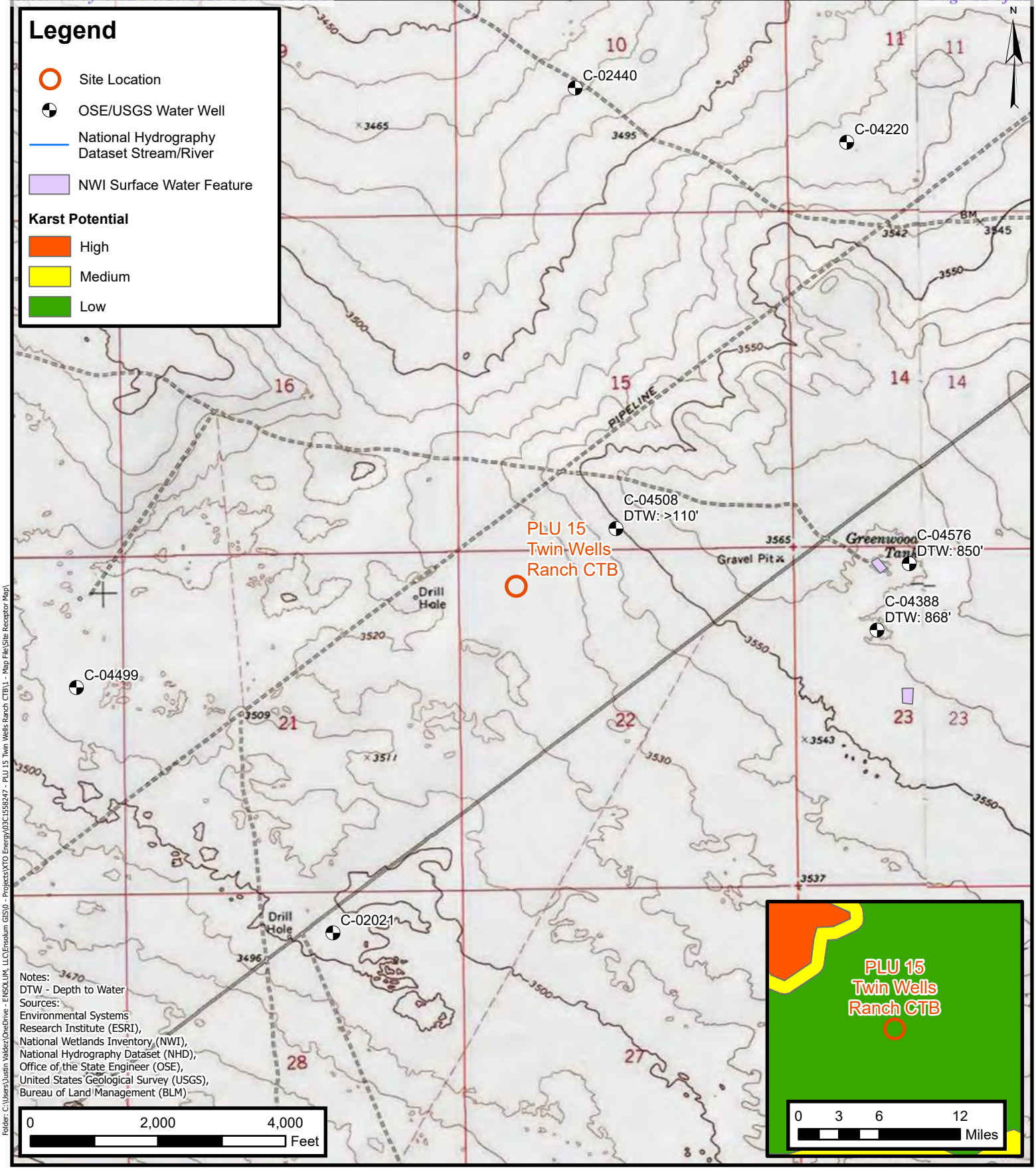
FIGURES



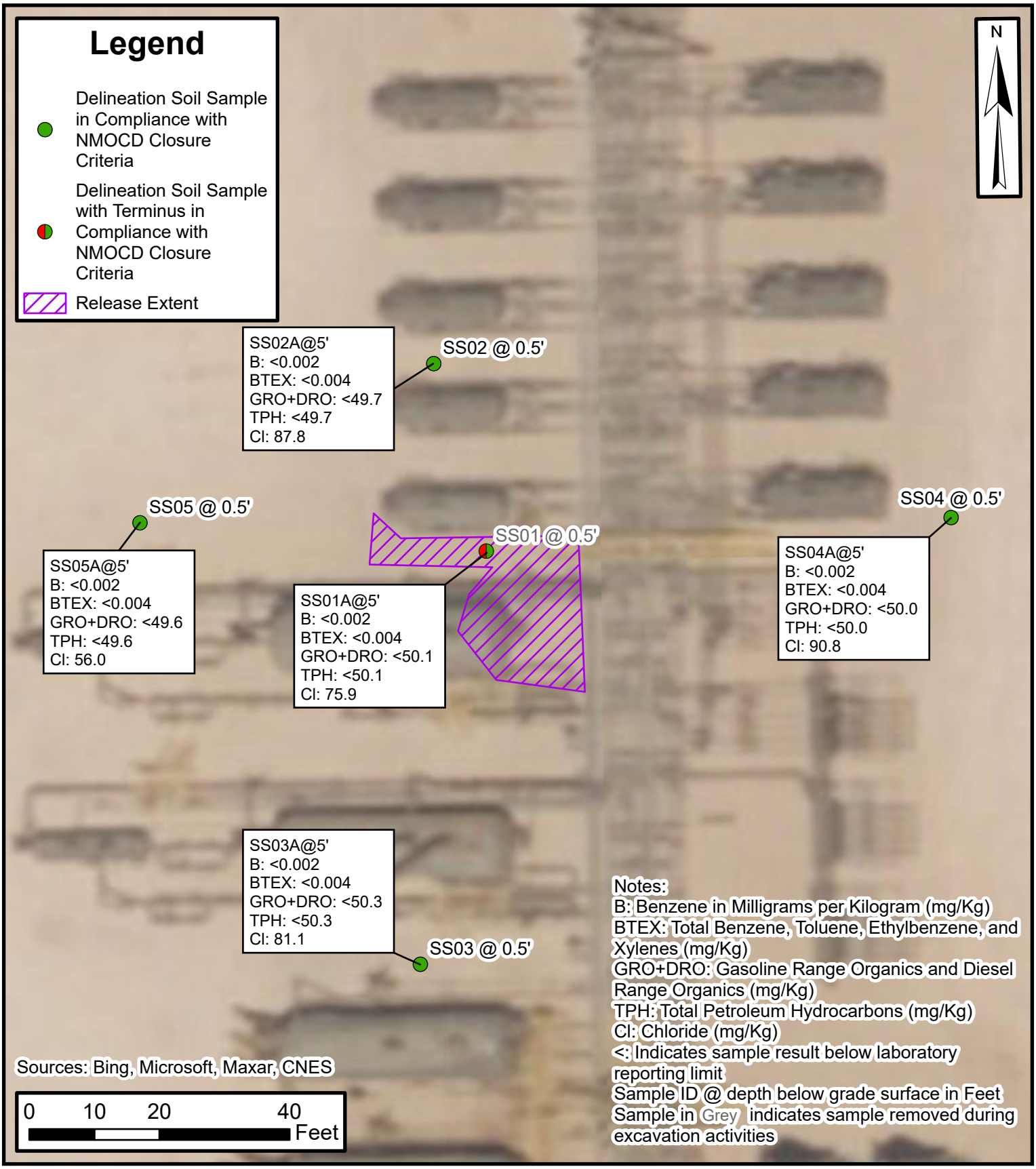
Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy\03C1558247 - PLU 15 Twin Wells Ranch CTB\1 - Map File\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number: nAPP2315148242
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE 1



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Delineation Soil Sample Locations

XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number: nAPP2315148242
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
2

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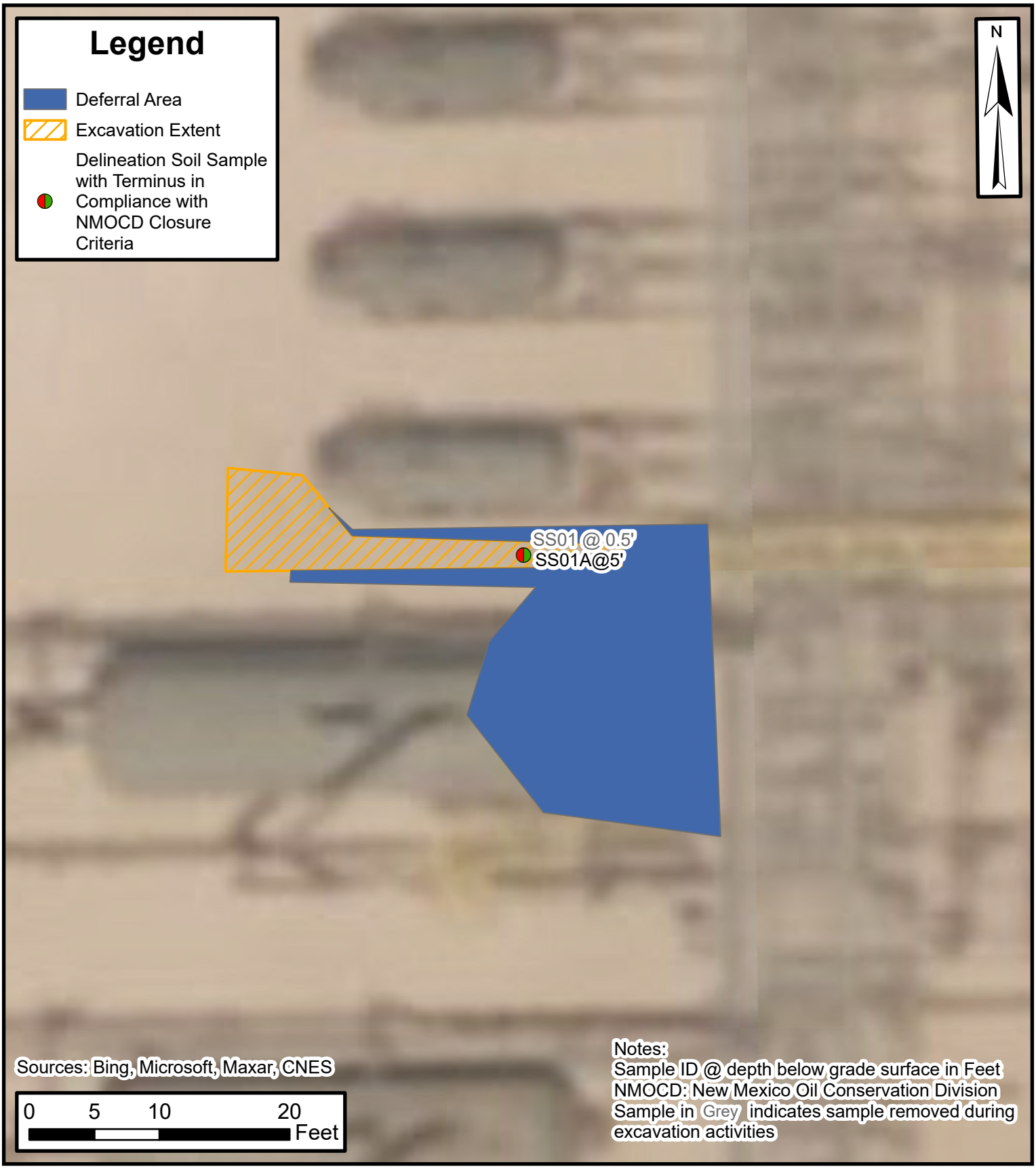
Environmental, Engineering and Hydrogeologic Consultants

