ENSOLUM

April 1, 2025

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

Re: Revised Closure Request Addendum
PLU CVX JV BS 008H Salt Water Disposal Line
Incident Number NAB1602154960
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Revised Closure Request Addendum* to present additional remediation activities completed at the PLU CVX JV BS 008H Salt Water Disposal Line (SWD;Site), in response to the denial of the original *Closure Request Addendum*, submitted to the New Mexico Oil Conservation Division (NMOCD) on May 19, 2023. In the denial, NMOCD requested additional soil samples be collected. Based on soil sampling activities described below, XTO is submitting this *Revised Closure Request Addendum* and requesting no further action for Incident Number NAB1602154960.

BACKGROUND

The Site was reported to be located in Unit N, Section 14, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.1240044°, -103.8539963°) on land associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM). After review of internal documents, the release was found to be located in Unit E and Unit L, Section 13, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.13050°, -103.84248°) and is associated with oil and gas exploration and production operations on Federal Land managed by the BLM.

On January 15, 2016, a release of 38 barrels (bbls) of crude oil and 38 bbls of produced water occurred from a SWD riser near the PLU CVX JV BS 008H well pad. The released fluids ran along the road and onto the pasture area near the intersection of Buck Jackson Road and Rock Dove Road. A vacuum truck was dispatched to the Site and recovered approximately 20 bbls of crude oil and 20 bbls of produced water. The former operator reported the release to the NMOCD on a Form C-141 Application (C-141) on January 20, 2016. The release was assigned Incident Number NAB1602154960.

The release was included in the Compliance Agreement for Remediation of Historical Releases (Compliance Agreement) between XTO and NMOCD effective November 13, 2018. The purpose of the Compliance Agreement was to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

The Closure Request detailed the Site characterization completed 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 in the original *Closure Request*, submitted March 28, 2019. Potential Site receptors are identified on Figure 1. Based on the results of the Site characterization, the following 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

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

During March and December 2018, and March 2023, Site assessment activities were conducted to assess for the presence or absence of impacts to soil resulting from the Janaury 15, 2016, crude oil and produced water release at the Site. XTO submitted a *Closure Request Addendum* on May 19, 2023, requesting no further action (NFA) following delineation of the release. All previously completed remedial activities can be found in the original *Closure Request Addendum* included in Appendix A. On October 10, 2023, NMOCD denied the *Closure Request Addendum* for Incident Number NAB1602154960 for the following reasons:

> *The Closure Report is Denied. This is an old legacy release that occurred in Janaury 2016. Sampling to a depth of 0.5 feet is not sufficient to verify chlorides. A 76-barrel release is a very large release and needs to be explored more thoroughly. Chlorides most likely moved down the soil column over the years. The OCD requests two boreholes be advanced in the release area in 1-foot increments down to a depth of 10 feet. The first borehole should be advanced near SS03 and the second should be advanced near soil sample location SS04.*

Though it was documented that 40 bbls of the released fluid were recovered and additional delineation was not required according to NMAC 19.15.29, XTO proceeded with the requested delineation.

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 20, 2023 and October 24, 2023, Ensolum personnel returned to the Site to further delineate the January 2016 release. Potholes SS03/PH01 and SS04/PH03 were advanced via backhoe in the vicinity of SS03 and SS04. The potholes were advanced to a depth of 10 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 10 feet bgs. Soil from the potholes was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for the potholes were logged on lithologic soil sampling logs, which are included in Appendix B. The delineation soil sample locations are depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix C.

The delineation 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 constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for all delineation soil samples collected from SS03/PH01 and SS04/PH03 indicated all COC concentrations were in compliance with the most stringent Table I Closure Criteria. The laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Soil sampling activities were conducted at the Site to assess the presence or absence of impacts to soil resulting from the January 2016 crude oil and produced water release. Based on laboratory analytical results compliant with the most stringent Table I Closure Criteria, no further remediation was required. Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to water has been determined to be greater than 100 feet bgs within 0.5 miles of the Site and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1602154960.

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

Sincerely,
Ensolum, LLC

Hadlie Green
Project Geologist

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

cc: Kaylan Dirkx, XTO
Colton Brown, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	*Closure Request Addendum*; May 19, 2023
Appendix B	Lithologic Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation

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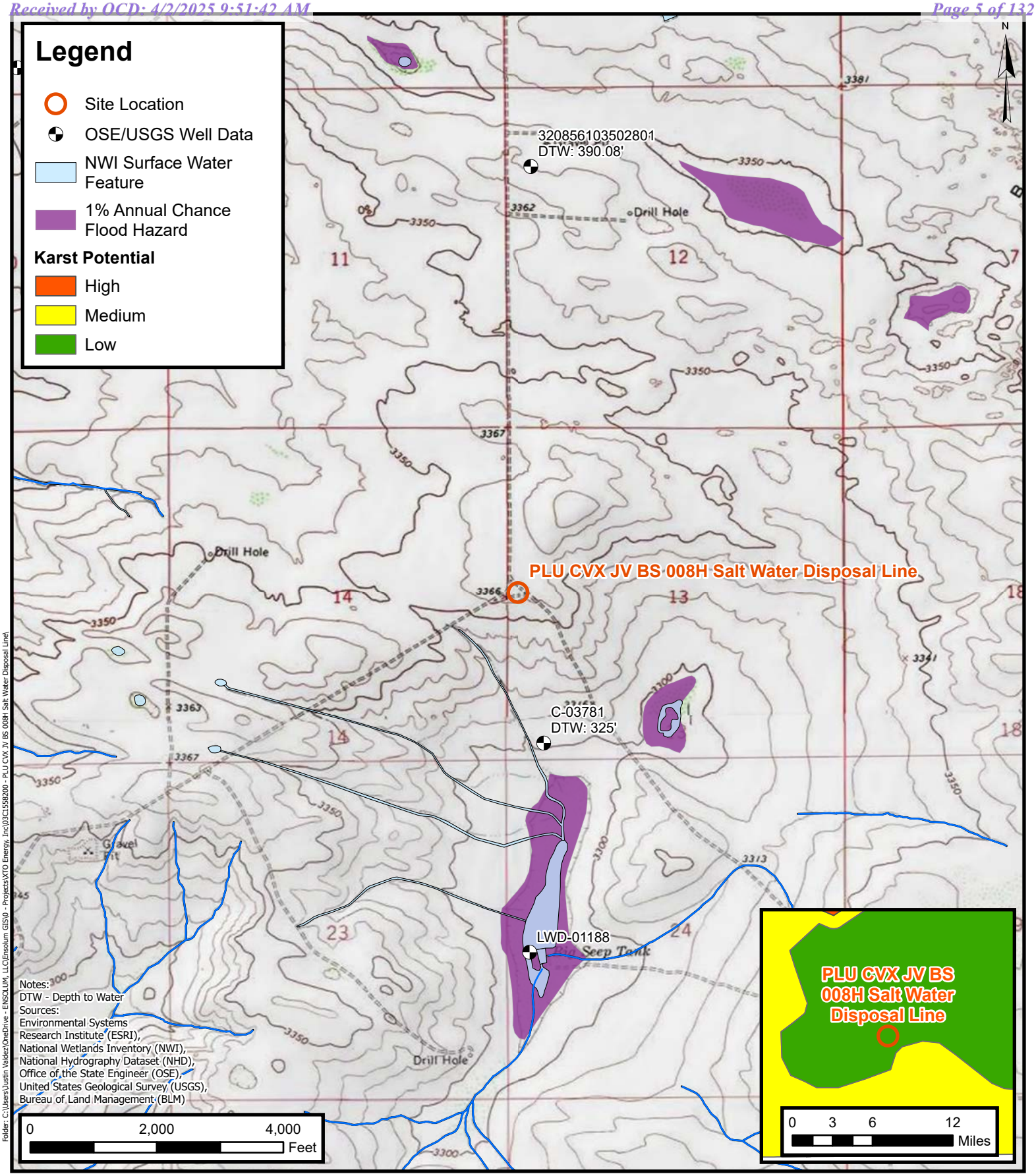
FIGURES



Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558200 - PLU CVX JV BS 008H Salt Water Disposal Line\

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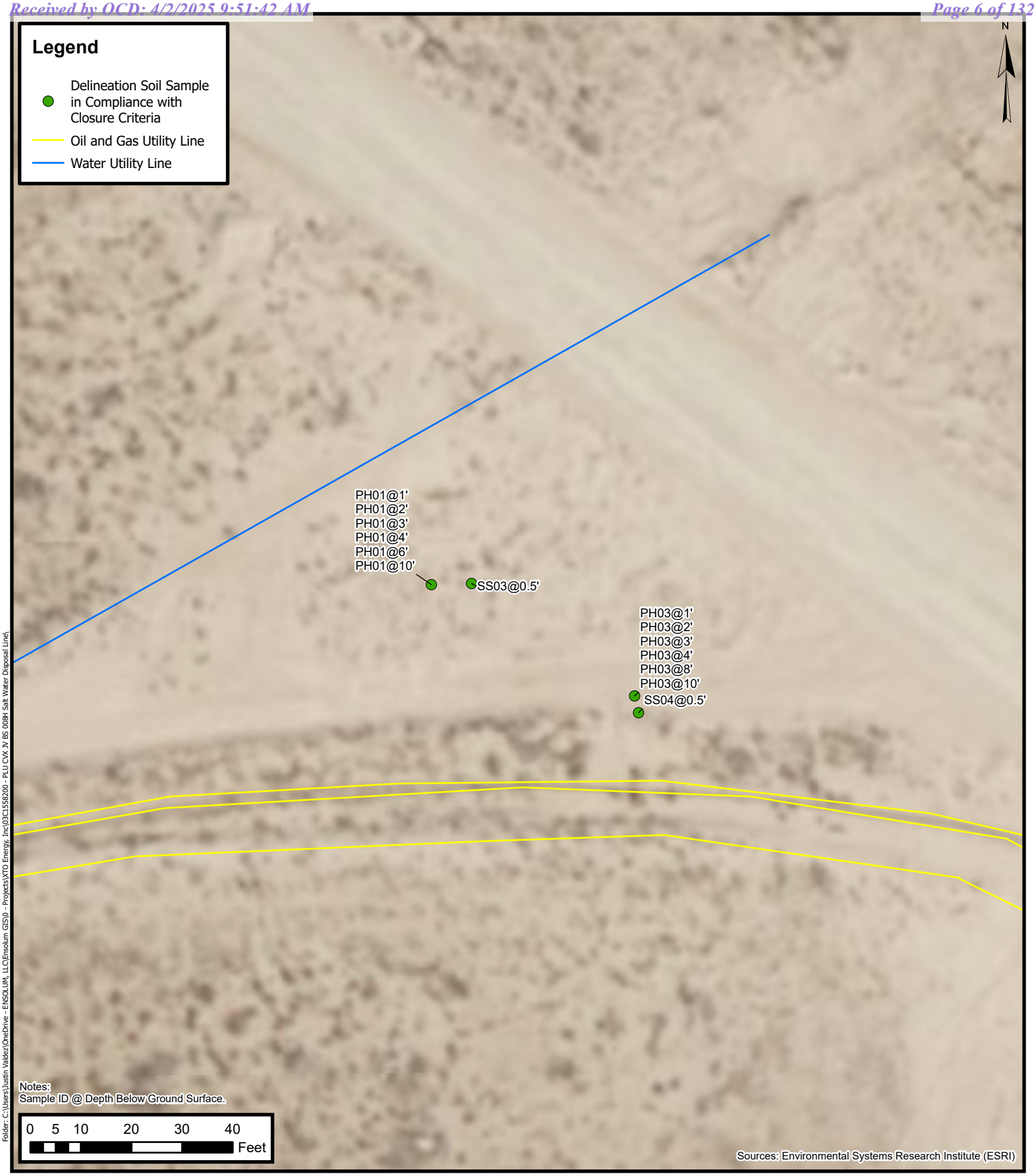
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc.
PLU CVX JV BS 008H Salt Water Disposal Line
Incident Number: NAB1602154960
Unit E, Section 13, T 25S, R 30E
Eddy County, New Mexico

