

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.

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 3122 National Parks Highway | Carlsbad, NM 88220 | ensolum.com

XTO Energy, Inc PLU CVX JV BS 008H Salt Water Disposal Line Revised Closure Request Addendum

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.



XTO Energy, Inc PLU CVX JV BS 008H Salt Water Disposal Line Revised Closure Request Addendum

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.

ashley L. ager

Principal

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

Sincerely,

Ensolum, LLC

Hadlie Green

Project Geologist

Madrie Freen

Kaylan Dirkx, XTO

Colton Brown, XTO

BLM

Appendices:

CC:

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

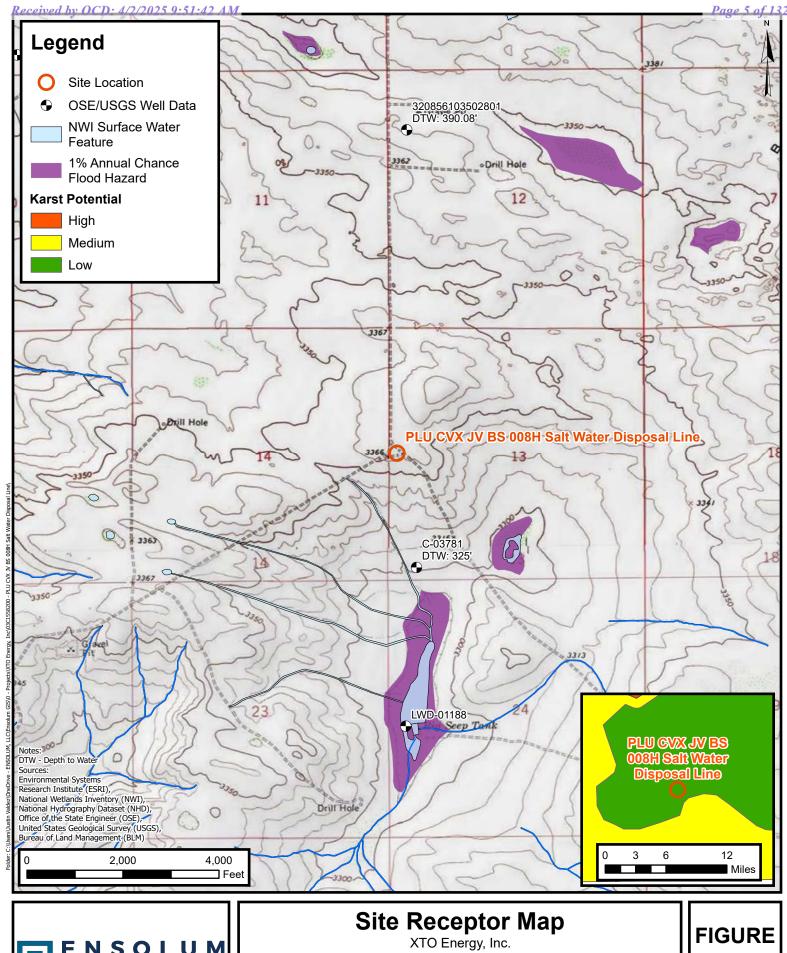
Appendix B Lithologic Soil Sampling Logs