Confirmation Soil Sample Locations

XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number: nAPP2315148242
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
3



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Environmental, Engineering and Hydrogeologic Consultants

Deferral Area Map

XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number: nAPP2315148242
Unit D, Section 22, Township 24S, Range 31E
Eddy County, New Mexico

FIGURE
4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Twin Wells Ranch CTB
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
~~SS01~~	~~06/16/2023~~	~~0.5~~	~~<0.002~~	~~1.22~~	~~724~~	~~**4,960**~~	~~<49.9~~	~~**5,684**~~	~~**5,680**~~	~~4,660~~
SS01A	07/12/2023	5	<0.002	<0.004	<50.1	<50.1	<50.1	<50.1	<50.1	75.9
SS02	06/16/2023	0.5	<0.002	<0.004	<49.9	<49.9	<49.9	<49.9	<49.9	131
SS02A	07/12/2023	5	<0.002	<0.004	<49.7	<49.7	<49.7	<49.7	<49.7	87.8
SS03	06/16/2023	0.5	<0.001	<0.003	<49.8	52	<49.8	52	51.6	115
SS03A	07/12/2023	5	<0.002	<0.004	<50.3	<50.3	<50.3	<50.3	<50.3	81.1
SS04	06/16/2023	0.5	<0.001	<0.003	<49.9	<49.9	<49.9	<49.9	<49.9	79.9
SS04A	07/12/2023	5	<0.002	<0.004	<50.0	<50.0	<50.0	<50.0	<50.0	90.8
SS05	06/16/2023	0.5	<0.001	<0.003	<49.9	<49.9	<49.9	<49.9	<49.9	94.6
SS05A	07/12/2023	5	<0.002	<0.004	<49.6	<49.6	<49.6	<49.6	<49.6	56.0
Confirmation Soil Samples										
FS01	07/12/2023	1.5	<0.002	<0.003	<49.7	<49.7	<49.7	<49.7	<49.7	213
FS02	07/13/2023	1.5	<0.002	<0.004	<49.8	<49.8	<49.8	<49.8	<49.8	160

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 I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4508

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	12'	46.69"	N
	LONGITUDE	-103°	45'	55.29"	W

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

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

SW SE Sec. 15 T24S R31E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/29/2020	12/29/2020	temporary well material	110	n/a

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

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

3. ANNULAR MATERIAL

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

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

FILE NO. C-4508	POD NO. 1	TRN NO. 708651
LOCATION Exp 1 24S.31E.15.344	WELL TAG ID NO. —	PAGE 1 OF 2

OSE DII FEB 12 2021 PM3:10

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	14	14	SAND, medium-fine grain, poorly graded,someclaiche, light-brown-tan,dry	Y ✓ N	
14	15	1	SAND, fine grain, poorly graded,someclaiche, light-brown-tan,dry	Y ✓ N	
15	25	5	CALICHE, moderately consolidated,silty, some gravel, off-white-tan, dry	Y ✓ N	
25	46	21	SILTSTONE, mod. consolidated, some sand, red-brown, dry	Y ✓ N	
46	64	18	CLAYSTONE, mod. consolidated, cohesive, few sand, red-brown, dry	Y ✓ N	
64	72	8	SANDSTONE, high consolidated, medium-grain, well graded,white/lightbrown	Y ✓ N	
72	90	18	CLAYSTONE, high consolidated, cohesive, medium plasticity, few sand, red-br	Y ✓ N	
90	101	11	SANDSTONE, high consolidated, fine grain, few silt,white/offwhite	Y ✓ N	
101	108	7	CLAYSTONE, high consolidated, cohesive, med.-low plasticity, few sand, red-b	Y ✓ N	
108	111	3	SANDSTONE, high consolidated, fine grain, few silt, white/offwhite, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 02/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4504	POD NO. 1	TRN NO. 686651	
LOCATION		WELL TAG ID NO. —	PAGE 2 OF 2

OSE DII FEB 12 2021 PM3:10

ENSOLUM

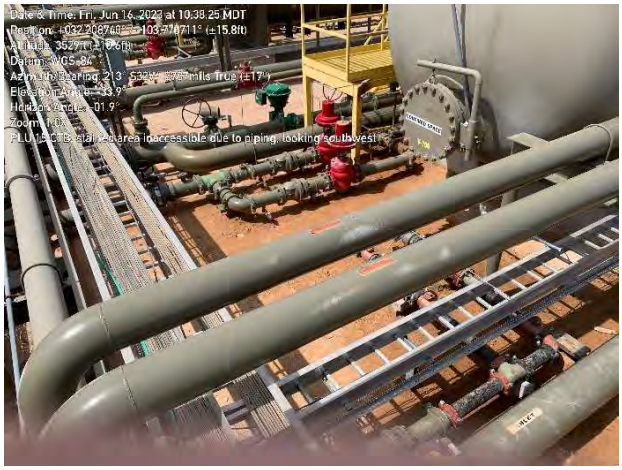
APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number nAPP2315148242

Photograph 1 Date: 06/16/2023
Description: Initial Spill Area
View: West



Photograph 2 Date: 06/16/2023
Description: Initial Spill Area
View: Southwest

Photograph 3 Date: 06/16/2023
Description: Initial Spill Area
View: Northeast

Photograph 4 Date: 06/16/2023
Description: Initial Spill Area
View: East

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number nAPP2315148242

Photograph 5 Date: 07/12/2023
Description: 5-foot Hand Auger Delineation
View: West

Photograph 6 Date: 07/12/2023
Description: Excavation by Hand
View: East

Photograph 7 Date: 07/12/2023
Description: Hydrovac Excavation
View: West

Photograph 8 Date: 07/12/2023
Description: SS04 Hand Auger Location
View: East

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 15 Twin Wells Ranch CTB
Incident Number nAPP2315148242

Photograph 9 Date: 07/13/2023
Description: Excavation Area
View: West

Photograph 10 Date: 07/13/2023
Description: Excavation Area
View: West

Photograph 11 Date: 07/13/2023
Description: Backfilled Excavation Area
View: Northeast

Photograph 12 Date: 07/13/2023
Description: Backfilled Excavation Area
View: West

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: SS01	Date:07/12/2023
	Site Name: PLU 15 Twin Wells Ranch CTB	
	Incident Number: nAPP2315148242	
	Job Number: 03C1558247	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Mariaha O'Dell	Method: Hand Auger
Coordinates: 32.208751, -103.770731	Hole Diameter: 6"	Total Depth: 5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride measurements done with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	5,812	1,130	Y	SS01	0.5		CCHE	CCHE. Pad material
D	3,366	2,170	N		1	1		
D	<174	40.5	N		2	2	SP	Sand. Reddish brown, vf-f grained, poorly graded, dry.
D	<174	0	N		3	3	SP	
D	<174	18.3	N		4	4	SP	
D	<174	0	N	SS01A	5	5	SP	

Total Depth @ 5' bgs.

ENSOLUM

	Sample Name: SS02	Date:07/12/2023
	Site Name: PLU 15 Twin Wells Ranch CTB	
	Incident Number: nAPP2315148242	
	Job Number: 03C1558247	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Mariaha O'Dell	Method: Hand Auger
Coordinates: 32.208831, -103.770830	Hole Diameter: 6"	Total Depth: 5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride measurements done with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<179	0	N	SS02	0.5		CCHE	CCHE. Pad material with gravel.
D	700	0.1	N		1	1	SP	Sand. Reddish brown, vf- f grained, poorly graded, dry.
D	<174	0	N		2	2		
D	<174	0	N		3	3		
D	<174	0	N		4	4		
D	<174	0	N	SS02A	5	5		

Total Depth @ 5' bgs.

ENSOLUM

	Sample Name: SS03	Date:07/12/2023
	Site Name: PLU 15 Twin Wells Ranch CTB	
	Incident Number: nAPP2315148242	
	Job Number: 03C1558247	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Mariaha O'Dell	Method: Hand Auger
Coordinates: 32.208666, -103.770751	Hole Diameter: 6"	Total Depth: 5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride measurements done with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	258	0	N	SS03	0.5		CCHE	CCHE. Pad material with brown sand.
D	<174	0	N		1	1		
D	<174	0	N		2	2	SP	Sand. Reddish brown, vf- f grained, poorly graded, dry.
D	<174	0	N		3	3		
D	<174	0	N		4	4		
D	<174	0	N	SS03A	5	5		

Total Depth @ 5' bgs.