FIGURE 1



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Delineation Soil Sample Locations

XTO Energy, Inc.
PLU CVX JV BS 008H Salt Water Disposal Line
Incident Number: NAB1602154960
Unit E and Unit L, Section 13, T 25S, R 30E
Eddy County, New Mexico

FIGURE 2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU CVX JV BS 008H Salt Water Disposal Line
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										
SS03*	03/20/2018	0.5	<0.024	<0.096	<9.50	<9.50	<48.0	<9.50	<48.0	<30.0
PH01*	10/24/2023	1	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	59.6
PH01A*	10/24/2023	2	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	87.7
PH01B*	10/24/2023	3	<0.00198	<0.00397	<50.3	<50.3	<50.3	<50.3	<50.3	165
PH01C	10/24/2023	4	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	244
PH01D	10/24/2023	6	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	405
PH01E	10/24/2023	10	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	355
SS04*	03/20/2023	0.5	<0.00200	<0.00401	<49.8	85.2	<49.8	85.2	85.2	325
PH03*	10/24/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	129
PH03A*	10/24/2023	2	<0.00202	<0.00404	<49.6	<49.6	<49.6	<49.6	<49.6	108
PH03B*	10/24/2023	3	<0.00202	<0.00403	<50.5	<50.5	<50.5	<50.5	<50.5	148
PH03C	10/24/2023	4	<0.00200	<0.00401	<50.5	<50.5	<50.5	<50.5	<50.5	137
PH03D	10/24/2023	8	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	216
PH03E	10/24/2023	10	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	278

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

NMAC: New Mexico Administrative Code

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

* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet for TPH is 100 mg/kg and chloride 600 mg/kg.

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APPENDIX A

Closure Request Addendum; May 19, 2023

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May 18, 2023

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

Re: Closure Request Addendum
PLU CVX JV BS 008H Salt Water Disposal Line
Incident Number NAB1602154960
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following addendum to the original *Closure Request* submitted on March 28, 2019. This addendum provides an update to the soil sampling activities completed at the PLU CVX JV BS 008H Salt Water Disposal (SWD) Line (Site) in response to the denial of the original *Closure Request* by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD indicated that the most stringent Closure Criteria applied to the off-pad release area at the Site. Based on the additional soil sampling activities described below, XTO is submitting this *Closure Request Addendum* and requesting closure for Incident Number NAB1602154960.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit E and Unit L, Section 13, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.13050°, -103.84248°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On January 15, 2016, a release of 38 barrels (bbls) of crude oil and 38 bbls of produced water occurred at the SWD riser near the PLU CVX JV BS 008H well pad. The released fluids ran along the road and onto the pasture area near the intersection of Buck Jackson Road and Rock Dove Road. A vacuum truck was dispatched to the Site and recovered approximately 20 bbls of crude oil and 20 bbls of produced water. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on January 20, 2016. The release was assigned Remediation Permit (RP) Number 2RP-3507 and Incident Number NAB1602154960.

BACKGROUND

The original *Closure Request* detailed site characterization according to 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 site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1. Based on the results of the Site Characterization, the following Table I Closure Criteria (Closure Criteria) were applied:

- 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

A reclamation requirement of 600 mg/kg chloride was applied to the top 4 feet of the pasture and road areas that were impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

During March and December 2018, Site assessment activities were conducted to assess for the presence or absence of impacts to soil resulting from the January 15, 2016, crude oil and produced water release at the Site. Soil samples SS01 through SS10 and SS01A through SS10A were collected within the release extent at depths ranging from 0.5 feet to 4 feet below ground surface (bgs). Laboratory analytical results for the soil samples indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Additionally, the release was vertically delineated to below the most stringent Table I Closure Criteria. Laboratory analytical results from the soil sampling activities are summarized in Table I and the soil sample locations are depicted on Figure 2. Based on the laboratory analytical results, no further remediation was warranted and a *Closure Request* was submitted to the NMOCD on March 28, 2019. On February 21, 2023, NMOCD denied the *Closure Request* for Incident Number NAB1602154960 for the following reason:

- *All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg, TPH concentrations less than 100 mg/kg, total BTEX less than 50 mg/kg, and benzene less than 10 mg/kg. In the off-pad areas, soil contamination limits revert to Table 1 "Closure Criteria for Soils Impacted by a Release" included in 19.15.29 NMAC at 4 feet below the ground surface.*

A TPH concentration of 100 mg/kg was not applied to off-pad release areas at the time of the original sampling and reporting activities. The original *Closure Request* was submitted on March 28, 2019, prior to the September 6, 2019, publication of the *Procedures for Implementation of the Spill Rule* guidance document that clarified the TPH requirement (Section II.b.). Upon review of the 2018 soil sample analytical results, one soil sample (SS04@0.5') was identified with a TPH concentration greater than 100 mg/kg in the top four feet.

ADDITIONAL SOIL SAMPLING ACTIVITIES

On March 20, 2023, Ensolum personnel returned to the Site to complete soil sampling activities to assess for the presence or absence of residual TPH impacted soil identified at the original March 20, 2018, SS04@0.5' soil sample location. One soil sample (SS04) was collected from a depth of 0.5 feet bgs at the original SS04@0.5' soil sample location. The soil sample was placed directly into a pre-cleaned glass jar, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil sample was transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix A.

Laboratory analytical results for soil sample SS04 indicated that all COC concentrations were compliant with the Site Closure Criteria and the reclamation requirement. The soil sample analytical results are summarized on Table I and the laboratory analytical report is included as Appendix B.

CLOSURE REQUEST

Soil sampling activities were completed at the Site to assess for the presence or absence of impacts to soil resulting from the January 15, 2016, crude oil and produced water release. Based on laboratory analytical results compliant with the Site Closure Criteria and the reclamation requirement in the final delineation soil samples, no further remediation was required. Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs within 0.5 miles of the Site and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAB1602154960.

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

Sincerely,
Ensolum, LLC

Aimee Cole
Senior Managing Scientist

Ashley Ager, P.G.
Program Director

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

Appendices:

Figure 1	Site Receptor Map
Figure 2	Soil Sample Location Map
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation (2023)
Appendix C	NMOCD Notifications

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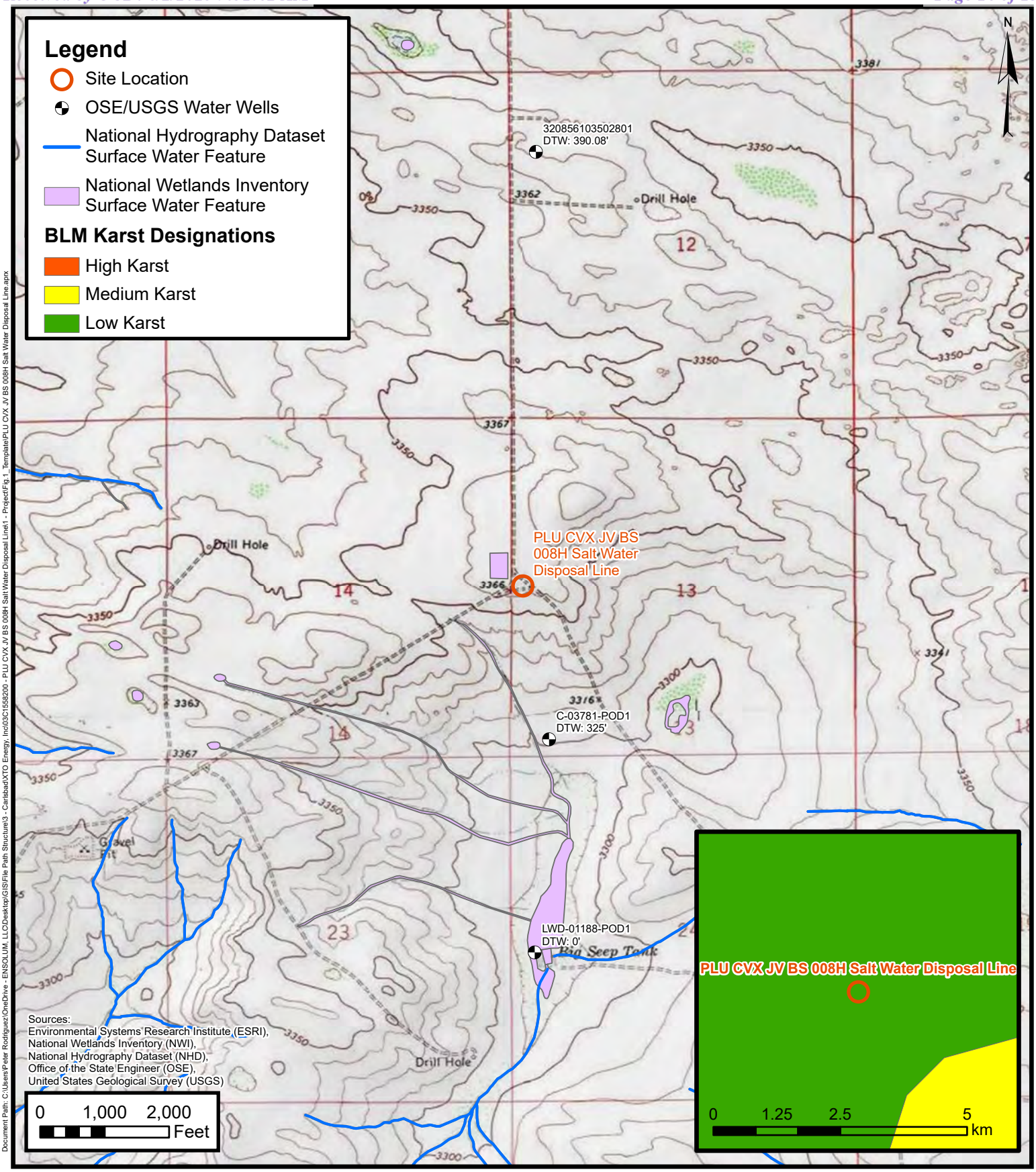
FIGURES



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Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc

PLU CVX JV BS 008H Salt Water Disposal Line

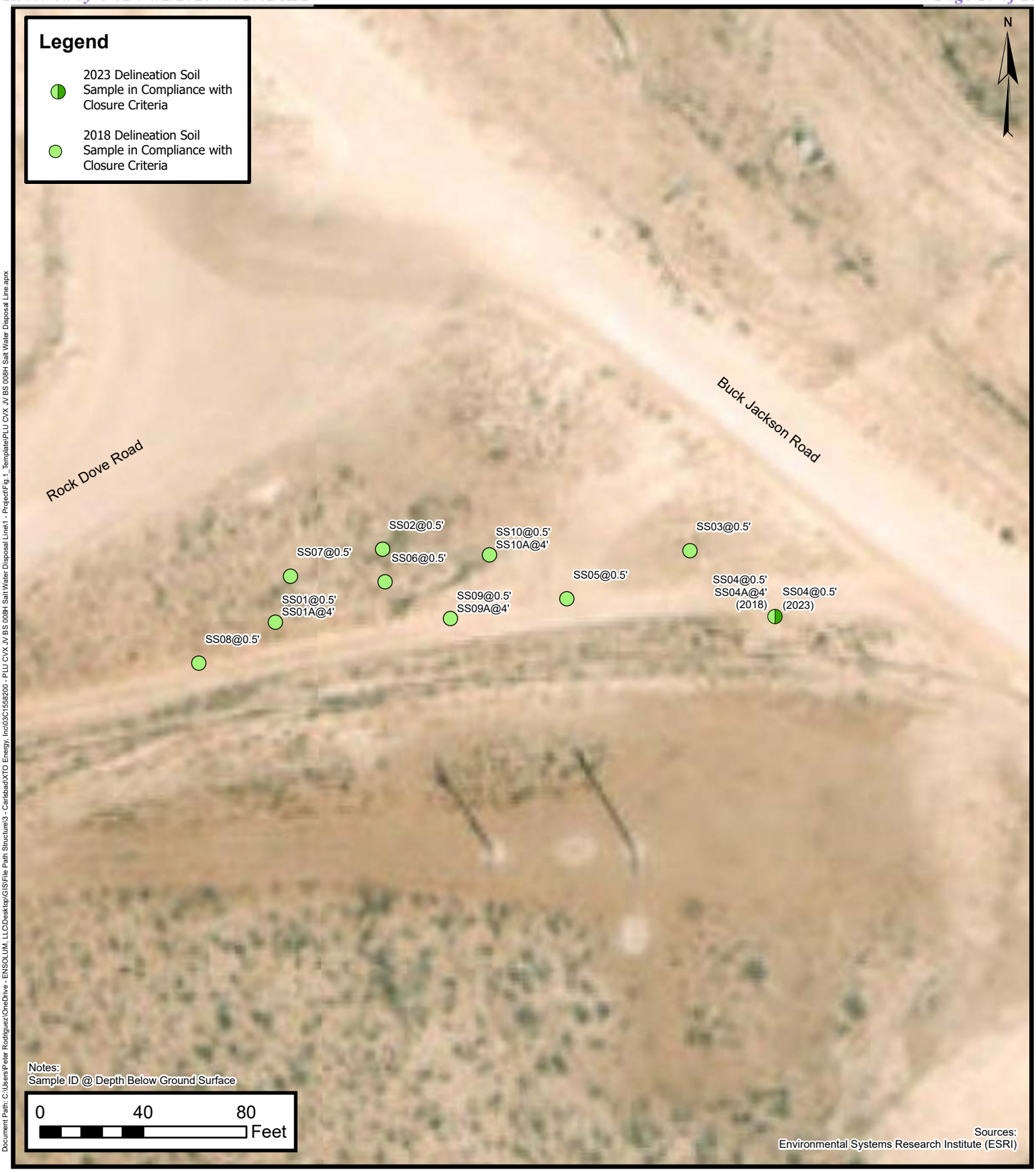
Incident Number: NAB1602154960

UNIT E & UNIT L SEC 13 T25S R30E

Eddy County, New Mexico

FIGURE

1



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Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Location Map

XTO Energy, Inc

PLU CVX JV BS 008H Salt Water Disposal Line

Incident Number: NAB1602154960

UNIT E & UNIT L SEC 13 T25S R30E

Eddy County, New Mexico

FIGURE

2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU CVX JV BS 008H Salt Water Disposal Line
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	3/20/2018	0.5	<0.024	<0.095	<9.80	<9.80	<49.0	<9.80	<49.0	<30.0
SS02	3/20/2018	0.5	<0.024	<0.095	<9.90	<9.90	<49.0	<9.90	<49.0	<30.0
SS03	3/20/2018	0.5	<0.024	<0.096	<9.50	<9.50	<48.0	<9.50	<48.0	<30.0
SS04	3/20/2018	0.5	<0.025	<0.099	630	630	840	630	**1,470**	31.0
SS05	3/20/2018	0.5	<0.024	<0.097	<9.40	<9.40	<47.0	<9.40	<47.0	<30.0
SS06	3/10/2018	0.5	<0.00332	<0.00332	<14.9	<14.9	<14.9	<14.9	<14.9	<5.00
SS07	3/10/2018	0.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
SS08	3/10/2018	0.5	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
SS09	3/10/2018	0.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
SS10	3/10/2018	0.5	<0.00346	<0.00346	<14.9	<14.9	<14.9	<14.9	<14.9	<5.00
SS01A	12/20/2018	4	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	6.77
SS04A	12/20/2018	4	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	65.8
SS09A	12/20/2018	4	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	54.3
SS10A	12/20/2018	4	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	54.6
SS04	03/20/2023	0.5	<0.00200	<0.00401	<49.8	85.2	<49.8	85.2	85.2	325

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

Photographic Log

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Photographic Log
XTO Energy, Inc.
PLU CVX JV BS 008H Salt Water Disposal Line
Incident Number NAB1602154960

Photograph: 1 Date: 3/20/2023
Description: View of historical release area.

Photograph: 2 Date: 3/20/2023
Description: View of historical release area.

Photograph: 3 Date: 3/20/2023
Description: View of historical release area.

Photograph: 4 Date: 3/20/2023
Description: View of historical release area.

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APPENDIX B

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

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JOB DESCRIPTION

PLU CVX JV BS 008H
SDG NUMBER 03C1558200

JOB NUMBER

890-4367-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

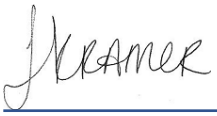
my EOL

Eurofins Carlsbad

Job Notes

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 CVX JV BS 008H

Laboratory Job ID: 890-4367-1
SDG: 03C1558200

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4367-1
Project/Site: PLU CVX JV BS 008H SDG: 03C1558200

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Job ID: 890-4367-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4367-1

Receipt
The sample was received on 3/20/2023 2:34 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 2.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4367-1).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-49803 and analytical batch 880-49999 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Client Sample ID: SS04

Date Collected: 03/20/23 12:50
Date Received: 03/20/23 14:34
Sample Depth: 0.5'

Lab Sample ID: 890-4367-1

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		03/29/23 09:50	04/01/23 10:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/29/23 09:50	04/01/23 10:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*03/29/23 09:50*	*04/01/23 10:37*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/29/23 09:50*	*04/01/23 10:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			04/03/23 15:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**85.2**		49.8		mg/Kg			03/27/23 17:15	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		03/24/23 16:55	03/27/23 16:50	1
Diesel Range Organics (Over C10-C28)	**85.2**		49.8		mg/Kg		03/24/23 16:55	03/27/23 16:50	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/24/23 16:55	03/27/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*03/24/23 16:55*	*03/27/23 16:50*	*1*
o-Terphenyl	*89*		*70 - 130*	*03/24/23 16:55*	*03/27/23 16:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**325**		5.05		mg/Kg			03/29/23 14:29	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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)
890-4367-1	SS04	90	86
890-4388-A-21-F MS	Matrix Spike	122	108
890-4388-A-21-G MSD	Matrix Spike Duplicate	116	109
LCS 880-49803/1-A	Lab Control Sample	115	109
LCSD 880-49803/2-A	Lab Control Sample Dup	124	114
MB 880-49657/5-A	Method Blank	85	89
MB 880-49803/5-A	Method Blank	73	85

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)
890-4361-A-1-B MS	Matrix Spike	108	87
890-4361-A-1-C MSD	Matrix Spike Duplicate	108	87
890-4367-1	SS04	97	89
LCS 880-49457/2-A	Lab Control Sample	93	83
LCSD 880-49457/3-A	Lab Control Sample Dup	90	81
MB 880-49457/1-A	Method Blank	120	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49657/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49657

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*

Lab Sample ID: MB 880-49803/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49803

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/29/23 09:50	04/01/23 08:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*03/29/23 09:50*	*04/01/23 08:32*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*03/29/23 09:50*	*04/01/23 08:32*	*1*

Lab Sample ID: LCS 880-49803/1-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09795		mg/Kg		98	70 - 130		
Toluene			0.100	0.08989		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.09384		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1036		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-49803/2-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1008		mg/Kg		101	70 - 130	3	35

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: LCSD 880-49803/2-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09274		mg/Kg		93	70 - 130	3	35
Ethylbenzene			0.100	0.1014		mg/Kg		101	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2134		mg/Kg		107	70 - 130	7	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 890-4388-A-21-F MS
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0998	0.09156		mg/Kg		92	70 - 130
Toluene	<0.00198	U F1	0.0998	0.08803		mg/Kg		88	70 - 130
Ethylbenzene	<0.00198	U	0.0998	0.09372		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1948		mg/Kg		98	70 - 130
o-Xylene	<0.00198	U	0.0998	0.09966		mg/Kg		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-4388-A-21-G MSD
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.07017		mg/Kg		70	70 - 130	26	35
Toluene	<0.00198	U F1	0.100	0.06706	F1	mg/Kg		67	70 - 130	27	35
Ethylbenzene	<0.00198	U	0.100	0.07394		mg/Kg		74	70 - 130	24	35
m-Xylene & p-Xylene	<0.00396	U	0.201	0.1510		mg/Kg		75	70 - 130	25	35
o-Xylene	<0.00198	U	0.100	0.07875		mg/Kg		78	70 - 130	23	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-49457/1-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49457

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		03/24/23 16:55	03/27/23 08:47	1

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: MB 880-49457/1-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49457

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/24/23 16:55	03/27/23 08:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/24/23 16:55	03/27/23 08:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*03/24/23 16:55*	*03/27/23 08:47*	*1*
o-Terphenyl	*118*		*70 - 130*	*03/24/23 16:55*	*03/27/23 08:47*	*1*

Lab Sample ID: LCS 880-49457/2-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1022		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	876.8		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-49457/3-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	861.9		mg/Kg		86	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	864.3		mg/Kg		86	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-4361-A-1-B MS
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1038		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	721.8		mg/Kg		70	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: 890-4361-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49559 — **Prep Batch: 49457**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49798/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/29/23 13:20	1

Lab Sample ID: LCS 880-49798/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.8		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-49798/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	237.6		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-4355-A-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	53.9		252	310.7		mg/Kg		102	90 - 110		

Lab Sample ID: 890-4355-A-2-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	53.9		252	313.7		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

GC VOA

Prep Batch: 49657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49657/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 49803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	5035	
MB 880-49803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4388-A-21-F MS	Matrix Spike	Total/NA	Solid	5035	
890-4388-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8021B	49803
MB 880-49657/5-A	Method Blank	Total/NA	Solid	8021B	49657
MB 880-49803/5-A	Method Blank	Total/NA	Solid	8021B	49803
LCS 880-49803/1-A	Lab Control Sample	Total/NA	Solid	8021B	49803
LCSD 880-49803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49803
890-4388-A-21-F MS	Matrix Spike	Total/NA	Solid	8021B	49803
890-4388-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49803

Analysis Batch: 50243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 49457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015B NM	49457
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49457
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49457

Analysis Batch: 49674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

HPLC/IC

Leach Batch: 49798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Soluble	Solid	DI Leach	
MB 880-49798/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49798/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49798/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4355-A-2-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4355-A-2-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Soluble	Solid	300.0	49798
MB 880-49798/1-A	Method Blank	Soluble	Solid	300.0	49798
LCS 880-49798/2-A	Lab Control Sample	Soluble	Solid	300.0	49798
LCSD 880-49798/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49798
890-4355-A-2-F MS	Matrix Spike	Soluble	Solid	300.0	49798
890-4355-A-2-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49798