Appendix C Photographic Log

Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation



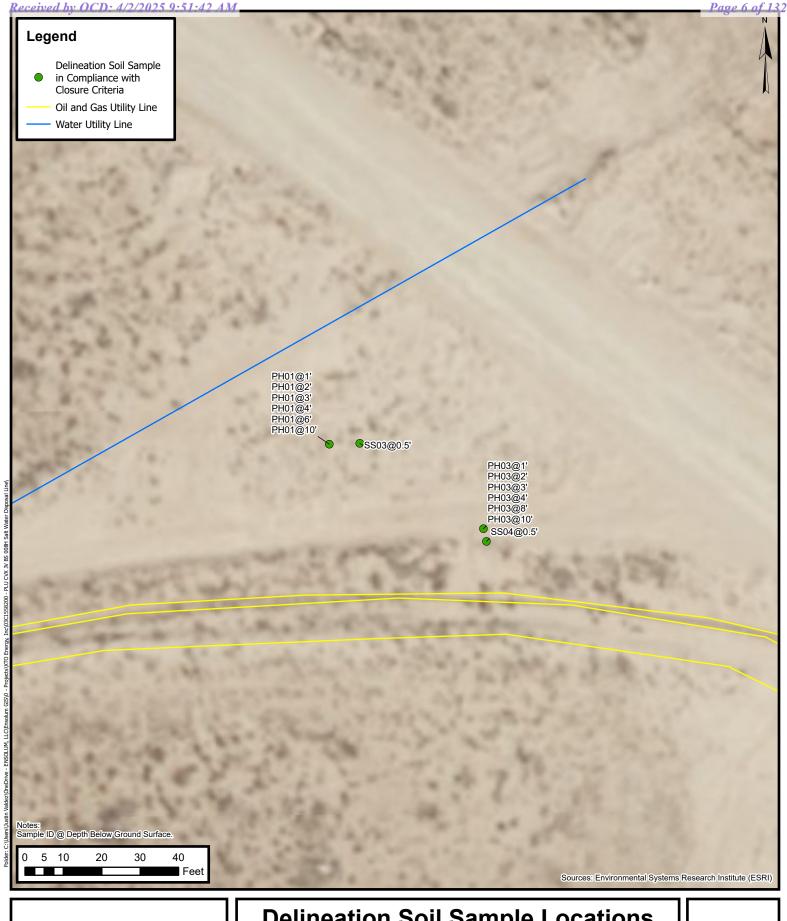
**FIGURES** 





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

Released to Imaging: 4/3/2025 2:21:25 PM





# **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



**TABLES** 



# 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.



APPENDIX A

Closure Request Addendum; May 19, 2023



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 offpad 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)

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 3122 National Parks Highway | Carlsbad, New Mexico 88220 | ensolum.com

XTO Energy, Inc. Closure Request Addendum Poker Lake Unit CVX JV BS 008H SWD Line



- 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 precleaned 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.

XTO Energy, Inc. Closure Request Addendum Poker Lake Unit CVX JV BS 008H SWD Line



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.

ashley L. ager

Ashley Ager, P.G.

**Program Director** 

Sincerely,

**Ensolum, LLC** 

Aimee Cole

Senior Managing Scientist

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

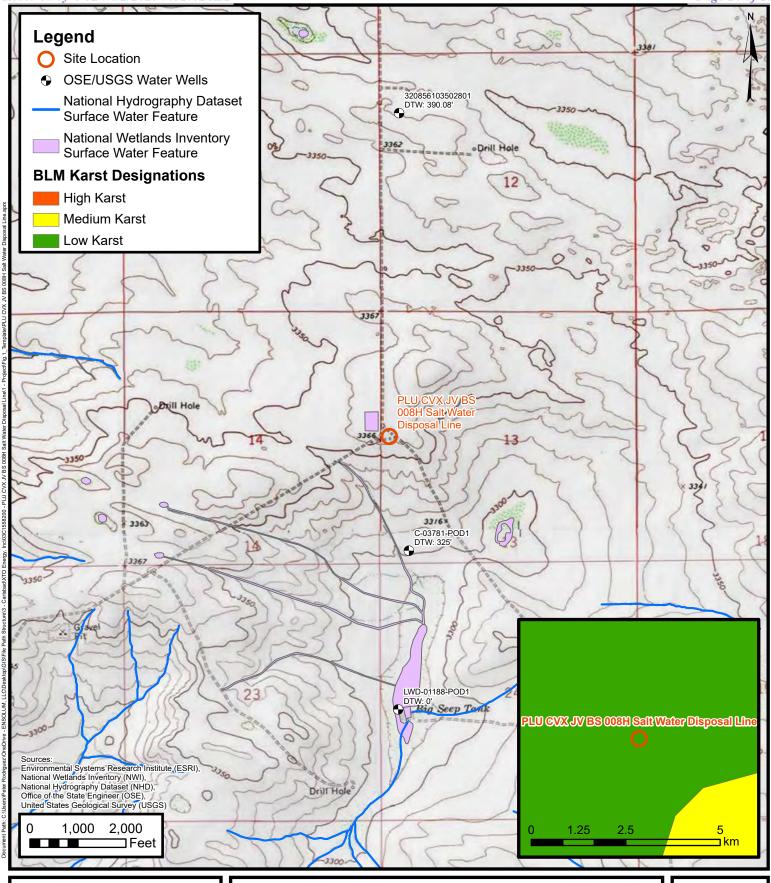
Appendix A Photographic Log

Appendix B Laboratory Analytical Reports & Chain-of-Custody Documentation (2023)