ENSOLUM

	Sample Name: SS04	Date:07/12/2023
	Site Name: PLU 15 Twin Wells Ranch CTB	
	Incident Number: nAPP2315148242	
	Job Number: 03C1558247	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Mariaha O'Dell	Method: Hand Auger
Coordinates: 32.208785, -103.770693	Hole Diameter: 6"	Total Depth: 5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride measurements done with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<174	0	N	SS04	0.5		CCHE	CCHE. Pad material with brown sand.
D	<174	0	N		1	1	SP	Sand. Reddish brown, vf- f grained, poorly graded, dry.
D	<174	0	N		2	2		
D	<174	0	N		3	3		
D	<174	0	N		4	4		
D	<174	0	N	SS04A	5	5		

Total Depth @ 5' bgs.

ENSOLUM

	Sample Name: SS05	Date:07/12/2023
	Site Name: PLU 15 Twin Wells Ranch CTB	
	Incident Number: nAPP2315148242	
	Job Number: 03C1558247	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Mariaha O'Dell	Method: Hand Auger
Coordinates: 32.208766, -103.770905	Hole Diameter: 6"	Total Depth: 5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride measurements done with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<174	0	N	SS05	0.5		CCHE	CCHE. Pad material with brown sand.
D	<174	0	N		1	1	SP	Sand. Reddish brown, vf- f grained, poorly graded, dry.
D	<174	0	N		2	2		
D	<174	0	N		3	3		
D	<174	0	N		4	4		
D	<174	0	N	SS05A	5	5		

Total Depth @ 5' bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 6/23/2023 10:45:49 AM Revision 1

JOB DESCRIPTION

PLU 15 TWIN WELLS RANCH CTB
SDG NUMBER 03C1558247

JOB NUMBER

890-4830-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

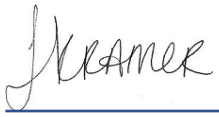
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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6/23/2023 10:45:49 AM
Revision 1

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

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Laboratory Job ID: 890-4830-1
SDG: 03C1558247

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
Surrogate Summary 10
QC Sample Results 11
QC Association Summary 18
Lab Chronicle 21
Certification Summary 23
Method Summary 24
Sample Summary 25
Chain of Custody 26
Receipt Checklists 27

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Job ID: 890-4830-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4830-1

REVISION

The report being provided is a revision of the original report sent on 6/21/2023. The report (revision 1) is being revised due to Per client email, requesting TPH rer un on SS02.

Receipt
The samples were received on 6/16/2023 1:11 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4830-1), SS02 (890-4830-2), SS03 (890-4830-3), SS04 (890-4830-4) and SS05 (890-4830-5).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-55932 and analytical batch 880-55895 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-55932/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: CCV was biased low for the m,p and o-xylenes. Another CCV was analyzed and acceptable within the 12 hour period; therefore, the data was qualified and reported. (CCV 880-55895/64)

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-4844-A-1-G), (890-4844-A-1-H MS) and (890-4844-A-1-I MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-56095 and analytical batch 880-56039 was outside the upper control 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 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS01
Date Collected: 06/16/23 11:05
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00232**		0.00199		mg/Kg		06/19/23 13:47	06/20/23 14:30	1
Toluene	**0.227**		0.00199		mg/Kg		06/19/23 13:47	06/20/23 14:30	1
Ethylbenzene	**0.0383**		0.00199		mg/Kg		06/19/23 13:47	06/20/23 14:30	1
m-Xylene & p-Xylene	**0.755**		0.00398		mg/Kg		06/19/23 13:47	06/20/23 14:30	1
o-Xylene	**0.197**		0.00199		mg/Kg		06/19/23 13:47	06/20/23 14:30	1
Xylenes, Total	**0.952**		0.00398		mg/Kg		06/19/23 13:47	06/20/23 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*06/19/23 13:47*	*06/20/23 14:30*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/19/23 13:47*	*06/20/23 14:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**1.22**		0.00398		mg/Kg			06/20/23 16:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**5680**		49.9		mg/Kg			06/20/23 16:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**724**		49.9		mg/Kg		06/19/23 09:05	06/19/23 18:13	1
Diesel Range Organics (Over C10-C28)	**4960**		49.9		mg/Kg		06/19/23 09:05	06/19/23 18:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*06/19/23 09:05*	*06/19/23 18:13*	*1*
o-Terphenyl	*101*		*70 - 130*	*06/19/23 09:05*	*06/19/23 18:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4660**		49.6		mg/Kg			06/20/23 22:03	10

Client Sample ID: SS02
Date Collected: 06/16/23 11:15
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 14:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 14:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 14:51	1
m-Xylene & p-Xylene	**0.00420**		0.00401		mg/Kg		06/19/23 13:47	06/20/23 14:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 14:51	1
Xylenes, Total	**0.00420**		0.00401		mg/Kg		06/19/23 13:47	06/20/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*06/19/23 13:47*	*06/20/23 14:51*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS02

Date Collected: 06/16/23 11:15
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*06/19/23 13:47*	*06/20/23 14:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00420**		0.00401	mg/Kg			06/20/23 16:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			06/20/23 16:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/22/23 12:52	06/23/23 07:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/22/23 12:52	06/23/23 07:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/22/23 12:52	06/23/23 07:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*06/22/23 12:52*	*06/23/23 07:08*	*1*
o-Terphenyl	*117*		*70 - 130*	*06/22/23 12:52*	*06/23/23 07:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**131**		4.99	mg/Kg			06/20/23 22:21	1

Client Sample ID: SS03

Date Collected: 06/16/23 11:20
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199	mg/Kg		06/20/23 14:04	06/21/23 03:32	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/20/23 14:04	06/21/23 03:32	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/20/23 14:04	06/21/23 03:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/20/23 14:04	06/21/23 03:32	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/20/23 14:04	06/21/23 03:32	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/20/23 14:04	06/21/23 03:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*06/20/23 14:04*	*06/21/23 03:32*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*06/20/23 14:04*	*06/21/23 03:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			06/21/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**51.6**		49.8	mg/Kg			06/20/23 16:16	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS03

Date Collected: 06/16/23 11:20
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/19/23 09:05	06/19/23 19:04	1
Diesel Range Organics (Over C10-C28)	**51.6**		49.8		mg/Kg		06/19/23 09:05	06/19/23 19:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/19/23 09:05	06/19/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:04*	*1*
o-Terphenyl	*101*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**115**		4.95		mg/Kg			06/20/23 22:27	1

Client Sample ID: SS04

Date Collected: 06/16/23 11:25
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U *+	0.00198		mg/Kg		06/20/23 14:04	06/21/23 03:52	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/20/23 14:04	06/21/23 03:52	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/20/23 14:04	06/21/23 03:52	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		06/20/23 14:04	06/21/23 03:52	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/20/23 14:04	06/21/23 03:52	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/20/23 14:04	06/21/23 03:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*06/20/23 14:04*	*06/21/23 03:52*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*06/20/23 14:04*	*06/21/23 03:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			06/21/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			06/20/23 16:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:29*	*1*
o-Terphenyl	*101*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:29*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS04

Date Collected: 06/16/23 11:25
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.9**		4.99		mg/Kg			06/20/23 22:33	1

Client Sample ID: SS05

Date Collected: 06/16/23 11:30
Date Received: 06/16/23 13:11
Sample Depth: 0.5

Lab Sample ID: 890-4830-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		06/20/23 14:04	06/21/23 04:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/20/23 14:04	06/21/23 04:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/20/23 14:04	06/21/23 04:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/20/23 14:04	06/21/23 04:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/20/23 14:04	06/21/23 04:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/20/23 14:04	06/21/23 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*06/20/23 14:04*	*06/21/23 04:13*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*06/20/23 14:04*	*06/21/23 04:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			06/21/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			06/20/23 16:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/19/23 09:05	06/19/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:54*	*1*
o-Terphenyl	*100*		*70 - 130*	*06/19/23 09:05*	*06/19/23 19:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94.6**		5.02		mg/Kg			06/20/23 22:38	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-29650-A-31-D MS	Matrix Spike	104	110
880-29650-A-31-E MSD	Matrix Spike Duplicate	101	107
880-29657-A-1-D MS	Matrix Spike	111	92
880-29657-A-1-E MSD	Matrix Spike Duplicate	110	91
890-4830-1	SS01	137 S1+	97
890-4830-2	SS02	115	106
890-4830-3	SS03	86	82
890-4830-4	SS04	92	78
890-4830-5	SS05	89	76
LCS 880-55838/1-A	Lab Control Sample	109	91
LCS 880-55932/1-A	Lab Control Sample	123	114
LCSD 880-55838/2-A	Lab Control Sample Dup	119	91
LCSD 880-55932/2-A	Lab Control Sample Dup	103	108
MB 880-55809/5-A	Method Blank	70	98
MB 880-55838/5-A	Method Blank	99	91
MB 880-55932/5-A	Method Blank	67 S1-	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)
880-29650-A-97-C MS	Matrix Spike	94	91
880-29650-A-97-D MSD	Matrix Spike Duplicate	92	89
890-4830-1	SS01	121	101
890-4830-2	SS02	125	117
890-4830-3	SS03	92	101
890-4830-4	SS04	90	101
890-4830-5	SS05	91	100
890-4844-A-1-H MS	Matrix Spike	135 S1+	104
890-4844-A-1-I MSD	Matrix Spike Duplicate	136 S1+	107
LCS 880-55784/2-A	Lab Control Sample	84	95
LCS 880-56095/2-A	Lab Control Sample	117	107
LCSD 880-55784/3-A	Lab Control Sample Dup	78	81
LCSD 880-56095/3-A	Lab Control Sample Dup	117	105
MB 880-55784/1-A	Method Blank	93	103
MB 880-56095/1-A	Method Blank	141 S1+	130

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-55809/5-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55809

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/19/23 10:08	06/20/23 11:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/19/23 10:08	06/20/23 11:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/19/23 10:08	06/20/23 11:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/19/23 10:08	06/20/23 11:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*06/19/23 10:08*	*06/20/23 11:59*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*06/19/23 10:08*	*06/20/23 11:59*	*1*

Lab Sample ID: MB 880-55838/5-A
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55838

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 11:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 11:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/19/23 13:47	06/20/23 11:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/19/23 13:47	06/20/23 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/19/23 13:47	06/20/23 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/19/23 13:47*	*06/20/23 11:21*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/19/23 13:47*	*06/20/23 11:21*	*1*

Lab Sample ID: LCS 880-55838/1-A
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55838