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Client Sample ID: SS04

Date Collected: 03/20/23 12:50
Date Received: 03/20/23 14:34

Lab Sample ID: 890-4367-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49803	03/29/23 09:50	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49999	04/01/23 10:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50243	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49674	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 16:50	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	49798	03/29/23 09:38	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49899	03/29/23 14:29	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4367-1	SS04	Solid	03/20/23 12:50	03/20/23 14:34	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:	Email:	Garrett.Green@ExxonMobile.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 CVX JV BS 008H	Turn Around	
Project Number:	03C1558200	☒ Routine ☐ Rush	
Project Location:	32.1240044, -103.859	Due Date:	5 days
Sampler's Name:	Mahaha 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:	TAMU007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.6
Total Containers:		Corrected Temperature:	2.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
SS04	S	03/20/23	12:50	0.5'	G	1		X	X	X

890-4367 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 #:
NAB1602154960

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 M. O'Dell	Amanda Stutz	3/20/23 1434	2		
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4367-1
SDG Number: 03C1558200

Login Number: 4367
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4367-1
SDG Number: 03C1558200

Login Number: 4367
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/22/23 11:06 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 C

NMOCD Notifications

Tacoma Morrissey

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Monday, March 6, 2023 10:32 AM
To: Ashley Ager; Tacoma Morrissey; Green, Garrett J; Pennington, Shelby G
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 188485

[**EXTERNAL EMAIL**]

Denial of 2016 release at PLU CVX JV BS 008H

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

From: Yancey, Tiffany M <tiffany.yancey@exxonmobil.com>
Sent: Tuesday, February 21, 2023 9:42 AM
To: Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 188485

Thank you,

Tiffany Yancey
Lead Production Accounting Analyst

UNCONPERMIAN
ExxonMobil Unconventionals
6401 N. Holiday Hill Rd. | Midland, TX 79707
Office ~ 432-571-8254 | Cell ~ 432-215-8939
Tiffany.Yancey@exxonmobil.com

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]
Sent: Tuesday, February 21, 2023 9:10 AM
To: Yancey, Tiffany M <tiffany.yancey@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 188485

To whom it may concern (c/o Tiffany Yancey for XTO PERMIAN OPERATING LLC.),

The OCD has rejected the submitted *Internal Manual Incident File Supporting Documentation (ENV)* (IM-BNF), for incident ID (n#) nAB1602154960,
for the following reasons:

- **All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg, TPH concentrations less than 100 mg/kg, total BTEX less than 50 mg/kg, and benzene less than 10 mg/kg. In the off pad areas, soil contamination limits revert to Table 1 "Closure Criteria for Soils Impacted by a Release" included in 19.15.29 NMAC at 4 feet below the ground surface.**
- **2RP-3507 closed. Refer to incident #nAB1602154960 for all future communication.**
- **Submit a complete report through the OCD Permitting website by 5/21/2023.**

The rejected IM-BNF can be found in the OCD Online: Permitting - Action Status, under the Application ID: 188485.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional IM-BNF.

Thank you,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333
Brittany.Hall@emnrd.nm.gov

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

From: Green, Garrett J
To: Tacoma Morrissey; Ben Belill
Cc: DelawareSpills /SM
Subject: FW: XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)
Date: Thursday, March 16, 2023 10:53:00 AM

[**EXTERNAL EMAIL**]

From: Green, Garrett J
Sent: Thursday, March 16, 2023 9:52 AM
To: 'Enviro, OCD, EMNRD' <OCD.Enviro@emnrd.nm.gov>; 'Bratcher, Michael, EMNRD' <mike.bratcher@emnrd.nm.gov>; 'Harimon, Jocelyn, EMNRD' <Jocelyn.Harimon@emnrd.nm.gov>; 'Hamlet, Robert, EMNRD' <Robert.Hamlet@emnrd.nm.gov>
Subject: XTO - Sampling Notification (Week of 3/20/23 - 3/24/23)

All,

XTO plans to complete final sampling activities at the additional site the week of Mar 20, 2023.

-
- PLU 27 BD 163 / nAPP2226337852
- PLU CVX JV BS 008H / NAB1602154960
- PLU 420H / nAB1834656162
- Perla Verde 31 State battery/ nAPP2303444414
- BEU Hackberry / nAB1726335399
- Remuda 500 CTB / nAPP2303854000 & nAPP2306544797
- Indian Deep Com 7/ NAPP2301152626
- Nash Unit 36 / nAPP2224236187

Thank you,

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

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

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

Sample Name: SS03/PH01	Date: 10/24/23	
Site Name: PLU CVX JV BS 008H		
Incident Number: nAB1602154960		
Job Number: 03C1558200		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Backhoe
Coordinates: 32.130462, -103.842201	Hole Diameter: 3'	Total Depth: 10' bgs

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 calculations made 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	<168	0.0	N	SS03	0.5		SP	SAND, very fine, tan, with silt and CCHE No stain or odor.
D	<168	0.0	N	PH01	1	1	CCHE	CALICHIE, white, some sand, no stain no odor.
D	<168	0.0	N	PH01A	2	2		
D	168	0.0	N	PH01B	3	3		
D	233	0.0	N	PH01C	4	4		
D	364	0.0	N		5	5		CALICHE white, with sand, no stain no odor.
D	487	0.0	N	PH01D	6	6		
D	397	0.0	N		7	7		
D	397	0.0	N		8	8		
D	365	0.0	N		9	9		
D	319	0.0	N	PH01E	10	10		

Total Depth: 10 feet bgs.

ENSOLUM

	Sample Name: SS04/PH03	Date: 10/24/23
	Site Name: PLU CVX JV BS 008H	
	Incident Number: nAB1602154960	
	Job Number: 03C1558200	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Backhoe
Coordinates: 32.130512, -103.842188	Hole Diameter: 3'	Total Depth: 10' bgs

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 calculations made 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	<168	0.0	N	SS04	0.5		SP	SAND, very fine, tan, with silt and CCHE No stain or odor.
D	212	0.0	N	PH033	1	1	CCHE	CALICHIE, white, some sand, no stain no odor.
D	<168	0.0	N	PH03A	2	2		
D	<168	0.0	N	PH03B	3	3		CALICHE white, with sand, no stain no odor.
D	<168	0.0	N	PH03C	4	4		
D	<168	0.0	N		5	5		
D	<168	0.0	N		6	6		
D	<168	0.0	N		7	7		
D	201	0.0	N	PH03DD	8	8		
D	168	0.0	N		9	9		
D	168	0.0	N	PH03EE	10	10		CALICHIE, white, some sand, no stain no odor.

Total Depth: 10 feet bgs.

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
PLU CVX JV BS 008H Salt Water Disposal Line
NAB1602154960

Photograph 1 Date: October 24, 2023

Description: Delineation activities for PH03

Photograph 2 Date: October 24, 2023

Description: Delineation activities for SS04/PH01

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/30/2023 12:10:14 PM

JOB DESCRIPTION

PLU CVX JVBS 008H
SDG NUMBER 03C1558200

JOB NUMBER

890-5522-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

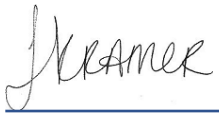
Eurofins Carlsbad

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



Generated
10/30/2023 12:10:14 PM

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

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Laboratory Job ID: 890-5522-1
SDG: 03C1558200

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery 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 CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Job ID: 890-5522-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5522-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/24/2023 3:08 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 1.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-5522-1), PH01A (890-5522-2), PH01B (890-5522-3), PH01C (890-5522-4), PHO1D (890-5522-5) and PHO1E (890-5522-6).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-65561 and analytical batch 880-65680 was outside the upper control limits.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-65698 and analytical batch 880-65680 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 samples were outside control limits: PH01 (890-5522-1), PH01A (890-5522-2), PH01B (890-5522-3), PH01C (890-5522-4) and PHO1D (890-5522-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-65666 and analytical batch 880-65591 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH01A (890-5522-2), PH01C (890-5522-4), PHO1D (890-5522-5), (880-34911-A-1-G), (880-34911-A-1-H MS) and (880-34911-A-1-I MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-65666 and analytical batch 880-65591 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-65666 and analytical batch 880-65591 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: The continuing calibration verification (CCV) associated with batch 880-65591 recovered below the lower control

Case Narrative

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Job ID: 890-5522-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-65591/32).

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 CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01

Date Collected: 10/24/23 09:30
Date Received: 10/24/23 15:08
Sample Depth: 1

Lab Sample ID: 890-5522-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 01:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 01:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 01:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/27/23 11:54	10/28/23 01:59	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		10/27/23 11:54	10/28/23 01:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/27/23 11:54	10/28/23 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*10/27/23 11:54*	*10/28/23 01:59*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 01:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/28/23 01:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/27/23 00:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/26/23 16:51	10/27/23 00:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		10/26/23 16:51	10/27/23 00:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/26/23 16:51	10/27/23 00:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*10/26/23 16:51*	*10/27/23 00:31*	*1*
o-Terphenyl	*72*		*70 - 130*	*10/26/23 16:51*	*10/27/23 00:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**129**		5.02		mg/Kg			10/27/23 12:23	1

Client Sample ID: PH01A

Date Collected: 10/24/23 09:35
Date Received: 10/24/23 15:08
Sample Depth: 2

Lab Sample ID: 890-5522-2
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		10/27/23 11:54	10/28/23 02:20	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/27/23 11:54	10/28/23 02:20	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/27/23 11:54	10/28/23 02:20	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		10/27/23 11:54	10/28/23 02:20	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		10/27/23 11:54	10/28/23 02:20	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		10/27/23 11:54	10/28/23 02:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*10/27/23 11:54*	*10/28/23 02:20*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01A

Lab Sample ID: 890-5522-2
Matrix: Solid
Date Collected: 10/24/23 09:35
Date Received: 10/24/23 15:08
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*	*10/27/23 11:54*	*10/28/23 02:20*	*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			10/28/23 02:20	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			10/27/23 00:56	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		10/26/23 16:51	10/27/23 00:56	1
Diesel Range Organics (Over C10-C28)	<49.6	U *1	49.6	mg/Kg		10/26/23 16:51	10/27/23 00:56	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		10/26/23 16:51	10/27/23 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*64*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 00:56*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 00:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**108**		4.95	mg/Kg			10/27/23 12:39	1

Client Sample ID: PH01B

Lab Sample ID: 890-5522-3
Matrix: Solid
Date Collected: 10/24/23 09:40
Date Received: 10/24/23 15:08
Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/27/23 11:54	10/28/23 02:40	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/27/23 11:54	10/28/23 02:40	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/27/23 11:54	10/28/23 02:40	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		10/27/23 11:54	10/28/23 02:40	1
o-Xylene	<0.00202	U *+	0.00202	mg/Kg		10/27/23 11:54	10/28/23 02:40	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		10/27/23 11:54	10/28/23 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/27/23 11:54*	*10/28/23 02:40*	*1*
1,4-Difluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 02:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			10/28/23 02:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			10/27/23 01:19	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01B

Date Collected: 10/24/23 09:40
Date Received: 10/24/23 15:08
Sample Depth: 3

Lab Sample ID: 890-5522-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:19	1
Diesel Range Organics (Over C10-C28)	<50.5	U *1	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:19	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*10/26/23 16:51*	*10/27/23 01:19*	*1*
o-Terphenyl	*82*		*70 - 130*	*10/26/23 16:51*	*10/27/23 01:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**148**		4.95		mg/Kg			10/27/23 12:44	1