Appendix C NMOCD Notifications



**FIGURES** 



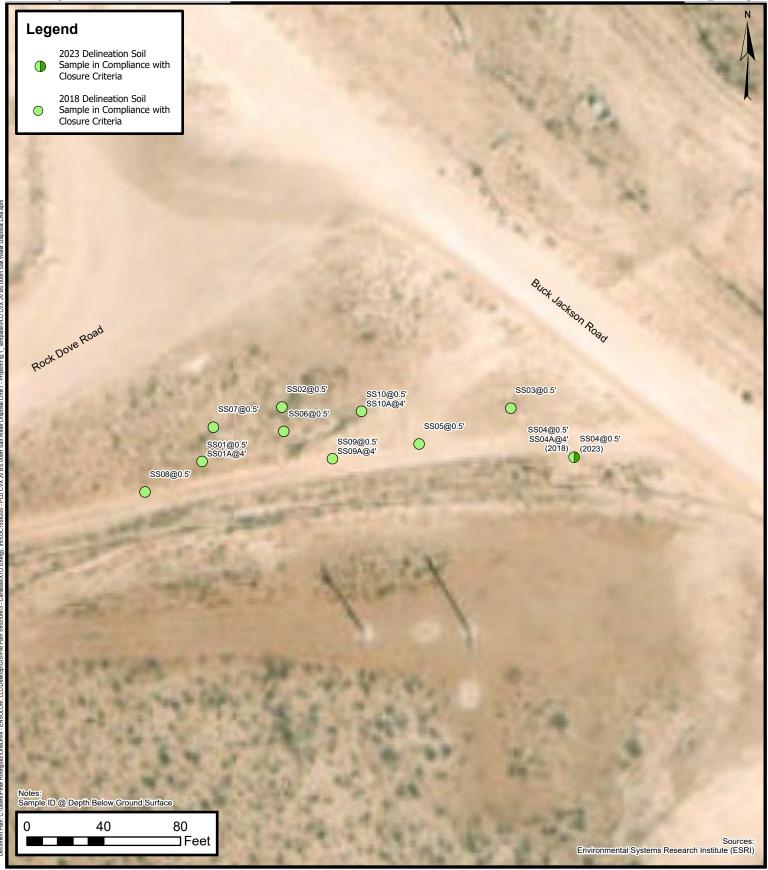


# **Site Receptor Map**

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





# **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



**TABLES** 

Received by OCD: 4/2/2025 9:51:42 AM



# 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 Cl	losure Criteria (I	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

Ensolum 1 of 1



**APPENDIX A** 

Photographic Log



#### **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.



**APPENDIX B** 

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **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

# **Eurofins Carlsbad**

# **Job Notes**

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

# **Authorization**

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

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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

# **Table of Contents**

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

2

3

4

6

8

10

40

13

14

## **Definitions/Glossary**

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

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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** 

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** 

Detection Limit (DoD/DOE) DL

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)

Method Detection Limit MDL ML Minimum Level (Dioxin) Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NFG 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)

Relative Percent Difference, a measure of the relative difference between two points RPD

TEF Toxicity Equivalent Factor (Dioxin) TEQ Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

**Eurofins Carlsbad** 

#### **Case Narrative**

Client: Ensolum

Job ID: 890-4367-1 Project/Site: PLU CVX JV BS 008H 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
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

Client Sample ID: SS04

Date Collected: 03/20/23 12:50

Lab Sample ID: 890-4367-1

Matrix: Solid

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

Method: SW846 8021B - Volatile Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
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 - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			04/03/23 15:53	
				mg/Ng			04/03/23 13:33	,
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result		GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (0	GC)		<u>D</u>	Prepared		·
Method: SW846 8015 NM - Diese Analyte Total TPH	Range Organ Result 85.2	ics (DRO) (( Qualifier	RL 49.8	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result 85.2 sel Range Orga	ics (DRO) (( Qualifier	RL 49.8	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result 85.2 sel Range Orga	Qualifier  nics (DRO) Qualifier	RL 49.8 (GC)	Unitmg/Kg		<u> </u>	Analyzed 03/27/23 17:15	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result 85.2 sel Range Orga Result	Qualifier  nics (DRO) Qualifier	RL 49.8 (GC)	Unit mg/Kg		Prepared	Analyzed 03/27/23 17:15  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result 85.2 sel Range Orga Result <a href="#">&lt;49.8</a>	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U	(GC)  RL  49.8  (GC)  RL  49.8	Unit mg/Kg  Unit mg/Kg		Prepared 03/24/23 16:55	Analyzed 03/27/23 17:15  Analyzed 03/27/23 16:50	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result 85.2 sel Range Orga Result <a href="mailto:result-49.8">Result</a> <a href="mailto:49.8">449.8</a> 85.2	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U	GC)  RL  49.8  (GC)  RL  49.8  49.8	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55	Analyzed 03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result 85.2 sel Range Orga Result <49.8 85.2 <49.8	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U	GC)  RL 49.8  (GC)  RL 49.8  49.8  49.8	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55	Analyzed 03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50 03/27/23 16:50	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	sel Range Organ Result 85.2 sel Range Orga Result <49.8 85.2 <49.8 %Recovery	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U	GC)  RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55 Prepared	Analyzed  03/27/23 17:15  Analyzed  03/27/23 16:50  03/27/23 16:50  03/27/23 16:50  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	sel Range Organ Result 85.2 sel Range Orga Result <49.8 85.2 <49.8 %Recovery 97 89	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U  Qualifier	GC)  RL 49.8  (GC)  RL 49.8  49.8  49.8  49.8  Limits 70 - 130 70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55  03/24/23 16:55  Prepared 03/24/23 16:55	Analyzed 03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50  Analyzed 03/27/23 16:50	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	el Range Organ Result 85.2 sel Range Orga Result <49.8 85.2 <49.8 %Recovery 97 89 Chromatograp	nics (DRO) (Qualifier  Nics (DRO) Qualifier  U  Qualifier	GC)  RL 49.8  (GC)  RL 49.8  49.8  49.8  49.8  Limits 70 - 130 70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55  03/24/23 16:55  Prepared 03/24/23 16:55	Analyzed 03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50  Analyzed 03/27/23 16:50	Dil Fac

**Eurofins Carlsbad** 

# **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 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	

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

OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Reco	overy (Accept
		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					

\_ \_ \_ \_ . .