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09463		mg/Kg		95	70 - 130		
Toluene			0.100	0.1109		mg/Kg		111	70 - 130		
Ethylbenzene			0.100	0.1078		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.2236		mg/Kg		112	70 - 130		
o-Xylene			0.100	0.1075		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: LCSD 880-55838/2-A
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55838

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09383		mg/Kg		94	70 - 130	1	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: LCSD 880-55838/2-A
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55838

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1138		mg/Kg		114	70 - 130	3	35
Ethylbenzene			0.100	0.1128		mg/Kg		113	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2368		mg/Kg		118	70 - 130	6	35
o-Xylene			0.100	0.1139		mg/Kg		114	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 880-29657-A-1-D MS
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0996	0.07763		mg/Kg		77	70 - 130		
Toluene	<0.00199	U	0.0996	0.08681		mg/Kg		87	70 - 130		
Ethylbenzene	<0.00199	U	0.0996	0.07981		mg/Kg		80	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1648		mg/Kg		83	70 - 130		
o-Xylene	<0.00199	U	0.0996	0.08049		mg/Kg		80	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-29657-A-1-E MSD
Matrix: Solid
Analysis Batch: 55884

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 55838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.07862		mg/Kg		78	70 - 130	1	35
Toluene	<0.00199	U	0.0998	0.08779		mg/Kg		88	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0998	0.07943		mg/Kg		80	70 - 130	0	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1627		mg/Kg		82	70 - 130	1	35
o-Xylene	<0.00199	U	0.0998	0.07912		mg/Kg		79	70 - 130	2	35

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

Lab Sample ID: MB 880-55932/5-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55932

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/20/23 14:04	06/20/23 22:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/20/23 14:04	06/20/23 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: MB 880-55932/5-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55932

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/20/23 14:04	06/20/23 22:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/20/23 14:04	06/20/23 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*06/20/23 14:04*	*06/20/23 22:42*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/20/23 14:04*	*06/20/23 22:42*	*1*

Lab Sample ID: LCS 880-55932/1-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55932

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1370	*+	mg/Kg		137	70 - 130		
Toluene			0.100	0.1164		mg/Kg		116	70 - 130		
Ethylbenzene			0.100	0.1150		mg/Kg		115	70 - 130		
m-Xylene & p-Xylene			0.200	0.2396		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1210		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: LCSD 880-55932/2-A
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55932

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1239		mg/Kg		124	70 - 130	10	35
Toluene			0.100	0.1039		mg/Kg		104	70 - 130	11	35
Ethylbenzene			0.100	0.1013		mg/Kg		101	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2070		mg/Kg		104	70 - 130	15	35
o-Xylene			0.100	0.1010		mg/Kg		101	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-29650-A-31-D MS
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U *+	0.0996	0.1179		mg/Kg		118	70 - 130		
Toluene	<0.00198	U	0.0996	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene	<0.00198	U	0.0996	0.1018		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene	<0.00396	U	0.199	0.2085		mg/Kg		105	70 - 130		
o-Xylene	<0.00198	U	0.0996	0.1016		mg/Kg		102	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: 880-29650-A-31-D MS
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55932

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 880-29650-A-31-E MSD
Matrix: Solid
Analysis Batch: 55895

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 55932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U *+	0.0992	0.1107		mg/Kg		112	70 - 130	6	35
Toluene	<0.00198	U	0.0992	0.09764		mg/Kg		97	70 - 130	4	35
Ethylbenzene	<0.00198	U	0.0992	0.09924		mg/Kg		100	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U	0.198	0.2021		mg/Kg		102	70 - 130	3	35
o-Xylene	<0.00198	U	0.0992	0.09803		mg/Kg		99	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

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

Lab Sample ID: MB 880-55784/1-A
Matrix: Solid
Analysis Batch: 55770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55784

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		06/19/23 08:00	06/19/23 08:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/19/23 08:00	06/19/23 08:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/19/23 08:00	06/19/23 08:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	06/19/23 08:00	06/19/23 08:22	1
o-Terphenyl	103		70 - 130	06/19/23 08:00	06/19/23 08:22	1

Lab Sample ID: LCS 880-55784/2-A
Matrix: Solid
Analysis Batch: 55770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55784

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	856.5		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	882.6		mg/Kg		88	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	95		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: LCSD 880-55784/3-A
Matrix: Solid
Analysis Batch: 55770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55784

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	901.0		mg/Kg		90	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	944.0		mg/Kg		94	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 880-29650-A-97-C MS
Matrix: Solid
Analysis Batch: 55770

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55784

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	992.2		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	972.0		mg/Kg		95	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 880-29650-A-97-D MSD
Matrix: Solid
Analysis Batch: 55770

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 55784

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	<49.8	U	997	963.3		mg/Kg		94	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	997	947.5		mg/Kg		92	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: MB 880-56095/1-A
Matrix: Solid
Analysis Batch: 56039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56095

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		06/22/23 12:52	06/22/23 19:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/22/23 12:52	06/22/23 19:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/22/23 12:52	06/22/23 19:41	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: MB 880-56095/1-A
Matrix: Solid
Analysis Batch: 56039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56095

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	141	S1+	70 - 130	06/22/23 12:52	06/22/23 19:41	1
o-Terphenyl	130		70 - 130	06/22/23 12:52	06/22/23 19:41	1

Lab Sample ID: LCS 880-56095/2-A
Matrix: Solid
Analysis Batch: 56039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56095

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	800.5		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	1000	993.2		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-56095/3-A
Matrix: Solid
Analysis Batch: 56039

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 56095

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	869.3		mg/Kg		87	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	1060		mg/Kg		106	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-4844-A-1-H MS
Matrix: Solid
Analysis Batch: 56039

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56095

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1131		mg/Kg		111	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1232		mg/Kg		123	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	135	S1+	70 - 130
o-Terphenyl	104		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Lab Sample ID: 890-4844-A-1-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 56039 — **Prep Batch: 56095**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1200		mg/Kg		118	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1245		mg/Kg		125	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*136*	*S1+*	*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55807/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 55936

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/20/23 21:46	1

Lab Sample ID: LCS 880-55807/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 55936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.2		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-55807/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 55936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.5		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-4830-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 55936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	4660		2480	6946		mg/Kg		92	90 - 110		

Lab Sample ID: 890-4830-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 55936

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4660		2480	6941		mg/Kg		92	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

GC VOA

Prep Batch: 55809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-55809/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 55838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	5035	
890-4830-2	SS02	Total/NA	Solid	5035	
MB 880-55838/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55838/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55838/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-29657-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-29657-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 55884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	8021B	55838
890-4830-2	SS02	Total/NA	Solid	8021B	55838
MB 880-55838/5-A	Method Blank	Total/NA	Solid	8021B	55838
LCS 880-55838/1-A	Lab Control Sample	Total/NA	Solid	8021B	55838
LCSD 880-55838/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55838
880-29657-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	55838
880-29657-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	55838

Analysis Batch: 55895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-3	SS03	Total/NA	Solid	8021B	55932
890-4830-4	SS04	Total/NA	Solid	8021B	55932
890-4830-5	SS05	Total/NA	Solid	8021B	55932
MB 880-55809/5-A	Method Blank	Total/NA	Solid	8021B	55809
MB 880-55932/5-A	Method Blank	Total/NA	Solid	8021B	55932
LCS 880-55932/1-A	Lab Control Sample	Total/NA	Solid	8021B	55932
LCSD 880-55932/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55932
880-29650-A-31-D MS	Matrix Spike	Total/NA	Solid	8021B	55932
880-29650-A-31-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	55932

Prep Batch: 55932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-3	SS03	Total/NA	Solid	5035	
890-4830-4	SS04	Total/NA	Solid	5035	
890-4830-5	SS05	Total/NA	Solid	5035	
MB 880-55932/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55932/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55932/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-29650-A-31-D MS	Matrix Spike	Total/NA	Solid	5035	
880-29650-A-31-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 55947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	Total BTEX	
890-4830-2	SS02	Total/NA	Solid	Total BTEX	
890-4830-3	SS03	Total/NA	Solid	Total BTEX	
890-4830-4	SS04	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

GC VOA (Continued)

Analysis Batch: 55947 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-5	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 55770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	8015B NM	55784
890-4830-3	SS03	Total/NA	Solid	8015B NM	55784
890-4830-4	SS04	Total/NA	Solid	8015B NM	55784
890-4830-5	SS05	Total/NA	Solid	8015B NM	55784
MB 880-55784/1-A	Method Blank	Total/NA	Solid	8015B NM	55784
LCS 880-55784/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	55784
LCSD 880-55784/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	55784
880-29650-A-97-C MS	Matrix Spike	Total/NA	Solid	8015B NM	55784
880-29650-A-97-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	55784

Prep Batch: 55784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	8015NM Prep	
890-4830-3	SS03	Total/NA	Solid	8015NM Prep	
890-4830-4	SS04	Total/NA	Solid	8015NM Prep	
890-4830-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-55784/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-55784/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-55784/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-29650-A-97-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-29650-A-97-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 55950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Total/NA	Solid	8015 NM	
890-4830-2	SS02	Total/NA	Solid	8015 NM	
890-4830-3	SS03	Total/NA	Solid	8015 NM	
890-4830-4	SS04	Total/NA	Solid	8015 NM	
890-4830-5	SS05	Total/NA	Solid	8015 NM	

Analysis Batch: 56039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-2	SS02	Total/NA	Solid	8015B NM	56095
MB 880-56095/1-A	Method Blank	Total/NA	Solid	8015B NM	56095
LCS 880-56095/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	56095
LCSD 880-56095/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	56095
890-4844-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	56095
890-4844-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	56095

Prep Batch: 56095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-56095/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-56095/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-56095/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

GC Semi VOA (Continued)

Prep Batch: 56095 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4844-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4844-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 55807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Soluble	Solid	DI Leach	
890-4830-2	SS02	Soluble	Solid	DI Leach	
890-4830-3	SS03	Soluble	Solid	DI Leach	
890-4830-4	SS04	Soluble	Solid	DI Leach	
890-4830-5	SS05	Soluble	Solid	DI Leach	
MB 880-55807/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55807/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55807/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4830-1 MS	SS01	Soluble	Solid	DI Leach	
890-4830-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 55936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4830-1	SS01	Soluble	Solid	300.0	55807
890-4830-2	SS02	Soluble	Solid	300.0	55807
890-4830-3	SS03	Soluble	Solid	300.0	55807
890-4830-4	SS04	Soluble	Solid	300.0	55807
890-4830-5	SS05	Soluble	Solid	300.0	55807
MB 880-55807/1-A	Method Blank	Soluble	Solid	300.0	55807
LCS 880-55807/2-A	Lab Control Sample	Soluble	Solid	300.0	55807
LCSD 880-55807/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55807
890-4830-1 MS	SS01	Soluble	Solid	300.0	55807
890-4830-1 MSD	SS01	Soluble	Solid	300.0	55807