Client Sample ID: PH01C

Date Collected: 10/24/23 09:45
Date Received: 10/24/23 15:08
Sample Depth: 4

Lab Sample ID: 890-5522-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 03:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 03:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 03:01	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/27/23 11:54	10/28/23 03:01	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		10/27/23 11:54	10/28/23 03:01	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/27/23 11:54	10/28/23 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*10/27/23 11:54*	*10/28/23 03:01*	*1*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*	*10/27/23 11:54*	*10/28/23 03:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			10/28/23 03:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			10/27/23 01:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:40	1
Diesel Range Organics (Over C10-C28)	<50.5	U *1	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:40	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/26/23 16:51	10/27/23 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*65*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 01:40*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 01:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01C

Lab Sample ID: 890-5522-4
Matrix: Solid
Date Collected: 10/24/23 09:45
Date Received: 10/24/23 15:08
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	137		4.96		mg/Kg			10/27/23 12:49	1

Client Sample ID: PHO1D

Lab Sample ID: 890-5522-5
Matrix: Solid
Date Collected: 10/24/23 10:05
Date Received: 10/24/23 15:08
Sample Depth: 8

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 04:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 04:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 04:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/27/23 11:54	10/28/23 04:23	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		10/27/23 11:54	10/28/23 04:23	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/27/23 11:54	10/28/23 04:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/27/23 11:54*	*10/28/23 04:23*	*1*
1,4-Difluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 04:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/28/23 04:23	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			10/27/23 02:05	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		10/26/23 16:51	10/27/23 02:05	1
Diesel Range Organics (Over C10-C28)	<49.6	U *1	49.6		mg/Kg		10/26/23 16:51	10/27/23 02:05	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		10/26/23 16:51	10/27/23 02:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*61*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 02:05*	*1*
o-Terphenyl	*65*	*S1-*	*70 - 130*	*10/26/23 16:51*	*10/27/23 02:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	216		5.05		mg/Kg			10/27/23 12:55	1

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PHO1E

Date Collected: 10/24/23 10:15
Date Received: 10/24/23 15:08
Sample Depth: 10

Lab Sample ID: 890-5522-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 04:43	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 04:43	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 04:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/27/23 11:54	10/28/23 04:43	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		10/27/23 11:54	10/28/23 04:43	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/27/23 11:54	10/28/23 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*10/27/23 11:54*	*10/28/23 04:43*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/27/23 11:54*	*10/28/23 04:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/28/23 04:43	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			10/27/23 02:28	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		10/26/23 16:51	10/27/23 02:28	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8		mg/Kg		10/26/23 16:51	10/27/23 02:28	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/26/23 16:51	10/27/23 02:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*10/26/23 16:51*	*10/27/23 02:28*	*1*
o-Terphenyl	*77*		*70 - 130*	*10/26/23 16:51*	*10/27/23 02:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**278**		5.00		mg/Kg			10/27/23 13:10	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) BFB1 (70-130)	DFBZ1 (70-130)
820-10620-A-7-C MS	Matrix Spike	118	113
820-10620-A-7-D MSD	Matrix Spike Duplicate	122	117
890-5522-1	PH01	85	69 S1-
890-5522-2	PH01A	81	70
890-5522-3	PH01B	88	68 S1-
890-5522-4	PH01C	86	70
890-5522-5	PHO1D	87	60 S1-
890-5522-6	PHO1E	128	97
LCS 880-65698/1-A	Lab Control Sample	129	96
LCSD 880-65698/2-A	Lab Control Sample Dup	121	123
MB 880-65561/5-A	Method Blank	70	102
MB 880-65698/5-A	Method Blank	71	93

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**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) 1CO1 (70-130)	OTPH1 (70-130)
880-34911-A-1-H MS	Matrix Spike	61 S1-	55 S1-
880-34911-A-1-I MSD	Matrix Spike Duplicate	60 S1-	54 S1-
890-5522-1	PH01	71	72
890-5522-2	PH01A	64 S1-	67 S1-
890-5522-3	PH01B	77	82
890-5522-4	PH01C	65 S1-	68 S1-
890-5522-5	PHO1D	61 S1-	65 S1-
890-5522-6	PHO1E	73	77
LCS 880-65666/2-A	Lab Control Sample	87	92
LCSD 880-65666/3-A	Lab Control Sample Dup	98	102
MB 880-65666/1-A	Method Blank	132 S1+	147 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-65561/5-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65561

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/25/23 11:32	10/27/23 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*10/25/23 11:32*	*10/27/23 11:15*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/25/23 11:32*	*10/27/23 11:15*	*1*

Lab Sample ID: MB 880-65698/5-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65698

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/27/23 11:54	10/27/23 23:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*10/27/23 11:54*	*10/27/23 23:35*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/27/23 11:54*	*10/27/23 23:35*	*1*

Lab Sample ID: LCS 880-65698/1-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65698

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09889		mg/Kg		99	70 - 130		
Toluene			0.100	0.1026		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1098		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.2352		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1348	*+	mg/Kg		135	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-65698/2-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65698

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1103		mg/Kg		110	70 - 130	11	35

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

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

Lab Sample ID: LCSD 880-65698/2-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65698

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1117		mg/Kg		112	70 - 130	8	35
Ethylbenzene			0.100	0.1192		mg/Kg		119	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2530		mg/Kg		126	70 - 130	7	35
o-Xylene			0.100	0.1308	*+	mg/Kg		131	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: 820-10620-A-7-C MS
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65698

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.07478		mg/Kg		75	70 - 130
Toluene	<0.00200	U	0.0996	0.07907		mg/Kg		79	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.08620		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1767		mg/Kg		89	70 - 130
o-Xylene	<0.00200	U *+	0.0996	0.09229		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 820-10620-A-7-D MSD
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65698

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.07841		mg/Kg		78	70 - 130	5	35
Toluene	<0.00200	U	0.100	0.07954		mg/Kg		79	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.100	0.08952		mg/Kg		89	70 - 130	4	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1812		mg/Kg		90	70 - 130	2	35
o-Xylene	<0.00200	U *+	0.100	0.09164		mg/Kg		91	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-65666/1-A
Matrix: Solid
Analysis Batch: 65591

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65666

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/26/23 07:30	10/26/23 07:47	1

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

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

Lab Sample ID: MB 880-65666/1-A
Matrix: Solid
Analysis Batch: 65591

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65666

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/23 07:30	10/26/23 07:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/23 07:30	10/26/23 07:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*10/26/23 07:30*	*10/26/23 07:47*	*1*
o-Terphenyl	*147*	*S1+*	*70 - 130*	*10/26/23 07:30*	*10/26/23 07:47*	*1*

Lab Sample ID: LCS 880-65666/2-A
Matrix: Solid
Analysis Batch: 65591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65666

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	844.0		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	788.5		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: LCSD 880-65666/3-A
Matrix: Solid
Analysis Batch: 65591

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65666

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	934.4		mg/Kg		93	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	970.9	*1	mg/Kg		97	70 - 130	21	20

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

Lab Sample ID: 880-34911-A-1-H MS
Matrix: Solid
Analysis Batch: 65591

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65666

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	991	593.7	F1	mg/Kg		58	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1 *1	991	616.4	F1	mg/Kg		62	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*61*	*S1-*	*70 - 130*
o-Terphenyl	*55*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

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

Lab Sample ID: 880-34911-A-1-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65591 — **Prep Batch: 65666**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	991	610.6	F1	mg/Kg		60	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1 *1	991	612.6	F1	mg/Kg		62	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*60*	*S1-*	*70 - 130*
o-Terphenyl	*54*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-65623/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65717

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/27/23 12:08	1

Lab Sample ID: LCS 880-65623/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65717

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.9		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-65623/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65717

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	244.6		mg/Kg		98	90 - 110	1	20

Lab Sample ID: 890-5522-1 MS — **Client Sample ID: PH01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65717

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	129		251	363.7		mg/Kg		94	90 - 110		

Lab Sample ID: 890-5522-1 MSD — **Client Sample ID: PH01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65717

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	129		251	365.3		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

GC VOA

Prep Batch: 65561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-65561/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 65680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	8021B	65698
890-5522-2	PH01A	Total/NA	Solid	8021B	65698
890-5522-3	PH01B	Total/NA	Solid	8021B	65698
890-5522-4	PH01C	Total/NA	Solid	8021B	65698
890-5522-5	PHO1D	Total/NA	Solid	8021B	65698
890-5522-6	PHO1E	Total/NA	Solid	8021B	65698
MB 880-65561/5-A	Method Blank	Total/NA	Solid	8021B	65561
MB 880-65698/5-A	Method Blank	Total/NA	Solid	8021B	65698
LCS 880-65698/1-A	Lab Control Sample	Total/NA	Solid	8021B	65698
LCSD 880-65698/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	65698
820-10620-A-7-C MS	Matrix Spike	Total/NA	Solid	8021B	65698
820-10620-A-7-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	65698

Prep Batch: 65698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	5035	
890-5522-2	PH01A	Total/NA	Solid	5035	
890-5522-3	PH01B	Total/NA	Solid	5035	
890-5522-4	PH01C	Total/NA	Solid	5035	
890-5522-5	PHO1D	Total/NA	Solid	5035	
890-5522-6	PHO1E	Total/NA	Solid	5035	
MB 880-65698/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-65698/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-65698/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-10620-A-7-C MS	Matrix Spike	Total/NA	Solid	5035	
820-10620-A-7-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 65808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	Total BTEX	
890-5522-2	PH01A	Total/NA	Solid	Total BTEX	
890-5522-3	PH01B	Total/NA	Solid	Total BTEX	
890-5522-4	PH01C	Total/NA	Solid	Total BTEX	
890-5522-5	PHO1D	Total/NA	Solid	Total BTEX	
890-5522-6	PHO1E	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 65591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	8015B NM	65666
890-5522-2	PH01A	Total/NA	Solid	8015B NM	65666
890-5522-3	PH01B	Total/NA	Solid	8015B NM	65666
890-5522-4	PH01C	Total/NA	Solid	8015B NM	65666
890-5522-5	PHO1D	Total/NA	Solid	8015B NM	65666
890-5522-6	PHO1E	Total/NA	Solid	8015B NM	65666
MB 880-65666/1-A	Method Blank	Total/NA	Solid	8015B NM	65666

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

GC Semi VOA (Continued)

Analysis Batch: 65591 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-65666/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	65666
LCSD 880-65666/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	65666
880-34911-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	65666
880-34911-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	65666