2

5

7

9

4 4

12

13

14

## **QC Sample Results**

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

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

	MB	MB						
Analyte	Result	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

MB MB

Surrogate	%Recovery Qualifie	r Limits
4-Bromofluorobenzene (Surr)	85	70 - 130
1.4-Difluorobenzene (Surr)	89	70 - 130

Dil Fac Prepared Analyzed 03/27/23 16:06 03/31/23 21:58 03/27/23 16:06 03/31/23 21:58

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49803

Analysis Batch: 49999

Lab Sample ID: MB 880-49803/5-A

мв мв

Analyte	Result Qua	alifier 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

мв мв

Surrogate	%Recovery	Qualifier	Limits	Pre	pared	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** 

**Matrix: Solid** 

Analysis Batch: 49999

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 49803

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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	

LCS LCS

Surrogate	%Recovery 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

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

LCCD LCCD

Cnika

**Eurofins Carlsbad** 

Page 8 of 20

### QC Sample Results

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

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

LCSD LCSD

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

Lab Sample ID: 890-4388-A-21-F MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 49999

Prep Type: Total/NA

Prep Batch: 49803

MS MS %Rec Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits Benzene <0.00198 U 0.0998 0.09156 mg/Kg 92 70 - 130 Toluene <0.00198 UF1 0.0998 0.08803 88 70 - 130 mg/Kg Ethylbenzene <0.00198 0.0998 0.09372 70 - 130 mg/Kg 94 0.200 m-Xylene & p-Xylene <0.00396 U 0.1948 98 70 - 130 mg/Kg o-Xylene <0.00198 U 0.0998 0.09966 mg/Kg 100 70 - 130

MS MS

Surrogate	%Recovery 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

		Sample	Sample	Spike	MSD	MSD				%Rec		RPD
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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
ı												

MSD MSD

Surrogate	76Recovery	Qualifier	LIIIIII
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

Analyzed

<50.0 U Gasoline Range Organics (GRO)-C6-C10

мв мв Result Qualifier

RL 50.0

Unit mg/Kg

Prepared 03/24/23 16:55

03/27/23 08:47

Analyte

**Eurofins Carlsbad** 

o-Terphenyl

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 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

	MB	MB						
Analyte	Result	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
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
	МВ	МВ						
Surrogate	%Recovery	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 880-4945 Matrix: Solid Analysis Batch: 49559	57/2-A						Client	: Sample	Prep Type: Prep Batc	Total/NA
			Spike	LCS	LCS				%Rec	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics			1000	1022		mg/Kg		102	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over			1000	876.8		mg/Kg		88	70 - 130	
C10-C28)										
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	93		70 - 130							

70 - 130

Lab Sample ID: LCSD 880-49457/3-A	ID Sample ID: LCSD 880-49457/3-A								e Dup
Matrix: Solid							Prep 1	Type: To	al/NA
Analysis Batch: 49559							Prep	Batch:	49457
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

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

83

87

Lab Sample ID: 890-4361-A-	1-B MS							Client	Sample ID	: Matrix Spike
Matrix: Solid									Prep 1	Type: Total/NA
Analysis Batch: 49559									Prep	Batch: 49457
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	108	-	70 - 130							

**Eurofins Carlsbad** 

70 - 130

o-Terphenyl

## QC Sample Results

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

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** 

Analysis Batch: 49559

Prep Type: Total/NA Prep Batch: 49457

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

C10-C28)

MSD MSD

Surrogate	%Recovery	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 **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 49899

мв мв

Analyte	Result 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 Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 49899** 

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	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 **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 49899

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	53.9		252	310.7		ma/Ka		102	90 110		_

Lab Sample ID: 890-4355-A-2-G MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Ratch: 49899

Alialysis balcii. 43033											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	53.9		252	313.7		mg/Kg		103	90 - 110	1	20

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

# **QC Association Summary**

Client: Ensolum

Project/Site: PLU CVX JV BS 008H

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

## **GC VOA**

Prep	<b>Batch</b>	: 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	

**Eurofins Carlsbad** 

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

HPLC/IC

Leach Batch: 49798

<b>Lab Sample ID</b> 890-4367-1	Client Sample ID SS04	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
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

**Eurofins Carlsbad** 

### Lab Chronicle

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

Client Sample ID: SS04 Lab Sample ID: 890-4367-1

Date Collected: 03/20/23 12:50

Date Received: 03/20/23 14:34

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

**Eurofins Carlsbad** 

2

2

5

7

q

10

12

13

Н

# **Accreditation/Certification Summary**

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

SDG: 03C1558200

## **Laboratory: Eurofins Midland**

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

Authority Texas		ogram	Identification Number	Expiration Date 06-30-23	
		ELAP	T104704400-22-25		
The following analytes the agency does not of	• •	ut the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for	
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		

# **Method Summary**

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

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
3015B 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
015NM Prep	Microextraction	SW846	EET MID
I 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

**Eurofins Carlsbad** 

## **Sample Summary**

Client: Ensolum

Project/Site: PLU CVX JV BS 008H

Job ID: 890-4367-1

SDG: 03C1558200

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'