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS01
Date Collected: 06/16/23 11:05
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	55838	06/19/23 13:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55884	06/20/23 14:30	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55947	06/20/23 16:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55950	06/20/23 16:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55784	06/19/23 09:05	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55770	06/19/23 18:13	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	55807	06/19/23 09:52	SMC	EET MID
Soluble	Analysis	300.0		10	10 mL	10 mL	55936	06/20/23 22:03	CH	EET MID

Client Sample ID: SS02
Date Collected: 06/16/23 11:15
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	55838	06/19/23 13:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55884	06/20/23 14:51	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55947	06/20/23 16:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55950	06/20/23 16:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56095	06/22/23 12:52	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56039	06/23/23 07:08	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	55807	06/19/23 09:52	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55936	06/20/23 22:21	CH	EET MID

Client Sample ID: SS03
Date Collected: 06/16/23 11:20
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	55932	06/20/23 14:04	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55895	06/21/23 03:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55947	06/21/23 09:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55950	06/20/23 16:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	55784	06/19/23 09:05	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55770	06/19/23 19:04	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	55807	06/19/23 09:52	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55936	06/20/23 22:27	CH	EET MID

Client Sample ID: SS04
Date Collected: 06/16/23 11:25
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	55932	06/20/23 14:04	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55895	06/21/23 03:52	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55947	06/21/23 09:57	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Client Sample ID: SS04
Date Collected: 06/16/23 11:25
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-4
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			55950	06/20/23 16:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55784	06/19/23 09:05	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55770	06/19/23 19:29	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	55807	06/19/23 09:52	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55936	06/20/23 22:33	CH	EET MID

Client Sample ID: SS05
Date Collected: 06/16/23 11:30
Date Received: 06/16/23 13:11

Lab Sample ID: 890-4830-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	55932	06/20/23 14:04	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55895	06/21/23 04:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			55947	06/21/23 09:57	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55950	06/20/23 16:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	55784	06/19/23 09:05	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55770	06/19/23 19:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	55807	06/19/23 09:52	SMC	EET MID
Soluble	Analysis	300.0		1	10 mL	10 mL	55936	06/20/23 22:38	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

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

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4830-1
SDG: 03C1558247

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4830-1	SS01	Solid	06/16/23 11:05	06/16/23 13:11	0.5
890-4830-2	SS02	Solid	06/16/23 11:15	06/16/23 13:11	0.5
890-4830-3	SS03	Solid	06/16/23 11:20	06/16/23 13:11	0.5
890-4830-4	SS04	Solid	06/16/23 11:25	06/16/23 13:11	0.5
890-4830-5	SS05	Solid	06/16/23 11:30	06/16/23 13:11	0.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	PLU 15 Twin Wells Ranch CTB	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558247	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	THM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.2
Total Containers:		Corrected Temperature:	5.0

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
SS01	S	6/16/23	1105	.5	G	1		✓	✓	✓
SS02			1115	.5	G	1		✓	✓	✓
SS03			1120	.5	G	1		✓	✓	✓
SS04			1125	.5	G	1		✓	✓	✓
SS05			1130	.5	G	1		✓	✓	✓

890-4830 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:
nAPP2315148242
Cost Center:
2027711001
AFE:

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

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

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

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4830-1
SDG Number: 03C1558247

Login Number: 4830
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4830-1
SDG Number: 03C1558247

Login Number: 4830
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 06/19/23 08:39 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ashley Giovengo
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 7/20/2023 12:48:52 PM

JOB DESCRIPTION

PLU 15 TWIN WELLS RANCH CTB
SDG NUMBER 03C1558247

JOB NUMBER

890-4939-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

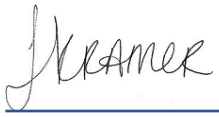
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Laboratory Job ID: 890-4939-1
SDG: 03C1558247

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
Surrogate Summary 7
QC Sample Results 8
QC Association Summary 12
Lab Chronicle 14
Certification Summary 15
Method Summary 16
Sample Summary 17
Chain of Custody 18
Receipt Checklists 19

Definitions/Glossary

Client: Ensolum Job ID: 890-4939-1
Project/Site: PLU 15 TWIN WELLS RANCH CTB SDG: 03C1558247

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Job ID: 890-4939-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4939-1

Receipt
The sample was received on 7/12/2023 4:22 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS01 (890-4939-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-57730 and analytical batch 880-57996 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS01 (890-4939-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Client Sample ID: FS01

Date Collected: 07/12/23 13:20
Date Received: 07/12/23 16:22
Sample Depth: 1.5

Lab Sample ID: 890-4939-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/14/23 09:48	07/14/23 14:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:05	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/14/23 09:48	07/14/23 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*07/14/23 09:48*	*07/14/23 14:05*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*07/14/23 09:48*	*07/14/23 14:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/17/23 14:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			07/20/23 13:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		07/14/23 17:17	07/19/23 13:44	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		07/14/23 17:17	07/19/23 13:44	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		07/14/23 17:17	07/19/23 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*07/14/23 17:17*	*07/19/23 13:44*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 13:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**213**		5.03		mg/Kg			07/14/23 13:23	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

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)
880-30733-A-1-B MS	Matrix Spike	110	103
880-30733-A-1-C MSD	Matrix Spike Duplicate	117	104
890-4939-1	FS01	87	75
LCS 880-57673/1-A	Lab Control Sample	111	104
LCSD 880-57673/2-A	Lab Control Sample Dup	111	105
MB 880-57673/5-A	Method Blank	75	87

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)
890-4939-1	FS01	129	136 S1+
890-4939-1 MS	FS01	114	109
890-4939-1 MSD	FS01	129	125
LCS 880-57730/2-A	Lab Control Sample	85	90
LCSD 880-57730/3-A	Lab Control Sample Dup	84	90
MB 880-57730/1-A	Method Blank	161 S1+	169 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57673/5-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57673

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*07/14/23 09:48*	*07/14/23 12:21*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*07/14/23 09:48*	*07/14/23 12:21*	*1*

Lab Sample ID: LCS 880-57673/1-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57673

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1143		mg/Kg		114	70 - 130		
Toluene			0.100	0.09925		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.200	0.2313		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1134		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-57673/2-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57673

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1144		mg/Kg		114	70 - 130	0	35
Toluene			0.100	0.09657		mg/Kg		97	70 - 130	3	35
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2190		mg/Kg		110	70 - 130	5	35
o-Xylene			0.100	0.1063		mg/Kg		106	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-30733-A-1-B MS
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1139		mg/Kg		113	70 - 130		
Toluene	<0.00202	U	0.101	0.09646		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

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

Lab Sample ID: 880-30733-A-1-B MS
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1070		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.202	0.2169		mg/Kg		108	70 - 130
o-Xylene	<0.00202	U	0.101	0.1058		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-30733-A-1-C MSD
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1255		mg/Kg		126	70 - 130	10	35
Toluene	<0.00202	U	0.0994	0.1092		mg/Kg		110	70 - 130	12	35
Ethylbenzene	<0.00202	U	0.0994	0.1238		mg/Kg		125	70 - 130	15	35
m-Xylene & p-Xylene	<0.00404	U	0.199	0.2557		mg/Kg		129	70 - 130	16	35
o-Xylene	<0.00202	U	0.0994	0.1256		mg/Kg		126	70 - 130	17	35

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

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

Lab Sample ID: MB 880-57730/1-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57730

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		07/14/23 17:17	07/19/23 10:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/23 17:17	07/19/23 10:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/23 17:17	07/19/23 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 10:55*	*1*
o-Terphenyl	*169*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 10:55*	*1*

Lab Sample ID: LCS 880-57730/2-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	853.8		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	1000	812.0		mg/Kg		81	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

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

Lab Sample ID: LCS 880-57730/2-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57730

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-57730/3-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57730

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	826.1		mg/Kg		83	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	809.3		mg/Kg		81	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-4939-1 MS
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 57730

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	1000	904.9		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.7	U	1000	943.3		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: 890-4939-1 MSD
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 57730

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	<49.7	U	1000	1023		mg/Kg		98	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.7	U	1000	1084		mg/Kg		105	70 - 130	14	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	129		70 - 130
o-Terphenyl	125		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-57634/1-A
Matrix: Solid
Analysis Batch: 57651

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			07/14/23 11:55	1

Lab Sample ID: LCS 880-57634/2-A
Matrix: Solid
Analysis Batch: 57651

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.8		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-57634/3-A
Matrix: Solid
Analysis Batch: 57651

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	251.7		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-4939-1 MS
Matrix: Solid
Analysis Batch: 57651

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	213		252	458.0		mg/Kg		97	90 - 110		

Lab Sample ID: 890-4939-1 MSD
Matrix: Solid
Analysis Batch: 57651

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	213		252	456.5		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

GC VOA

Analysis Batch: 57653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	8021B	57673
MB 880-57673/5-A	Method Blank	Total/NA	Solid	8021B	57673
LCS 880-57673/1-A	Lab Control Sample	Total/NA	Solid	8021B	57673
LCSD 880-57673/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57673
880-30733-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	57673
880-30733-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57673

Prep Batch: 57673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	5035	
MB 880-57673/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57673/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57673/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30733-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-30733-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 57730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-57730/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-57730/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-57730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4939-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-4939-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 57996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	8015B NM	57730
MB 880-57730/1-A	Method Blank	Total/NA	Solid	8015B NM	57730
LCS 880-57730/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	57730
LCSD 880-57730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	57730
890-4939-1 MS	FS01	Total/NA	Solid	8015B NM	57730
890-4939-1 MSD	FS01	Total/NA	Solid	8015B NM	57730

Analysis Batch: 58143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 57634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Soluble	Solid	DI Leach	
MB 880-57634/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-57634/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-57634/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