Prep Batch: 65666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	8015NM Prep	
890-5522-2	PH01A	Total/NA	Solid	8015NM Prep	
890-5522-3	PH01B	Total/NA	Solid	8015NM Prep	
890-5522-4	PH01C	Total/NA	Solid	8015NM Prep	
890-5522-5	PHO1D	Total/NA	Solid	8015NM Prep	
890-5522-6	PHO1E	Total/NA	Solid	8015NM Prep	
MB 880-65666/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-65666/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-65666/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-34911-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-34911-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 65697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Total/NA	Solid	8015 NM	
890-5522-2	PH01A	Total/NA	Solid	8015 NM	
890-5522-3	PH01B	Total/NA	Solid	8015 NM	
890-5522-4	PH01C	Total/NA	Solid	8015 NM	
890-5522-5	PHO1D	Total/NA	Solid	8015 NM	
890-5522-6	PHO1E	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 65623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Soluble	Solid	DI Leach	
890-5522-2	PH01A	Soluble	Solid	DI Leach	
890-5522-3	PH01B	Soluble	Solid	DI Leach	
890-5522-4	PH01C	Soluble	Solid	DI Leach	
890-5522-5	PHO1D	Soluble	Solid	DI Leach	
890-5522-6	PHO1E	Soluble	Solid	DI Leach	
MB 880-65623/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65623/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-65623/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5522-1 MS	PH01	Soluble	Solid	DI Leach	
890-5522-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 65717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-1	PH01	Soluble	Solid	300.0	65623
890-5522-2	PH01A	Soluble	Solid	300.0	65623
890-5522-3	PH01B	Soluble	Solid	300.0	65623
890-5522-4	PH01C	Soluble	Solid	300.0	65623
890-5522-5	PHO1D	Soluble	Solid	300.0	65623

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

HPLC/IC (Continued)

Analysis Batch: 65717 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5522-6	PHO1E	Soluble	Solid	300.0	65623
MB 880-65623/1-A	Method Blank	Soluble	Solid	300.0	65623
LCS 880-65623/2-A	Lab Control Sample	Soluble	Solid	300.0	65623
LCSD 880-65623/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65623
890-5522-1 MS	PH01	Soluble	Solid	300.0	65623
890-5522-1 MSD	PH01	Soluble	Solid	300.0	65623

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01

Date Collected: 10/24/23 09:30
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-1
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	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 01:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 01:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			65697	10/27/23 00:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 00:31	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 12:23	CH	EET MID

Client Sample ID: PH01A

Date Collected: 10/24/23 09:35
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-2
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			4.95 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 02:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 02:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			65697	10/27/23 00:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 00:56	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 12:39	CH	EET MID

Client Sample ID: PH01B

Date Collected: 10/24/23 09:40
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-3
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	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 02:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 02:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			65697	10/27/23 01:19	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 01:19	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 12:44	CH	EET MID

Client Sample ID: PH01C

Date Collected: 10/24/23 09:45
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-4
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			4.99 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 03:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 03:01	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Client Sample ID: PH01C

Date Collected: 10/24/23 09:45
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-4

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			65697	10/27/23 01:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 01:40	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 12:49	CH	EET MID

Client Sample ID: PHO1D

Date Collected: 10/24/23 10:05
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 04:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 04:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			65697	10/27/23 02:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 02:05	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 12:55	CH	EET MID

Client Sample ID: PHO1E

Date Collected: 10/24/23 10:15
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5522-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 04:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65808	10/28/23 04:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			65697	10/27/23 02:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	65666	10/26/23 16:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65591	10/27/23 02:28	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 13:10	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

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 CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

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 CVX JVBS 008H

Job ID: 890-5522-1
SDG: 03C1558200

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5522-1	PH01	Solid	10/24/23 09:30	10/24/23 15:08	1
890-5522-2	PH01A	Solid	10/24/23 09:35	10/24/23 15:08	2
890-5522-3	PH01B	Solid	10/24/23 09:40	10/24/23 15:08	3
890-5522-4	PH01C	Solid	10/24/23 09:45	10/24/23 15:08	4
890-5522-5	PHO1D	Solid	10/24/23 10:05	10/24/23 15:08	8
890-5522-6	PHO1E	Solid	10/24/23 10:15	10/24/23 15:08	10

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	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 CVX JV BS 008H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558200	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:	TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
PH01	S	10/24/23	930	1	G	1		✓	✓	✓
PH01A			935	2		1		✓	✓	✓
PH01B			940	3		1		✓	✓	✓
PH01C			945	4		1		✓	✓	✓
PH01D			1005	8		1		✓	✓	✓
PH01E	↓	↓	1015	10	↓	1		✓	✓	✓
									CW	

890-5522 Chain of Custody

Sample Comments

Incident ID: nAB1602154960
Cost Center: 1139701001
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			10/24	2 1508		
3				4		
5				6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5522-1
SDG Number: 03C1558200

Login Number: 5522
List Number: 1
Creator: Lopez, Abraham

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: 890-5522-1
SDG Number: 03C1558200

Login Number: 5522
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/26/23 04:35 PM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/3/2023 3:13:19 PM

JOB DESCRIPTION

PLU CVX JV BS 008H
SDG NUMBER 03C1558200

JOB NUMBER

890-4367-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

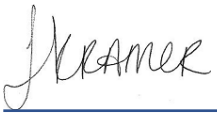
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

Authorization



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4/3/2023 3:13:19 PM

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

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Laboratory Job ID: 890-4367-1
SDG: 03C1558200

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4367-1
Project/Site: PLU CVX JV BS 008H SDG: 03C1558200

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Job ID: 890-4367-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4367-1

Receipt
The sample was received on 3/20/2023 2:34 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 2.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4367-1).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-49803 and analytical batch 880-49999 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Client Sample ID: SS04

Date Collected: 03/20/23 12:50
Date Received: 03/20/23 14:34
Sample Depth: 0.5'

Lab Sample ID: 890-4367-1

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		03/29/23 09:50	04/01/23 10:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 10:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/29/23 09:50	04/01/23 10:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*03/29/23 09:50*	*04/01/23 10:37*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/29/23 09:50*	*04/01/23 10:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			04/03/23 15:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**85.2**		49.8		mg/Kg			03/27/23 17:15	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		03/24/23 16:55	03/27/23 16:50	1
Diesel Range Organics (Over C10-C28)	**85.2**		49.8		mg/Kg		03/24/23 16:55	03/27/23 16:50	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/24/23 16:55	03/27/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*03/24/23 16:55*	*03/27/23 16:50*	*1*
o-Terphenyl	*89*		*70 - 130*	*03/24/23 16:55*	*03/27/23 16:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**325**		5.05		mg/Kg			03/29/23 14:29	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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)
890-4367-1	SS04	90	86
890-4388-A-21-F MS	Matrix Spike	122	108
890-4388-A-21-G MSD	Matrix Spike Duplicate	116	109
LCS 880-49803/1-A	Lab Control Sample	115	109
LCSD 880-49803/2-A	Lab Control Sample Dup	124	114
MB 880-49657/5-A	Method Blank	85	89
MB 880-49803/5-A	Method Blank	73	85

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)
890-4361-A-1-B MS	Matrix Spike	108	87
890-4361-A-1-C MSD	Matrix Spike Duplicate	108	87
890-4367-1	SS04	97	89
LCS 880-49457/2-A	Lab Control Sample	93	83
LCSD 880-49457/3-A	Lab Control Sample Dup	90	81
MB 880-49457/1-A	Method Blank	120	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49657/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49657

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*

Lab Sample ID: MB 880-49803/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49803

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/29/23 09:50	04/01/23 08:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/29/23 09:50	04/01/23 08:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*03/29/23 09:50*	*04/01/23 08:32*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*03/29/23 09:50*	*04/01/23 08:32*	*1*

Lab Sample ID: LCS 880-49803/1-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09795		mg/Kg		98	70 - 130		
Toluene			0.100	0.08989		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.09384		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1036		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-49803/2-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1008		mg/Kg		101	70 - 130	3	35

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: LCSD 880-49803/2-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09274		mg/Kg		93	70 - 130	3	35
Ethylbenzene			0.100	0.1014		mg/Kg		101	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2134		mg/Kg		107	70 - 130	7	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 890-4388-A-21-F MS
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0998	0.09156		mg/Kg		92	70 - 130
Toluene	<0.00198	U F1	0.0998	0.08803		mg/Kg		88	70 - 130
Ethylbenzene	<0.00198	U	0.0998	0.09372		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1948		mg/Kg		98	70 - 130
o-Xylene	<0.00198	U	0.0998	0.09966		mg/Kg		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-4388-A-21-G MSD
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.07017		mg/Kg		70	70 - 130	26	35
Toluene	<0.00198	U F1	0.100	0.06706	F1	mg/Kg		67	70 - 130	27	35
Ethylbenzene	<0.00198	U	0.100	0.07394		mg/Kg		74	70 - 130	24	35
m-Xylene & p-Xylene	<0.00396	U	0.201	0.1510		mg/Kg		75	70 - 130	25	35
o-Xylene	<0.00198	U	0.100	0.07875		mg/Kg		78	70 - 130	23	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-49457/1-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49457

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		03/24/23 16:55	03/27/23 08:47	1

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: MB 880-49457/1-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49457

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/24/23 16:55	03/27/23 08:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/24/23 16:55	03/27/23 08:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*03/24/23 16:55*	*03/27/23 08:47*	*1*
o-Terphenyl	*118*		*70 - 130*	*03/24/23 16:55*	*03/27/23 08:47*	*1*

Lab Sample ID: LCS 880-49457/2-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1022		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	876.8		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-49457/3-A
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	861.9		mg/Kg		86	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	864.3		mg/Kg		86	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-4361-A-1-B MS
Matrix: Solid
Analysis Batch: 49559

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1038		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	721.8		mg/Kg		70	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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

Lab Sample ID: 890-4361-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49559 — **Prep Batch: 49457**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49798/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/29/23 13:20	1

Lab Sample ID: LCS 880-49798/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.8		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-49798/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	237.6		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 890-4355-A-2-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	53.9		252	310.7		mg/Kg		102	90 - 110		

Lab Sample ID: 890-4355-A-2-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 49899

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	53.9		252	313.7		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

GC VOA

Prep Batch: 49657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49657/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 49803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	5035	
MB 880-49803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4388-A-21-F MS	Matrix Spike	Total/NA	Solid	5035	
890-4388-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8021B	49803
MB 880-49657/5-A	Method Blank	Total/NA	Solid	8021B	49657
MB 880-49803/5-A	Method Blank	Total/NA	Solid	8021B	49803
LCS 880-49803/1-A	Lab Control Sample	Total/NA	Solid	8021B	49803
LCSD 880-49803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49803
890-4388-A-21-F MS	Matrix Spike	Total/NA	Solid	8021B	49803
890-4388-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49803

Analysis Batch: 50243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 49457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015B NM	49457
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49457
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49457

Analysis Batch: 49674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

HPLC/IC

Leach Batch: 49798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Soluble	Solid	DI Leach	
MB 880-49798/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49798/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49798/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4355-A-2-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4355-A-2-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4367-1	SS04	Soluble	Solid	300.0	49798
MB 880-49798/1-A	Method Blank	Soluble	Solid	300.0	49798
LCS 880-49798/2-A	Lab Control Sample	Soluble	Solid	300.0	49798
LCSD 880-49798/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49798
890-4355-A-2-F MS	Matrix Spike	Soluble	Solid	300.0	49798
890-4355-A-2-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49798

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Client Sample ID: SS04

Date Collected: 03/20/23 12:50
Date Received: 03/20/23 14:34

Lab Sample ID: 890-4367-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49803	03/29/23 09:50	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49999	04/01/23 10:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50243	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49674	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 16:50	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	49798	03/29/23 09:38	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49899	03/29/23 14:29	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

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 CVX JV BS 008H

Job ID: 890-4367-1
SDG: 03C1558200

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4367-1	SS04	Solid	03/20/23 12:50	03/20/23 14:34	0.5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	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@ExxonMobile.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 CVX JV BS 008H	Turn Around	
Project Number:	03C1558200	☒ Routine ☐ Rush	
Project Location:	32.1240044, -103.859	Due Date:	5 days
Sampler's Name:	Mahala 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:	TAMU007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.6
Total Containers:		Corrected Temperature:	2.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
SS04	S	03/20/23	12:50	0.5'	G	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 #:
NAB1602154960