Xenco	Environr	irotins
	nent lesting	
EL Paso, T	Midland, T)	Houston

City, State ZIP:

Project Manager: Company Name:

Bill to: (if different)

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

www.xenco.com	Work Order No:
Page	
0	

Reporting: Level III | Level III | PST/UST | TRRP |

Level IV

Program:

UST/PST PRP Brownfields Work Order Comments

RRC

Superfund 🗌

				N OUN	fan	The Difference of the Control of the		1	and of	16:
			2 /UZ/ 2	2/20/23	17	7	No.	7	MODO!	11/1
signature) Date/Time	re) Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Da		Received by: (Signature)	Received b	re)	Relinquished by: (Signature)	Relinquishe
	s and conditions ond the control previously negotiated.	otice. 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 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 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.	enco, its affiliates and sub curred by the client if suc s Xenco, but not analyze	expenses in ed to Eurofin	from client company t sibility for any losses or reach sample submitt	alld purchase order assume any respons and a charge of \$5 fo	es constitutes a v les and shall not : so each project au	linquishment of samp by for the cost of samp \$85.00 will be applied	is document and re nco will be liable or ninimum charge of	e: Signature of the roke. Eurofins Xerco. A r
Ag SiO <sub>2</sub> Na Sr Ti Sn U V Zn Hg: 1631 / 245.1 / 7470 / 7471	I K Se	A 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo N TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Ba Be B Cd Cr	A SP V	13PPM Texas 11 Al Sb As Ba Be B	8RCRA 13PPN TCLP/SPI	yzed 8F	Total 200.7 / 6010 200.8 / 6020:	6010 2 (s) and Met	Total 200.7 / 6010 rcle Method(s) ar
NAB 1602 15 Haleo										4
Incudent #:			X A	\ \ \	0.5 6	12:50	03/20/23	c	•	105.5
Sample Comments			Ch TF BT	cont C	Depth Comp	Time Sampled	Date Sampled	Matrix	Sample Identification	Sample
NaOH+Ascorbic Acid: SAPC			HEX	101	4.7	emperature:	Corrected Temperature:			Total Containers:
Zn Acetate+NaOH: Zn			( )(	civ	10,0	e Reading:	Temperature Reading:	Yes No N/A		ample Custody Seals:
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	n of Custody	890-4367 Chain of Custody			6.0	actor:	Correction Factor:	Yes NO N/A		ooler Custody Seals:
NaHSO 4: NABIS					1200 -NA	r ID:	Thermometer ID:	(Yes No	d Intact:	amples Received Intact:
H₃PO₄; HP				eter	Yes No	Wet Ice:	(Pes No	Temp Blank:	IPT	AMPLE RECEIPT
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na				s	ved by 4:30pm	the lab, if received by 4:30pm				0 #:
HCL: HC HNO 3: HN					ay received by	TAT starts the day received by	D 11	ahaha C.D	Mah	ampler's Name:
Cool: Cool MeOH: Me					Sheroc	.853 Due Date:	03.853	240044 -	32.1	roject Location:
None: NO Di Water: H <sub>2</sub> O				Pres. Code	Rush	Routine		1558 200	030	roject Number:
Preservative Codes	ST	ANALYSIS REQUEST			round	Turn Around	83 006H	HOOD SY AL XAN	Du	roject Name:

## **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-4367-1

 SDG Number: 03C1558200

Login Number: 4367 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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	

e 37 0j 132

1

3

4

0

0

11

. .

14

4/3/2023

## **Login Sample Receipt Checklist**

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

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

List Number: 2 Creator: Rodriguez, Leticia

Login Number: 4367

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	N/A	

<6mm (1/4").



**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



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 < <a href="mailto:tiffany.yancey@exxonmobil.com">tiffany.yancey@exxonmobil.com</a>>

Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 188485

**External Email - Think Before You Click** 

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: <u>Green, Garrett J</u>

To: <u>Tacoma Morrissey</u>; <u>Ben Belill</u>

Cc: <u>DelawareSpills /SM</u>

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



**APPENDIX B** 

Lithologic Soil Sampling Logs

	Sample Name: SS03/PH01	Date: 10/24/23
<b>ENSOLUM</b>	Site Name: PLU CVX JV BS 008H	
E IA 3 O L O M	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, respect	ively. Chloride test

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
D	<168	0.0	N	SS03	0.5 _	0	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	Ν	PH01A	2	2		
D	168	0.0	Ν	PH01B	3 <u>-</u>	- _ 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 Denth: 10 feet has

Total Depth: 10 feet bgs.