HPLC/IC (Continued)

Leach Batch: 57634 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1 MS	FS01	Soluble	Solid	DI Leach	
890-4939-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 57651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-1	FS01	Soluble	Solid	300.0	57634
MB 880-57634/1-A	Method Blank	Soluble	Solid	300.0	57634
LCS 880-57634/2-A	Lab Control Sample	Soluble	Solid	300.0	57634
LCSD 880-57634/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	57634
890-4939-1 MS	FS01	Soluble	Solid	300.0	57634
890-4939-1 MSD	FS01	Soluble	Solid	300.0	57634

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Client Sample ID: FS01
Date Collected: 07/12/23 13:20
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4939-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	57673	07/14/23 09:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57653	07/14/23 14:05	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57852	07/17/23 14:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58143	07/20/23 13:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	57730	07/14/23 17:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57996	07/19/23 13:44	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	57634	07/14/23 11:15	KS	EET MID
Soluble	Analysis	300.0		1			57651	07/14/23 13:23	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

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	T104704400-23-26	06-30-24

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 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4939-1
SDG: 03C1558247

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4939-1	FS01	Solid	07/12/23 13:20	07/12/23 16:22	1.5

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Chain of Custody

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

Work Order No: ____________

www.xenco.com Page 1 of 1

Project Manager:	Ashley Giovengo	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	575-988-0055	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	PLU 15 Twin Wells Ranch CTB	Turn Around	☐ Routine ☒ Rush
Project Number:	03C1558247	Due Date:	24 hrs
Project Location:	32.208754, -103.770107		
Sampler's Name:	Mariaha O'Dell	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:	TWM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.6
Total Containers:		Corrected Temperature:	5.4

ANALYSIS REQUEST — Parameters: Chlorides, TPH, BTEX

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Chlorides	TPH	BTEX
FS01	S	7/12/23	13:20	1.5'	C	1	X	X	X

Preservative Codes

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

Sample Comments

Incident #: nAPP2315148242
Cost center: 2027711001
Ashley Giovengo: agiovengo@ensolum.com
Cole Burton: cburton@ensolum.com

890-4939 Chain of Custody

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [illegible]	[illegible]	7.12.23 1622	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4939-1
SDG Number: 03C1558247

Login Number: 4939
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4939-1
SDG Number: 03C1558247

Login Number: 4939
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/14/23 11:05 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ashley Giovengo
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

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JOB DESCRIPTION

PLU 15 TWIN WELLS RANCH CTB
SDG NUMBER 03C1558247

JOB NUMBER

890-4941-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

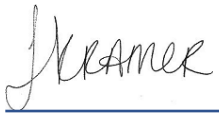
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Laboratory Job ID: 890-4941-1
SDG: 03C1558247

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
Surrogate Summary 7
QC Sample Results 8
QC Association Summary 12
Lab Chronicle 14
Certification Summary 15
Method Summary 16
Sample Summary 17
Chain of Custody 18
Receipt Checklists 19

Definitions/Glossary

Client: Ensolum Job ID: 890-4941-1
Project/Site: PLU 15 TWIN WELLS RANCH CTB SDG: 03C1558247

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
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Job ID: 890-4941-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4941-1

Receipt
The sample was received on 7/13/2023 1:20 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS02 (890-4941-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-57730 and analytical batch 880-57996 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4939-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS02 (890-4941-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

Client Sample ID: FS02

Date Collected: 07/13/23 10:15
Date Received: 07/13/23 13:20
Sample Depth: 1.5

Lab Sample ID: 890-4941-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 14:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 14:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*07/14/23 09:48*	*07/14/23 14:25*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*07/14/23 09:48*	*07/14/23 14:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			07/17/23 14:24	1

Method: SW846 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			07/20/23 13:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/14/23 17:17	07/19/23 14:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/14/23 17:17	07/19/23 14:50	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/14/23 17:17	07/19/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*146*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 14:50*	*1*
o-Terphenyl	*151*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 14:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		4.97		mg/Kg			07/14/23 13:38	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

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)
880-30733-A-1-B MS	Matrix Spike	110	103
880-30733-A-1-C MSD	Matrix Spike Duplicate	117	104
890-4941-1	FS02	88	79
LCS 880-57673/1-A	Lab Control Sample	111	104
LCSD 880-57673/2-A	Lab Control Sample Dup	111	105
MB 880-57673/5-A	Method Blank	75	87

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)
890-4939-A-1-G MS	Matrix Spike	114	109
890-4939-A-1-H MSD	Matrix Spike Duplicate	129	125
890-4941-1	FS02	146 S1+	151 S1+
LCS 880-57730/2-A	Lab Control Sample	85	90
LCSD 880-57730/3-A	Lab Control Sample Dup	84	90
MB 880-57730/1-A	Method Blank	161 S1+	169 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57673/5-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57673

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 09:48	07/14/23 12:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 09:48	07/14/23 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*07/14/23 09:48*	*07/14/23 12:21*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*07/14/23 09:48*	*07/14/23 12:21*	*1*

Lab Sample ID: LCS 880-57673/1-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57673

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1143		mg/Kg		114	70 - 130		
Toluene			0.100	0.09925		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.200	0.2313		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1134		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-57673/2-A
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57673

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1144		mg/Kg		114	70 - 130	0	35
Toluene			0.100	0.09657		mg/Kg		97	70 - 130	3	35
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2190		mg/Kg		110	70 - 130	5	35
o-Xylene			0.100	0.1063		mg/Kg		106	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-30733-A-1-B MS
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1139		mg/Kg		113	70 - 130		
Toluene	<0.00202	U	0.101	0.09646		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

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

Lab Sample ID: 880-30733-A-1-B MS
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1070		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.202	0.2169		mg/Kg		108	70 - 130
o-Xylene	<0.00202	U	0.101	0.1058		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-30733-A-1-C MSD
Matrix: Solid
Analysis Batch: 57653

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1255		mg/Kg		126	70 - 130	10	35
Toluene	<0.00202	U	0.0994	0.1092		mg/Kg		110	70 - 130	12	35
Ethylbenzene	<0.00202	U	0.0994	0.1238		mg/Kg		125	70 - 130	15	35
m-Xylene & p-Xylene	<0.00404	U	0.199	0.2557		mg/Kg		129	70 - 130	16	35
o-Xylene	<0.00202	U	0.0994	0.1256		mg/Kg		126	70 - 130	17	35

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

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

Lab Sample ID: MB 880-57730/1-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57730

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		07/14/23 17:17	07/19/23 10:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/14/23 17:17	07/19/23 10:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/14/23 17:17	07/19/23 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 10:55*	*1*
o-Terphenyl	*169*	*S1+*	*70 - 130*	*07/14/23 17:17*	*07/19/23 10:55*	*1*

Lab Sample ID: LCS 880-57730/2-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	853.8		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	1000	812.0		mg/Kg		81	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

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

Lab Sample ID: LCS 880-57730/2-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57730

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-57730/3-A
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57730

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	826.1		mg/Kg		83	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	809.3		mg/Kg		81	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-4939-A-1-G MS
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57730

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	1000	904.9		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.7	U	1000	943.3		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: 890-4939-A-1-H MSD
Matrix: Solid
Analysis Batch: 57996

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57730

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	<49.7	U	1000	1023		mg/Kg		98	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.7	U	1000	1084		mg/Kg		105	70 - 130	14	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	129		70 - 130
o-Terphenyl	125		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-57634/1-A
Matrix: Solid
Analysis Batch: 57651

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			07/14/23 11:55	1

Lab Sample ID: LCS 880-57634/2-A
Matrix: Solid
Analysis Batch: 57651

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.8		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-57634/3-A
Matrix: Solid
Analysis Batch: 57651

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	251.7		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-4939-A-1-C MS
Matrix: Solid
Analysis Batch: 57651

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	213		252	458.0		mg/Kg		97	90 - 110		

Lab Sample ID: 890-4939-A-1-D MSD
Matrix: Solid
Analysis Batch: 57651

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	213		252	456.5		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

GC VOA

Analysis Batch: 57653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	8021B	57673
MB 880-57673/5-A	Method Blank	Total/NA	Solid	8021B	57673
LCS 880-57673/1-A	Lab Control Sample	Total/NA	Solid	8021B	57673
LCSD 880-57673/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57673
880-30733-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	57673
880-30733-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57673

Prep Batch: 57673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	5035	
MB 880-57673/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57673/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57673/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30733-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-30733-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 57730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	8015NM Prep	
MB 880-57730/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-57730/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-57730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4939-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4939-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 57996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	8015B NM	57730
MB 880-57730/1-A	Method Blank	Total/NA	Solid	8015B NM	57730
LCS 880-57730/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	57730
LCSD 880-57730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	57730
890-4939-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	57730
890-4939-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	57730

Analysis Batch: 58144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 57634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Soluble	Solid	DI Leach	
MB 880-57634/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-57634/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-57634/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

HPLC/IC (Continued)

Leach Batch: 57634 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4939-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4939-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 57651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4941-1	FS02	Soluble	Solid	300.0	57634
MB 880-57634/1-A	Method Blank	Soluble	Solid	300.0	57634
LCS 880-57634/2-A	Lab Control Sample	Soluble	Solid	300.0	57634
LCSD 880-57634/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	57634
890-4939-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	57634
890-4939-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	57634

Lab Chronicle

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

Client Sample ID: FS02
Date Collected: 07/13/23 10:15
Date Received: 07/13/23 13:20

Lab Sample ID: 890-4941-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	57673	07/14/23 09:48	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57653	07/14/23 14:25	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57853	07/17/23 14:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58144	07/20/23 13:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	57730	07/14/23 17:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	57996	07/19/23 14:50	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	57634	07/14/23 11:15	KS	EET MID
Soluble	Analysis	300.0		1			57651	07/14/23 13:38	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

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	T104704400-23-26	06-30-24

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 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 15 TWIN WELLS RANCH CTB

Job ID: 890-4941-1
SDG: 03C1558247

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4941-1	FS02	Solid	07/13/23 10:15	07/13/23 13:20	1.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ashley Giovengo	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	575-988-0055 Email:	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	Plu 15 Twin Wells Ranch CTB	Turn Around	☐ Routine ☒ Rush
Project Number:	03C1558247	Due Date:	24 hrs
Project Location:	32.208754, -103.770761	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Mariana O'Dell		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TUM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.6	
Total Containers:		Corrected Temperature:	3.4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Chlorides	TPH	BTEX
FS02	S	7/13/23	10:15	1.5'	C	1		X	X	X