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 M. O'Dell	Amanda Stutz	3/20/23 1434	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4367-1
SDG Number: 03C1558200

Login Number: 4367
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4367-1
SDG Number: 03C1558200

Login Number: 4367
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/22/23 11:06 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/30/2023 12:11:12 PM

JOB DESCRIPTION

PLU CVX JV BS
SDG NUMBER 03C1558200

JOB NUMBER

890-5524-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

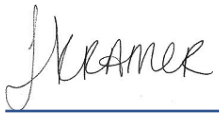
Eurofins Carlsbad

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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10/30/2023 12:11:12 PM

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

Client: Ensolum
Project/Site: PLU CVX JV BS

Laboratory Job ID: 890-5524-1
SDG: 03C1558200

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-5524-1
Project/Site: PLU CVX JV BS SDG: 03C1558200

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low 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 CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Job ID: 890-5524-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5524-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/24/2023 3:08 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 1.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH03 (890-5524-1), PH03A (890-5524-2), PH03B (890-5524-3), PH03C (890-5524-4), PH03D (890-5524-5) and PH03E (890-5524-6).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-65561 and analytical batch 880-65680 was outside the upper control limits.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-65698 and analytical batch 880-65680 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 samples were outside control limits: PH03A (890-5524-2), PH03C (890-5524-4) and PH03D (890-5524-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-65653 and analytical batch 880-65586 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-65586/31) and (CCV 880-65586/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH03 (890-5524-1), PH03A (890-5524-2), PH03B (890-5524-3), PH03C (890-5524-4), PH03D (890-5524-5), PH03E (890-5524-6), (890-5523-A-1-E), (890-5523-A-1-F MS) and (890-5523-A-1-G MSD). 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 CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03

Date Collected: 10/24/23 11:25
Date Received: 10/24/23 15:08
Sample Depth: 1

Lab Sample ID: 890-5524-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/27/23 11:54	10/28/23 05:04	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/27/23 11:54	10/28/23 05:04	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/27/23 11:54	10/28/23 05:04	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		10/27/23 11:54	10/28/23 05:04	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		10/27/23 11:54	10/28/23 05:04	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		10/27/23 11:54	10/28/23 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/27/23 11:54*	*10/28/23 05:04*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/27/23 11:54*	*10/28/23 05:04*	*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			10/28/23 05:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			10/26/23 17:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/26/23 13:31	10/26/23 17:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/26/23 13:31	10/26/23 17:34	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/26/23 13:31	10/26/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 17:34*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 17:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**59.6**		4.97		mg/Kg			10/27/23 14:28	1

Client Sample ID: PH03A

Date Collected: 10/24/23 11:30
Date Received: 10/24/23 15:08
Sample Depth: 2

Lab Sample ID: 890-5524-2
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		10/27/23 11:54	10/28/23 05:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 05:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/28/23 05:24	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/27/23 11:54	10/28/23 05:24	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		10/27/23 11:54	10/28/23 05:24	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/27/23 11:54	10/28/23 05:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/27/23 11:54*	*10/28/23 05:24*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03A

Lab Sample ID: 890-5524-2
Matrix: Solid
Date Collected: 10/24/23 11:30
Date Received: 10/24/23 15:08
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 05:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/28/23 05:24	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			10/26/23 17:56	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		10/26/23 13:31	10/26/23 17:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/26/23 13:31	10/26/23 17:56	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/26/23 13:31	10/26/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*167*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 17:56*	*1*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87.7**		5.04	mg/Kg			10/27/23 14:34	1

Client Sample ID: PH03B

Lab Sample ID: 890-5524-3
Matrix: Solid
Date Collected: 10/24/23 11:35
Date Received: 10/24/23 15:08
Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		10/27/23 11:54	10/28/23 05:44	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/27/23 11:54	10/28/23 05:44	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/27/23 11:54	10/28/23 05:44	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		10/27/23 11:54	10/28/23 05:44	1
o-Xylene	<0.00198	U *+	0.00198	mg/Kg		10/27/23 11:54	10/28/23 05:44	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		10/27/23 11:54	10/28/23 05:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/27/23 11:54*	*10/28/23 05:44*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*10/27/23 11:54*	*10/28/23 05:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			10/28/23 05:44	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			10/26/23 18:18	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03B

Date Collected: 10/24/23 11:35
Date Received: 10/24/23 15:08
Sample Depth: 3

Lab Sample ID: 890-5524-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 18:18	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 18:18	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*164*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 18:18*	*1*
o-Terphenyl	*147*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 18:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**165**		5.00		mg/Kg			10/27/23 14:39	1

Client Sample ID: PH03C

Date Collected: 10/24/23 11:40
Date Received: 10/24/23 15:08
Sample Depth: 4

Lab Sample ID: 890-5524-4
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		10/27/23 11:54	10/28/23 06:05	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/27/23 11:54	10/28/23 06:05	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/27/23 11:54	10/28/23 06:05	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/27/23 11:54	10/28/23 06:05	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		10/27/23 11:54	10/28/23 06:05	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/27/23 11:54	10/28/23 06:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/27/23 11:54*	*10/28/23 06:05*	*1*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 06:05*	*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			10/28/23 06:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			10/26/23 18:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		10/26/23 13:31	10/26/23 18:40	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		10/26/23 13:31	10/26/23 18:40	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/26/23 13:31	10/26/23 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*167*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 18:40*	*1*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 18:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03C
Date Collected: 10/24/23 11:40
Date Received: 10/24/23 15:08
Sample Depth: 4

Lab Sample ID: 890-5524-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	244		4.98		mg/Kg			10/27/23 14:44	1

Client Sample ID: PH03D
Date Collected: 10/24/23 11:50
Date Received: 10/24/23 15:08
Sample Depth: 6

Lab Sample ID: 890-5524-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 06:25	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 06:25	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/27/23 11:54	10/28/23 06:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/27/23 11:54	10/28/23 06:25	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		10/27/23 11:54	10/28/23 06:25	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/27/23 11:54	10/28/23 06:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/27/23 11:54*	*10/28/23 06:25*	*1*
1,4-Difluorobenzene (Surr)	*53*	*S1-*	*70 - 130*	*10/27/23 11:54*	*10/28/23 06:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/28/23 06:25	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			10/26/23 19:24	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		10/26/23 13:31	10/26/23 19:24	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		10/26/23 13:31	10/26/23 19:24	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/26/23 13:31	10/26/23 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 19:24*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 19:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	405		5.04		mg/Kg			10/26/23 14:44	1

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03E

Date Collected: 10/24/23 12:10
Date Received: 10/24/23 15:08
Sample Depth: 10

Lab Sample ID: 890-5524-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 06:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 06:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/27/23 11:54	10/28/23 06:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/27/23 11:54	10/28/23 06:46	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		10/27/23 11:54	10/28/23 06:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/27/23 11:54	10/28/23 06:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/27/23 11:54*	*10/28/23 06:46*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*10/27/23 11:54*	*10/28/23 06:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			10/28/23 06:46	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			10/26/23 19:46	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	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 19:46	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 19:46	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		10/26/23 13:31	10/26/23 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 19:46*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*10/26/23 13:31*	*10/26/23 19:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**355**		5.02		mg/Kg			10/26/23 14:50	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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)										
820-10620-A-7-C MS	Matrix Spike	118	113										
820-10620-A-7-D MSD	Matrix Spike Duplicate	122	117										
890-5524-1	PH03	93	84										
890-5524-2	PH03A	97	60 S1-										
890-5524-3	PH03B	93	76										
890-5524-4	PH03C	90	66 S1-										
890-5524-5	PH03D	88	53 S1-										
890-5524-6	PH03E	95	89										
LCS 880-65698/1-A	Lab Control Sample	129	96										
LCSD 880-65698/2-A	Lab Control Sample Dup	121	123										
MB 880-65561/5-A	Method Blank	70	102										
MB 880-65698/5-A	Method Blank	71	93										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
890-5523-A-1-F MS	Matrix Spike	138 S1+	112										
890-5523-A-1-G MSD	Matrix Spike Duplicate	142 S1+	113										
890-5524-1	PH03	152 S1+	134 S1+										
890-5524-2	PH03A	167 S1+	149 S1+										
890-5524-3	PH03B	164 S1+	147 S1+										
890-5524-4	PH03C	167 S1+	149 S1+										
890-5524-5	PH03D	148 S1+	133 S1+										
890-5524-6	PH03E	151 S1+	135 S1+										
LCS 880-65653/2-A	Lab Control Sample	98	107										
LCSD 880-65653/3-A	Lab Control Sample Dup	107	104										
MB 880-65653/1-A	Method Blank	201 S1+	184 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-65561/5-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65561

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/25/23 11:32	10/27/23 11:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/25/23 11:32	10/27/23 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*10/25/23 11:32*	*10/27/23 11:15*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/25/23 11:32*	*10/27/23 11:15*	*1*

Lab Sample ID: MB 880-65698/5-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65698

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/23 11:54	10/27/23 23:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/27/23 11:54	10/27/23 23:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*10/27/23 11:54*	*10/27/23 23:35*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/27/23 11:54*	*10/27/23 23:35*	*1*

Lab Sample ID: LCS 880-65698/1-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65698

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09889		mg/Kg		99	70 - 130		
Toluene			0.100	0.1026		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1098		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.2352		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1348	*+	mg/Kg		135	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-65698/2-A
Matrix: Solid
Analysis Batch: 65680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65698

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1103		mg/Kg		110	70 - 130	11	35

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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

Lab Sample ID: LCSD 880-65698/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65680 — **Prep Batch: 65698**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1117		mg/Kg		112	70 - 130	8	35
Ethylbenzene			0.100	0.1192		mg/Kg		119	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2530		mg/Kg		126	70 - 130	7	35
o-Xylene			0.100	0.1308	*+	mg/Kg		131	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: 820-10620-A-7-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65680 — **Prep Batch: 65698**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.07478		mg/Kg		75	70 - 130
Toluene	<0.00200	U	0.0996	0.07907		mg/Kg		79	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.08620		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1767		mg/Kg		89	70 - 130
o-Xylene	<0.00200	U *+	0.0996	0.09229		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 820-10620-A-7-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65680 — **Prep Batch: 65698**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.07841		mg/Kg		78	70 - 130	5	35
Toluene	<0.00200	U	0.100	0.07954		mg/Kg		79	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.100	0.08952		mg/Kg		89	70 - 130	4	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1812		mg/Kg		90	70 - 130	2	35
o-Xylene	<0.00200	U *+	0.100	0.09164		mg/Kg		91	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

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

Lab Sample ID: MB 880-65653/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65586 — **Prep Batch: 65653**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/26/23 07:31	10/26/23 08:31	1

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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

Lab Sample ID: MB 880-65653/1-A
Matrix: Solid
Analysis Batch: 65586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65653

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/23 07:31	10/26/23 08:31	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/23 07:31	10/26/23 08:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*201*	*S1+*	*70 - 130*	*10/26/23 07:31*	*10/26/23 08:31*	*1*
o-Terphenyl	*184*	*S1+*	*70 - 130*	*10/26/23 07:31*	*10/26/23 08:31*	*1*

Lab Sample ID: LCS 880-65653/2-A
Matrix: Solid
Analysis Batch: 65586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65653

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	845.1		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	860.3		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Lab Sample ID: LCSD 880-65653/3-A
Matrix: Solid
Analysis Batch: 65586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65653