								Sample Name: SS04/PH03	Date: 10/24/23		
			N	C		L U	M	Site Name: PLU CVX JV BS 008H			
			IV			_ 0	IAI	Incident Number: nAB1602154960			
								Job Number: 03C1558200			
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: Connor Whitman	Method: Backhoe		
Coord	inates: 32	2.130512	, -103	3.842188				Hole Diameter: 3'	Total Depth: 10' bgs		
			_					PID for chloride and vapor, respect culations made with a +40% correct	-		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	<168	0.0	N	SS04	0.5 _	0	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, odor.	, no stain no		
D	<168	0.0	N	PH03A	2 _	2					
D	<168	0.0	N	РН03В	3 _	3 -		CALICHE white, with sand, n odor.	o stain no		
D	<168	0.0	N	РН03С	4	- - 4 -					
D	<168	0.0	N		5 <u>-</u> 5 <u>-</u>	- - 5 -					
D	<168	0.0	N		6 _	- _ 6					
D	<168	0.0	N		7 _	- - - 7					
D	201	0.0	N	PH03DE	- ) 8 <u>-</u> -	- _ 8 -					
D	168	0.0	N		9 _	- _ 9 -					
D	168	0.0	N	PH03EE	10	_ 10		CALICHIE, white, some sand, odor.	no stain no		
				•				Total Depth: 10 feet bgs.			



APPENDIX C

Photographic Log



### 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



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

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

# **JOB DESCRIPTION**

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

PLU CVX JVBS 008H SDG NUMBER 03C1558200

## **JOB NUMBER**

890-5522-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



# **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 <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

1

1

5

6

10

11

13

14

Client: Ensolum
Project/Site: PLU CVX JVBS 008H
Laboratory Job ID: 890-5522-1
SDG: 03C1558200

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	7
Surrogate Summary	12
QC Sample Results	13
QC Association Summary	17
Lab Chronicle	20
Certification Summary	22
Method Summary	23
Sample Summary	24
Chain of Custody	25
Receipt Checklists	26

2

3

4

6

8

10

13

14

## **Definitions/Glossary**

Job ID: 890-5522-1 Client: Ensolum Project/Site: PLU CVX JVBS 008H

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. 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** 

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** 

Detection Limit (DoD/DOE) DL

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)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit MI 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 Practical Quantitation Limit **PQL** 

**PRES** Presumptive **Quality Control** QC

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

**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 SDG: 03C

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  $1.0^{\circ}$ 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), PH01D (890-5522-5) and PH01E (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), PH01D (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

А

5

7

9

11

1/

#### **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.

Lab Sample ID: 890-5522-1

## **Client Sample Results**

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H SDG: 03C1558200

**Client Sample ID: PH01** Date Collected: 10/24/23 09:30 Date Received: 10/24/23 15:08

Sample Depth: 1

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 - 1	otal BTEX Cal	culation						
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 - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte		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 - Dies	sel Range Orga	nics (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
Oll 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	Chromatogran	hv - Solubl	e					
Analyte	• •	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: PH01A Lab Sample ID: 890-5522-2

129

5.02

mg/Kg

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

Sample Depth: 2

Chloride

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

**Eurofins Carlsbad** 

10/27/23 12:23

**Matrix: Solid** 

Lab Sample ID: 890-5522-2

## **Client Sample Results**

 Client: Ensolum
 Job ID: 890-5522-1

 Project/Site: PLU CVX JVBS 008H
 SDG: 03C1558200

Client Sample ID: PH01A

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 Qualifie	er Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	70	70 - 130	10/27/23 11:54	10/28/23 02:20	1

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

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 Rand	ge Organics	(DRO)	(GC)
Michiga. Offord out ob	ININ - Diesel Itali	ge Organics	(DitO)	(00)

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	64	S1-	70 - 130	10/26/23 16:5	10/27/23 00:56	1
o-Terphenyl	67	S1-	70 - 130	10/26/23 16:5	10/27/23 00:56	1

## $\label{eq:method:epa300.0} \textbf{Method: EPA 300.0 - Anions, lon Chromatography - Soluble}$

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

Date Collected: 10/24/23 09:40

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

l				
Method: SW	846 8021B	- Volatile Orga	anic Compound	s (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:	ΤΔΙ	SOP	Total	RTFY	- Total	RTFY	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) (G
--