890-4941 Chain of Custody

Preservative Codes

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

Sample Comments

Incident #:
nAPP2315148242

cost center:
2027711001

Ashley Giovengo:
agiovengo@ensolum.com
Cole Burton:
cburton@ensolum.com

MO

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 MODell	Ove Gf	7.13.23 1320	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4941-1
SDG Number: 03C1558247

Login Number: 4941
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4941-1
SDG Number: 03C1558247

Login Number: 4941
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/14/23 11:05 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ashley Giovengo
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 7/31/2023 3:20:26 PM

JOB DESCRIPTION

PLU TWIN WELLS RANCH CTB
SDG NUMBER 03C1558247

JOB NUMBER

890-4940-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

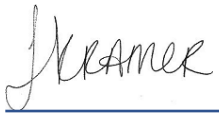
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Laboratory Job ID: 890-4940-1
SDG: 03C1558247

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 6
Surrogate Summary 10
QC Sample Results 11
QC Association Summary 15
Lab Chronicle 17
Certification Summary 19
Method Summary 20
Sample Summary 21
Chain of Custody 22
Receipt Checklists 23

Definitions/Glossary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

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 TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Job ID: 890-4940-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4940-1

Receipt
The samples were received on 7/12/2023 4:22 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 5.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01A (890-4940-1), SS02A (890-4940-2), SS03A (890-4940-3), SS04A (890-4940-4) and SS05A (890-4940-5).

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 880-58356 and analytical batch 880-58682 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4943-A-1-I MSD). Evidence of matrix interferences is not obvious.

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 TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS01A

Lab Sample ID: 890-4940-1
Matrix: Solid
Date Collected: 07/12/23 09:35
Date Received: 07/12/23 16:22
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/15/23 23:44	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/15/23 23:44	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/15/23 23:44	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/14/23 14:36	07/15/23 23:44	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/15/23 23:44	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/14/23 14:36	07/15/23 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:44*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			07/31/23 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		07/24/23 12:58	07/28/23 17:32	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		07/24/23 12:58	07/28/23 17:32	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		07/24/23 12:58	07/28/23 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*07/24/23 12:58*	*07/28/23 17:32*	*1*
o-Terphenyl	*87*		*70 - 130*	*07/24/23 12:58*	*07/28/23 17:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**75.9**		4.98		mg/Kg			07/17/23 17:06	1

Client Sample ID: SS02A

Lab Sample ID: 890-4940-2
Matrix: Solid
Date Collected: 07/12/23 12:20
Date Received: 07/12/23 16:22
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/16/23 00:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/16/23 00:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/16/23 00:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/16/23 00:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/16/23 00:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/16/23 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:04*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS02A

Date Collected: 07/12/23 12:20
Date Received: 07/12/23 16:22
Sample Depth: 5

Lab Sample ID: 890-4940-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:04*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			07/31/23 16:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		07/24/23 12:58	07/28/23 17:54	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		07/24/23 12:58	07/28/23 17:54	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		07/24/23 12:58	07/28/23 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*07/24/23 12:58*	*07/28/23 17:54*	*1*
o-Terphenyl	*96*		*70 - 130*	*07/24/23 12:58*	*07/28/23 17:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87.8**		5.00	mg/Kg			07/17/23 17:12	1

Client Sample ID: SS03A

Date Collected: 07/12/23 13:10
Date Received: 07/12/23 16:22
Sample Depth: 5

Lab Sample ID: 890-4940-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/14/23 14:36	07/16/23 00:25	1
Toluene	<0.00202	U	0.00202	mg/Kg		07/14/23 14:36	07/16/23 00:25	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/14/23 14:36	07/16/23 00:25	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		07/14/23 14:36	07/16/23 00:25	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/14/23 14:36	07/16/23 00:25	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		07/14/23 14:36	07/16/23 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:25*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			07/31/23 16:05	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS03A

Lab Sample ID: 890-4940-3
Matrix: Solid
Date Collected: 07/12/23 13:10
Date Received: 07/12/23 16:22
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		07/24/23 12:58	07/28/23 18:16	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		07/24/23 12:58	07/28/23 18:16	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		07/24/23 12:58	07/28/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*07/24/23 12:58*	*07/28/23 18:16*	*1*
o-Terphenyl	*85*		*70 - 130*	*07/24/23 12:58*	*07/28/23 18:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**81.1**		4.96		mg/Kg			07/17/23 17:18	1

Client Sample ID: SS04A

Lab Sample ID: 890-4940-4
Matrix: Solid
Date Collected: 07/12/23 14:30
Date Received: 07/12/23 16:22
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/14/23 14:36	07/16/23 00:45	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/14/23 14:36	07/16/23 00:45	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/14/23 14:36	07/16/23 00:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/14/23 14:36	07/16/23 00:45	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/14/23 14:36	07/16/23 00:45	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/14/23 14:36	07/16/23 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:45*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*07/14/23 14:36*	*07/16/23 00:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/31/23 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/24/23 12:58	07/28/23 18:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/24/23 12:58	07/28/23 18:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/24/23 12:58	07/28/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*07/24/23 12:58*	*07/28/23 18:38*	*1*
o-Terphenyl	*124*		*70 - 130*	*07/24/23 12:58*	*07/28/23 18:38*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS04A

Lab Sample ID: 890-4940-4
Matrix: Solid
Date Collected: 07/12/23 14:30
Date Received: 07/12/23 16:22
Sample Depth: 5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90.8		5.05		mg/Kg			07/17/23 17:24	1

Client Sample ID: SS05A

Lab Sample ID: 890-4940-5
Matrix: Solid
Date Collected: 07/12/23 12:45
Date Received: 07/12/23 16:22
Sample Depth: 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/16/23 01:05	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/16/23 01:05	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/16/23 01:05	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/14/23 14:36	07/16/23 01:05	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/14/23 14:36	07/16/23 01:05	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/14/23 14:36	07/16/23 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/14/23 14:36*	*07/16/23 01:05*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*07/14/23 14:36*	*07/16/23 01:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			07/31/23 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		07/24/23 12:58	07/28/23 19:00	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		07/24/23 12:58	07/28/23 19:00	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		07/24/23 12:58	07/28/23 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/24/23 12:58*	*07/28/23 19:00*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/24/23 12:58*	*07/28/23 19:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.0		5.02		mg/Kg			07/17/23 17:30	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-4931-A-1-B MS	Matrix Spike	99	92										
890-4931-A-1-C MSD	Matrix Spike Duplicate	91	93										
890-4940-1	SS01A	92	95										
890-4940-2	SS02A	99	98										
890-4940-3	SS03A	99	92										
890-4940-4	SS04A	91	93										
890-4940-5	SS05A	91	89										
LCS 880-57706/1-A	Lab Control Sample	97	92										
LCSD 880-57706/2-A	Lab Control Sample Dup	103	93										
MB 880-57706/5-A	Method Blank	91	110										

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)										
890-4940-1	SS01A	77	87										
890-4940-2	SS02A	84	96										
890-4940-3	SS03A	71	85										
890-4940-4	SS04A	99	124										
890-4940-5	SS05A	88	107										
890-4943-A-1-H MS	Matrix Spike	72	74										
890-4943-A-1-I MSD	Matrix Spike Duplicate	62 S1-	64 S1-										
LCS 880-58356/2-A	Lab Control Sample	100	123										
LCSD 880-58356/3-A	Lab Control Sample Dup	95	119										
MB 880-58356/1-A	Method Blank	141 S1+	176 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57706/5-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57706

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/15/23 17:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/14/23 14:36*	*07/15/23 17:39*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*07/14/23 14:36*	*07/15/23 17:39*	*1*

Lab Sample ID: LCS 880-57706/1-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08059		mg/Kg		81	70 - 130		
Toluene			0.100	0.09173		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.07726		mg/Kg		77	70 - 130		
m-Xylene & p-Xylene			0.200	0.1625		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.07434		mg/Kg		74	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-57706/2-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08691		mg/Kg		87	70 - 130	8	35
Toluene			0.100	0.1013		mg/Kg		101	70 - 130	10	35
Ethylbenzene			0.100	0.08840		mg/Kg		88	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1819		mg/Kg		91	70 - 130	11	35
o-Xylene			0.100	0.08739		mg/Kg		87	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-4931-A-1-B MS
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0994	0.09181		mg/Kg		92	70 - 130		
Toluene	<0.00202	U	0.0994	0.1034		mg/Kg		104	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

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

Lab Sample ID: 890-4931-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 57752 — **Prep Batch: 57706**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0994	0.08545		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1713		mg/Kg		86	70 - 130
o-Xylene	<0.00202	U	0.0994	0.09163		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-4931-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 57752 — **Prep Batch: 57706**

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	0.08348		mg/Kg		84	70 - 130	10	35
Toluene	<0.00202	U	0.0998	0.09166		mg/Kg		92	70 - 130	12	35
Ethylbenzene	<0.00202	U	0.0998	0.07256		mg/Kg		73	70 - 130	16	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1499		mg/Kg		75	70 - 130	13	35
o-Xylene	<0.00202	U	0.0998	0.08090		mg/Kg		81	70 - 130	12	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-58356/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58682 — **Prep Batch: 58356**

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		07/24/23 12:58	07/28/23 08:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/24/23 12:58	07/28/23 08:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/24/23 12:58	07/28/23 08:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*141*	*S1+*	*70 - 130*	*07/24/23 12:58*	*07/28/23 08:15*	*1*
o-Terphenyl	*176*	*S1+*	*70 - 130*	*07/24/23 12:58*	*07/28/23 08:15*	*1*

Lab Sample ID: LCS 880-58356/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58682 — **Prep Batch: 58356**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	867.5		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	947.8		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

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

Lab Sample ID: LCS 880-58356/2-A
Matrix: Solid
Analysis Batch: 58682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58356

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: LCSD 880-58356/3-A
Matrix: Solid
Analysis Batch: 58682

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58356

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	907.7		mg/Kg		91	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	959.6		mg/Kg		96	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: 890-4943-A-1-H MS
Matrix: Solid
Analysis Batch: 58682