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	836.1		mg/Kg		84	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	878.2		mg/Kg		88	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-5523-A-1-F MS
Matrix: Solid
Analysis Batch: 65586

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	1010	1273		mg/Kg		125	70 - 130		
Diesel Range Organics (Over C10-C28)	118		1010	1156		mg/Kg		103	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*138*	*S1+*	*70 - 130*
o-Terphenyl	*112*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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

Lab Sample ID: 890-5523-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 65586 — **Prep Batch: 65653**

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	<49.5	U	1010	1300		mg/Kg		127	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	118		1010	1185		mg/Kg		106	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*142*	*S1+*	*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-65614/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65660

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/26/23 11:31	1

Lab Sample ID: LCS 880-65614/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.5		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-65614/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65660

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	242.9		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-34889-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65660

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	224		249	458.3		mg/Kg		94	90 - 110		

Lab Sample ID: 880-34889-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 65660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	224		249	458.3		mg/Kg		94	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-65623/1-A
Matrix: Solid
Analysis Batch: 65717

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/27/23 12:08	1

Lab Sample ID: LCS 880-65623/2-A
Matrix: Solid
Analysis Batch: 65717

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	242.9		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-65623/3-A
Matrix: Solid
Analysis Batch: 65717

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	244.6		mg/Kg		98	90 - 110	1	20

Lab Sample ID: 890-5523-A-5-B MS
Matrix: Solid
Analysis Batch: 65717

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	75.5		249	315.1		mg/Kg		96	90 - 110		

Lab Sample ID: 890-5523-A-5-C MSD
Matrix: Solid
Analysis Batch: 65717

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	75.5		249	315.8		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

GC VOA

Prep Batch: 65561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-65561/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 65680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	8021B	65698
890-5524-2	PH03A	Total/NA	Solid	8021B	65698
890-5524-3	PH03B	Total/NA	Solid	8021B	65698
890-5524-4	PH03C	Total/NA	Solid	8021B	65698
890-5524-5	PH03D	Total/NA	Solid	8021B	65698
890-5524-6	PH03E	Total/NA	Solid	8021B	65698
MB 880-65561/5-A	Method Blank	Total/NA	Solid	8021B	65561
MB 880-65698/5-A	Method Blank	Total/NA	Solid	8021B	65698
LCS 880-65698/1-A	Lab Control Sample	Total/NA	Solid	8021B	65698
LCSD 880-65698/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	65698
820-10620-A-7-C MS	Matrix Spike	Total/NA	Solid	8021B	65698
820-10620-A-7-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	65698

Prep Batch: 65698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	5035	
890-5524-2	PH03A	Total/NA	Solid	5035	
890-5524-3	PH03B	Total/NA	Solid	5035	
890-5524-4	PH03C	Total/NA	Solid	5035	
890-5524-5	PH03D	Total/NA	Solid	5035	
890-5524-6	PH03E	Total/NA	Solid	5035	
MB 880-65698/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-65698/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-65698/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-10620-A-7-C MS	Matrix Spike	Total/NA	Solid	5035	
820-10620-A-7-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 65809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	Total BTEX	
890-5524-2	PH03A	Total/NA	Solid	Total BTEX	
890-5524-3	PH03B	Total/NA	Solid	Total BTEX	
890-5524-4	PH03C	Total/NA	Solid	Total BTEX	
890-5524-5	PH03D	Total/NA	Solid	Total BTEX	
890-5524-6	PH03E	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 65586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	8015B NM	65653
890-5524-2	PH03A	Total/NA	Solid	8015B NM	65653
890-5524-3	PH03B	Total/NA	Solid	8015B NM	65653
890-5524-4	PH03C	Total/NA	Solid	8015B NM	65653
890-5524-5	PH03D	Total/NA	Solid	8015B NM	65653
890-5524-6	PH03E	Total/NA	Solid	8015B NM	65653
MB 880-65653/1-A	Method Blank	Total/NA	Solid	8015B NM	65653

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

GC Semi VOA (Continued)

Analysis Batch: 65586 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-65653/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	65653
LCSD 880-65653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	65653
890-5523-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	65653
890-5523-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	65653

Prep Batch: 65653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	8015NM Prep	
890-5524-2	PH03A	Total/NA	Solid	8015NM Prep	
890-5524-3	PH03B	Total/NA	Solid	8015NM Prep	
890-5524-4	PH03C	Total/NA	Solid	8015NM Prep	
890-5524-5	PH03D	Total/NA	Solid	8015NM Prep	
890-5524-6	PH03E	Total/NA	Solid	8015NM Prep	
MB 880-65653/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-65653/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-65653/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5523-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5523-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 65700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Total/NA	Solid	8015 NM	
890-5524-2	PH03A	Total/NA	Solid	8015 NM	
890-5524-3	PH03B	Total/NA	Solid	8015 NM	
890-5524-4	PH03C	Total/NA	Solid	8015 NM	
890-5524-5	PH03D	Total/NA	Solid	8015 NM	
890-5524-6	PH03E	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 65614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-5	PH03D	Soluble	Solid	DI Leach	
890-5524-6	PH03E	Soluble	Solid	DI Leach	
MB 880-65614/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65614/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-65614/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-34889-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-34889-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 65623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Soluble	Solid	DI Leach	
890-5524-2	PH03A	Soluble	Solid	DI Leach	
890-5524-3	PH03B	Soluble	Solid	DI Leach	
890-5524-4	PH03C	Soluble	Solid	DI Leach	
MB 880-65623/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-65623/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-65623/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5523-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5523-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

HPLC/IC

Analysis Batch: 65660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-5	PH03D	Soluble	Solid	300.0	65614
890-5524-6	PH03E	Soluble	Solid	300.0	65614
MB 880-65614/1-A	Method Blank	Soluble	Solid	300.0	65614
LCS 880-65614/2-A	Lab Control Sample	Soluble	Solid	300.0	65614
LCSD 880-65614/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65614
880-34889-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	65614
880-34889-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	65614

Analysis Batch: 65717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5524-1	PH03	Soluble	Solid	300.0	65623
890-5524-2	PH03A	Soluble	Solid	300.0	65623
890-5524-3	PH03B	Soluble	Solid	300.0	65623
890-5524-4	PH03C	Soluble	Solid	300.0	65623
MB 880-65623/1-A	Method Blank	Soluble	Solid	300.0	65623
LCS 880-65623/2-A	Lab Control Sample	Soluble	Solid	300.0	65623
LCSD 880-65623/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	65623
890-5523-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	65623
890-5523-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	65623

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03
Date Collected: 10/24/23 11:25
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-1
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	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 05:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 05:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			65700	10/26/23 17:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 17:34	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 14:28	CH	EET MID

Client Sample ID: PH03A
Date Collected: 10/24/23 11:30
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-2
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	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 05:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 05:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			65700	10/26/23 17:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 17:56	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 14:34	CH	EET MID

Client Sample ID: PH03B
Date Collected: 10/24/23 11:35
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-3
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			5.04 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 05:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 05:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			65700	10/26/23 18:18	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 18:18	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 14:39	CH	EET MID

Client Sample ID: PH03C
Date Collected: 10/24/23 11:40
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-4
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	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 06:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 06:05	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Client Sample ID: PH03C
Date Collected: 10/24/23 11:40
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-4
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			65700	10/26/23 18:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 18:40	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	65623	10/26/23 10:44	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	65717	10/27/23 14:44	CH	EET MID

Client Sample ID: PH03D
Date Collected: 10/24/23 11:50
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-5
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			4.98 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 06:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 06:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			65700	10/26/23 19:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 19:24	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	65614	10/26/23 10:29	CH	EET MID
Soluble	Analysis	300.0		1			65660	10/26/23 14:44	CH	EET MID

Client Sample ID: PH03E
Date Collected: 10/24/23 12:10
Date Received: 10/24/23 15:08

Lab Sample ID: 890-5524-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	65698	10/27/23 11:54	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65680	10/28/23 06:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65809	10/28/23 06:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			65700	10/26/23 19:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	65653	10/26/23 13:31	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	65586	10/26/23 19:46	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	65614	10/26/23 10:29	CH	EET MID
Soluble	Analysis	300.0		1			65660	10/26/23 14:50	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 CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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 CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

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 CVX JV BS

Job ID: 890-5524-1
SDG: 03C1558200

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5524-1	PH03	Solid	10/24/23 11:25	10/24/23 15:08	1
890-5524-2	PH03A	Solid	10/24/23 11:30	10/24/23 15:08	2
890-5524-3	PH03B	Solid	10/24/23 11:35	10/24/23 15:08	3
890-5524-4	PH03C	Solid	10/24/23 11:40	10/24/23 15:08	4
890-5524-5	PH03D	Solid	10/24/23 11:50	10/24/23 15:08	6
890-5524-6	PH03E	Solid	10/24/23 12:10	10/24/23 15:08	10

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	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 CVX JV BS 008H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558200	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:	TNM00
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.2
Total Containers:		Corrected Temperature:	1.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
PH03	S	10/24/23	1125	1	G	1		✓	✓	✓
PH03A			1130	2		1				
PH03B			1135	3		1				
PH03C			1140	4		1				
PH03D			1150	6		1				
PH03E	↓	↓	1210	10	↓	1				
									CN	

Preservative Codes

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

Sample Comments

Incident ID:
nAB1602154960

Cost Center:
1139701001

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		10/24	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5524-1
SDG Number: 03C1558200

Login Number: 5524
List Number: 1
Creator: Lopez, Abraham

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: 890-5524-1
SDG Number: 03C1558200

Login Number: 5524
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/26/23 11:43 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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QUESTIONS

Action 447975

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1602154960**
Incident Name	**NAB1602154960 POKER LAKE CVX JV BS #008H @ 30-015-39508**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-39508] POKER LAKE CVX JV BS #008H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	POKER LAKE CVX JV BS #008H
Date Release Discovered	01/15/2016
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Other (Specify) | Crude Oil | Released: 38 BBL | Recovered: 20 BBL | Lost: 18 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion | Other (Specify) | Produced Water | Released: 38 BBL | Recovered: 20 BBL | Lost: 18 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 04/02/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	405
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	85.2
GRO+DRO	(EPA SW-846 Method 8015M)	85.2
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		01/15/2016
On what date will (or did) the final sampling or liner inspection occur		10/24/2023
On what date will (or was) the remediation complete(d)		10/24/2023
What is the estimated surface area (in square feet) that will be reclaimed		0
What is the estimated volume (in cubic yards) that will be reclaimed		0
What is the estimated surface area (in square feet) that will be remediated		0
What is the estimated volume (in cubic yards) that will be remediated		0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.		
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.		

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	No impacted soil identified
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 04/02/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
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QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**447986**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**10/24/2023**
What was the (estimated) number of samples that were to be gathered	**12**
What was the sampling surface area in square feet	**5000**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	Soil sampling activities were conducted at the Site to assess for the presence or absence of impacts to soil resulting from the January 2016 crude oil and produced water release. Based on laboratory analyti-cal results compliant with the most stringent Table I Closure Criteria, no further remediation was re-quired. Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to water has been determined to be greater than 100 feet bgs within 0.5 miles of the Site and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions completed are pro-tective of human health, the environment, and groundwater.

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 04/02/2025

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QUESTIONS (continued)

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 447975
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAB1602154960 POKER LAKE CVX JV BS #008H, thank you. This Remediation Closure Report is approved.	4/3/2025