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** 

2

3

0

8

10

19

13

Lab Sample ID: 890-5522-3

10/27/23 12:44

Lab Sample ID: 890-5522-4

Matrix: Solid

## **Client Sample Results**

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H SDG: 03C1558200

**Client Sample ID: PH01B** 

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

Sample Depth: 3

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

4.95

148

mg/Kg

**Client Sample ID: PH01C** 

Date Collected: 10/24/23 09:45

Date Received: 10/24/23 15:08

Sample Depth: 4

Chloride

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 - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	П	0.00401	mg/Kg			10/28/23 03:01	1
IUIAI DI EA	10.00-10	O	0.00101	9,9			10/20/20 00.01	
• •				mg/rtg			10/20/20 00:01	
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (					10/20/20 00:01	
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) (	GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)		<u>D</u>	Prepared		
Method: SW846 8015 NM - Diese Analyte	Range Organ Result <50.5	ics (DRO) (Gualifier	RL 50.5	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ Result <50.5 sel Range Organ	ics (DRO) (Gualifier	RL 50.5	Unit	D_	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <50.5 sel Range Organ	Qualifier Unics (DRO) Qualifier	RL 50.5	Unit mg/Kg			Analyzed 10/27/23 01:40	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte	el Range Organ Result <50.5 sel Range Orga Result	Qualifier Unics (DRO) Qualifier	GC)  RL  50.5  (GC)  RL	Unit mg/Kg		Prepared	Analyzed 10/27/23 01:40 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result <50.5 sel Range Orga Result	ics (DRO) ( Qualifier U  nnics (DRO) Qualifier U	GC)  RL  50.5  (GC)  RL	Unit mg/Kg		Prepared	Analyzed 10/27/23 01:40 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.5 sel Range Orga Result <50.5 <50.5	ics (DRO) ( Qualifier U  nnics (DRO) Qualifier U  U *1	GC)  RL  50.5  (GC)  RL  50.5  50.5	Unit mg/Kg  Unit mg/Kg		Prepared 10/26/23 16:51 10/26/23 16:51	Analyzed 10/27/23 01:40  Analyzed 10/27/23 01:40 10/27/23 01:40	Dil Fac  Dil Fac  1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	el Range Organ Result <50.5 sel Range Orga Result <50.5	ics (DRO) ( Qualifier U  nnics (DRO) Qualifier U  U *1	GC)  RL  50.5  (GC)  RL  50.5	Unit mg/Kg  Unit mg/Kg		Prepared 10/26/23 16:51	Analyzed  10/27/23 01:40  Analyzed  10/27/23 01:40	Dil Fac  Dil Fac  1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result <50.5 sel Range Orga Result <50.5 <50.5	ics (DRO) ( Qualifier U  nnics (DRO) Qualifier U  U*1	GC)  RL  50.5  (GC)  RL  50.5  50.5	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 10/26/23 16:51 10/26/23 16:51	Analyzed 10/27/23 01:40  Analyzed 10/27/23 01:40 10/27/23 01:40	Dil Fac  Dil Fac  1  1  1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.5 sel Range Orga Result <50.5 <50.5 <50.5	ics (DRO) ( Qualifier U  nnics (DRO) Qualifier U  U*1	GC) RL 50.5  (GC) RL 50.5  50.5  50.5	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 10/26/23 16:51 10/26/23 16:51 10/26/23 16:51	Analyzed 10/27/23 01:40  Analyzed 10/27/23 01:40 10/27/23 01:40 10/27/23 01:40	Dil Fac  Dil Fac  1

Lab Sample ID: 890-5522-4

## **Client Sample Results**

 Client: Ensolum
 Job ID: 890-5522-1

 Project/Site: PLU CVX JVBS 008H
 SDG: 03C1558200

**Client Sample ID: PH01C** 

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

Sample Depth: 4

Method: EPA 300.0 - Anions, Ion C	hromatography	y - Soluble						
Analyte	Result Q	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

Date Collected: 10/24/23 10:05

Matrix: Solid

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

Sample Depth: 8

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		10/27/23 11:54	10/28/23 04:23	
Toluene	<0.00200	U	0.00200	mg/Kg		10/27/23 11:54	10/28/23 04:23	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/27/23 11:54	10/28/23 04:23	
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/27/23 11:54	10/28/23 04:23	
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		10/27/23 11:54	10/28/23 04:23	
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/27/23 11:54	10/28/23 04:23	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	87		70 - 130			10/27/23 11:54	10/28/23 04:23	
1,4-Difluorobenzene (Surr)	60	S1-	70 - 130			10/27/23 11:54	10/28/23 04:23	
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/28/23 04:23	
Method: SW846 8015 NM - Diese Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
						·	,y=0 m	DII Fa
Total TPH	<49.6	U	49.6	mg/Kg			10/27/23 02:05	
				mg/Kg				
Method: SW846 8015B NM - Dies	sel Range Orga			mg/Kg Unit		Prepared		
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	(GC)		D	Prepared 10/26/23 16:51	10/27/23 02:05	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier	(GC)	Unit	<u>D</u>	<u> </u>	10/27/23 02:05  Analyzed	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.6	nics (DRO) Qualifier U *1	(GC)  RL  49.6	<mark>Unit</mark> mg/Kg	<u>D</u>	10/26/23 16:51	10/27/23 02:05  Analyzed  10/27/23 02:05	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <49.6	nics (DRO) Qualifier U *1	(GC)  RL  49.6	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	10/26/23 16:51 10/26/23 16:51	10/27/23 02:05  Analyzed  10/27/23 02:05  10/27/23 02:05	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate	sel Range Orga Result <49.6 <49.6	nics (DRO) Qualifier U *1	(GC)  RL  49.6  49.6  49.6	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	10/26/23 16:51 10/26/23 16:51 10/26/23 16:51	Analyzed 10/27/23 02:05  10/27/23 02:05 10/27/23 02:05 10/27/23 02:05	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	sel Range Orga           Result         <49.6	nics (DRO) Qualifier U *1 U Qualifier	(GC)  RL 49.6  49.6  49.6  Limits	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	10/26/23 16:51 10/26/23 16:51 10/26/23 16:51 Prepared	Analyzed 10/27/23 02:05  Analyzed 10/27/23 02:05 10/27/23 02:05 Analyzed	Dil Fa
Total TPH  Method: SW846 8015B NM - Dies Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl  Method: EPA 300.0 - Anions, Ion	sel Range Orga           Result         <49.6	DRO) Qualifier U *1 U Qualifier S1- S1-	(GC)  RL 49.6  49.6  49.6  Limits 70 - 130 70 - 130	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	10/26/23 16:51 10/26/23 16:51 10/26/23 16:51 Prepared 10/26/23 16:51	Analyzed 10/27/23 02:05  Analyzed 10/27/23 02:05  10/27/23 02:05  Analyzed 10/27/23 02:05	Dil Fa
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	sel Range Orga Result <49.6 <49.6 <49.6  **Recovery 61 65  Chromatograp	DRO) Qualifier U *1 U Qualifier S1- S1-	(GC)  RL 49.6  49.6  49.6  Limits 70 - 130 70 - 130	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	10/26/23 16:51 10/26/23 16:51 10/26/23 16:51 Prepared 10/26/23 16:51	Analyzed 10/27/23 02:05  Analyzed 10/27/23 02:05  10/27/23 02:05  Analyzed 10/27/23 02:05	Dil Fac