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U F1 F2	999	753.2		mg/Kg		71	70 - 130
Diesel Range Organics (Over C10-C28)	51.9	F1	999	688.2	F1	mg/Kg		64	70 - 130

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

Lab Sample ID: 890-4943-A-1-I MSD
Matrix: Solid
Analysis Batch: 58682

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58356

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	<50.3	U F1 F2	999	587.3	F1 F2	mg/Kg		55	70 - 130	25	20
Diesel Range Organics (Over C10-C28)	51.9	F1	999	598.6	F1	mg/Kg		55	70 - 130	14	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	62	S1-	70 - 130
o-Terphenyl	64	S1-	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-57711/1-A
Matrix: Solid
Analysis Batch: 57903

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			07/17/23 14:26	1

Lab Sample ID: LCS 880-57711/2-A
Matrix: Solid
Analysis Batch: 57903

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.1		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-57711/3-A
Matrix: Solid
Analysis Batch: 57903

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	246.2		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 880-30745-A-1-B MS
Matrix: Solid
Analysis Batch: 57903

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	29.4		248	279.6		mg/Kg		101	90 - 110		

Lab Sample ID: 880-30745-A-1-C MSD
Matrix: Solid
Analysis Batch: 57903

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	29.4		248	279.9		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

GC VOA

Prep Batch: 57706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	5035	
890-4940-2	SS02A	Total/NA	Solid	5035	
890-4940-3	SS03A	Total/NA	Solid	5035	
890-4940-4	SS04A	Total/NA	Solid	5035	
890-4940-5	SS05A	Total/NA	Solid	5035	
MB 880-57706/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57706/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57706/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4931-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-4931-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	8021B	57706
890-4940-2	SS02A	Total/NA	Solid	8021B	57706
890-4940-3	SS03A	Total/NA	Solid	8021B	57706
890-4940-4	SS04A	Total/NA	Solid	8021B	57706
890-4940-5	SS05A	Total/NA	Solid	8021B	57706
MB 880-57706/5-A	Method Blank	Total/NA	Solid	8021B	57706
LCS 880-57706/1-A	Lab Control Sample	Total/NA	Solid	8021B	57706
LCSD 880-57706/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57706
890-4931-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	57706
890-4931-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57706

Analysis Batch: 57847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	Total BTEX	
890-4940-2	SS02A	Total/NA	Solid	Total BTEX	
890-4940-3	SS03A	Total/NA	Solid	Total BTEX	
890-4940-4	SS04A	Total/NA	Solid	Total BTEX	
890-4940-5	SS05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 58356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	8015NM Prep	
890-4940-2	SS02A	Total/NA	Solid	8015NM Prep	
890-4940-3	SS03A	Total/NA	Solid	8015NM Prep	
890-4940-4	SS04A	Total/NA	Solid	8015NM Prep	
890-4940-5	SS05A	Total/NA	Solid	8015NM Prep	
MB 880-58356/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-58356/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-58356/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4943-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4943-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 58682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	8015B NM	58356
890-4940-2	SS02A	Total/NA	Solid	8015B NM	58356

QC Association Summary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

GC Semi VOA (Continued)

Analysis Batch: 58682 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-3	SS03A	Total/NA	Solid	8015B NM	58356
890-4940-4	SS04A	Total/NA	Solid	8015B NM	58356
890-4940-5	SS05A	Total/NA	Solid	8015B NM	58356
MB 880-58356/1-A	Method Blank	Total/NA	Solid	8015B NM	58356
LCS 880-58356/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	58356
LCSD 880-58356/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	58356
890-4943-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	58356
890-4943-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	58356

Analysis Batch: 58924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Total/NA	Solid	8015 NM	
890-4940-2	SS02A	Total/NA	Solid	8015 NM	
890-4940-3	SS03A	Total/NA	Solid	8015 NM	
890-4940-4	SS04A	Total/NA	Solid	8015 NM	
890-4940-5	SS05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 57711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Soluble	Solid	DI Leach	
890-4940-2	SS02A	Soluble	Solid	DI Leach	
890-4940-3	SS03A	Soluble	Solid	DI Leach	
890-4940-4	SS04A	Soluble	Solid	DI Leach	
890-4940-5	SS05A	Soluble	Solid	DI Leach	
MB 880-57711/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-57711/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-57711/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-30745-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-30745-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 57903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4940-1	SS01A	Soluble	Solid	300.0	57711
890-4940-2	SS02A	Soluble	Solid	300.0	57711
890-4940-3	SS03A	Soluble	Solid	300.0	57711
890-4940-4	SS04A	Soluble	Solid	300.0	57711
890-4940-5	SS05A	Soluble	Solid	300.0	57711
MB 880-57711/1-A	Method Blank	Soluble	Solid	300.0	57711
LCS 880-57711/2-A	Lab Control Sample	Soluble	Solid	300.0	57711
LCSD 880-57711/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	57711
880-30745-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	57711
880-30745-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	57711

Lab Chronicle

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS01A
Date Collected: 07/12/23 09:35
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/15/23 23:44	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57847	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58924	07/31/23 16:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	58356	07/24/23 12:58	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58682	07/28/23 17:32	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	57711	07/14/23 15:08	KS	EET MID
Soluble	Analysis	300.0		1			57903	07/17/23 17:06	CH	EET MID

Client Sample ID: SS02A
Date Collected: 07/12/23 12:20
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/16/23 00:04	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57847	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58924	07/31/23 16:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	58356	07/24/23 12:58	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58682	07/28/23 17:54	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	57711	07/14/23 15:08	KS	EET MID
Soluble	Analysis	300.0		1			57903	07/17/23 17:12	CH	EET MID

Client Sample ID: SS03A
Date Collected: 07/12/23 13:10
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/16/23 00:25	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57847	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58924	07/31/23 16:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	58356	07/24/23 12:58	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58682	07/28/23 18:16	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	57711	07/14/23 15:08	KS	EET MID
Soluble	Analysis	300.0		1			57903	07/17/23 17:18	CH	EET MID

Client Sample ID: SS04A
Date Collected: 07/12/23 14:30
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/16/23 00:45	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57847	07/17/23 13:55	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Client Sample ID: SS04A
Date Collected: 07/12/23 14:30
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-4
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			58924	07/31/23 16:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	58356	07/24/23 12:58	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58682	07/28/23 18:38	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	57711	07/14/23 15:08	KS	EET MID
Soluble	Analysis	300.0		1			57903	07/17/23 17:24	CH	EET MID

Client Sample ID: SS05A
Date Collected: 07/12/23 12:45
Date Received: 07/12/23 16:22

Lab Sample ID: 890-4940-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/16/23 01:05	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57847	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58924	07/31/23 16:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	58356	07/24/23 12:58	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58682	07/28/23 19:00	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	57711	07/14/23 15:08	KS	EET MID
Soluble	Analysis	300.0		1			57903	07/17/23 17:30	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

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	T104704400-23-26	06-30-24

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 TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU TWIN WELLS RANCH CTB

Job ID: 890-4940-1
SDG: 03C1558247

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4940-1	SS01A	Solid	07/12/23 09:35	07/12/23 16:22	5
890-4940-2	SS02A	Solid	07/12/23 12:20	07/12/23 16:22	5
890-4940-3	SS03A	Solid	07/12/23 13:10	07/12/23 16:22	5
890-4940-4	SS04A	Solid	07/12/23 14:30	07/12/23 16:22	5
890-4940-5	SS05A	Solid	07/12/23 12:45	07/12/23 16:22	5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ashley Giovengo	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	575-988-0055 Email:	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	PLU 15 Twin Wells Ranch CTB	Turn Around	
Project Number:	03C1558247	☒ Routine ☐ Rush	
Project Location:	32.208754, -103.770704	Due Date:	5 days
Sampler's Name:	Mariana O'Dell	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:	TNM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.6
Total Containers:		Corrected Temperature:	5.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Chlorides	TPH	BTEX
SS01A	S	7/12/23	9:35	5'	G	1		X	X	X
SS02A			12:20	5'						
SS03A			13:10	5'						
SS04A			14:30	5'						
SS05A			12:45	5'						

890-4940 Chain of Custody

Preservative Codes

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

Sample Comments

incident #:
nAPP2315148242

Cost center:
2027711001

Ashley Giovengo:
agiovengo@ensolum.com
Cole Burton:
cburton@ensolum.com

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 M. Green	Cole Burton	7.12.23 1622			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4940-1
SDG Number: 03C1558247

Login Number: 4940
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4940-1
SDG Number: 03C1558247

Login Number: 4940
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/14/23 11:05 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From:	Buchanan, Michael, EMNRD
To:	Collins, Melanie; spills@slo.state.nm.us; Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Cc:	Green, Garrett J; DelawareSpills /SM; Ben Belill
Subject:	RE: [EXTERNAL] XTO - Sampling Notification (Week of 7/10/23 - 7/14/23)
Date:	Wednesday, July 5, 2023 5:28:16 PM
Attachments:	image003.png

[**EXTERNAL EMAIL**]

Good afternoon,

Thank you for the notification. Please include a copy of this and all notifications in the C-141, remedial and/or closure reports to ensure the notifications are documented in the project file.

Regards,

Mike Buchanan ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
8801 Horizon Blvd. NE | Albuquerque, NM 87113
| michael.buchanan@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Wednesday, July 5, 2023 2:54 PM
To: spills@slo.state.nm.us; Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>; bbelill@ensolum.com
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 7/10/23 - 7/14/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO plans to complete final sampling activities at the sites listed below for the week of July 10, 2023.

Tuesday July 11th

- Hat Mesa 32-2 / nAPP2316046257 (SLO)

Wednesday July 12th

- PLU 15 Twin Wells Ranch CTB / nAPP2315148242

Thursday July 13th

- PLU 102 / nAPP2315334597
- PLU 15 Twin Wells Ranch CTB / nAPP2315148242

Friday July 14th

- Nash 12 / NAB1722948770

Thank you,

Melanie Collins

XTO ENERGY

Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

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 252226

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 252226
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	Area around pipe rack represented by sample ID's SS01/SS01A is approved for deferral. Site will need to be remediated and then reclaimed at time of a major facility deconstruction or at plugging and abandonment, whichever comes first.	1/12/2024