Lab Sample ID: 890-5522-6

## **Client Sample Results**

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H SDG: 03C1558200

**Client Sample ID: PHO1E** 

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

Sample Depth: 10

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 04:43	
Toluene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 04:43	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 04:43	
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	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
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 Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/28/23 04:43	
	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte		Qualifier			<u>D</u>	Prepared	Analyzed 10/27/23 02:28	
Analyte Total TPH	<b>Result</b> <49.8	Qualifier U	49.8	Unit	<u>D</u>	Prepared		Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Die	Result  <49.8 sel Range Organia	Qualifier U	49.8	Unit	<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte  Gasoline Range Organics	Result  <49.8 sel Range Organia	Qualifier Unics (DRO) Qualifier	RL 49.8 (GC)	<b>Unit</b> mg/Kg	<del>-</del>		10/27/23 02:28	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.8  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL 49.8 (GC)	Unit mg/Kg	<del>-</del>	Prepared	10/27/23 02:28  Analyzed	Dil Fa
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8  sel Range Orga Result <49.8	Qualifier U  nics (DRO) Qualifier U  U *1	(GC) RL 49.8	Unit mg/Kg  Unit mg/Kg	<del>-</del>	Prepared 10/26/23 16:51	10/27/23 02:28  Analyzed  10/27/23 02:28	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.8  sel Range Orga Result <49.8 <49.8	Qualifier U  nics (DRO) Qualifier U  U *1	RL 49.8  (GC) RL 49.8  49.8	Unit mg/Kg  Unit mg/Kg mg/Kg	<del>-</del>	Prepared 10/26/23 16:51 10/26/23 16:51	10/27/23 02:28  Analyzed 10/27/23 02:28 10/27/23 02:28	1
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate	Result   <49.8	Qualifier U  nics (DRO) Qualifier U  U *1	RL 49.8 (GC) RL 49.8 49.8	Unit mg/Kg  Unit mg/Kg mg/Kg	<del>-</del>	Prepared 10/26/23 16:51 10/26/23 16:51 10/26/23 16:51	Analyzed 10/27/23 02:28  Analyzed 10/27/23 02:28 10/27/23 02:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result <49.8  sel Range Orga Result <49.8 <49.8 <49.8  %Recovery	Qualifier U  nics (DRO) Qualifier U  U *1	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits	Unit mg/Kg  Unit mg/Kg mg/Kg	<del>-</del>	Prepared 10/26/23 16:51 10/26/23 16:51 10/26/23 16:51 Prepared	Analyzed 10/27/23 02:28  Analyzed 10/27/23 02:28 10/27/23 02:28 Analyzed	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.8	Qualifier U  nics (DRO) Qualifier U  U *1  U  Qualifier	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg mg/Kg	<del>-</del>	Prepared 10/26/23 16:51 10/26/23 16:51 10/26/23 16:51  Prepared 10/26/23 16:51	Analyzed 10/27/23 02:28  Analyzed 10/27/23 02:28  10/27/23 02:28  Analyzed 10/27/23 02:28	Dil Fac

5.00

278

mg/Kg

**Eurofins Carlsbad** 

10/27/23 13:10

## **Surrogate Summary**

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Lim
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
820-10620-A-7-C MS	Matrix Spike	118	113	
320-10620-A-7-D MSD	Matrix Spike Duplicate	122	117	
390-5522-1	PH01	85	69 S1-	
390-5522-2	PH01A	81	70	
390-5522-3	PH01B	88	68 S1-	
390-5522-4	PH01C	86	70	
390-5522-5	PHO1D	87	60 S1-	
390-5522-6	PHO1E	128	97	
.CS 880-65698/1-A	Lab Control Sample	129	96	
CSD 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-Bromofluorobei	nzene (Surr)			
DFBZ = 1,4-Difluorobena	zene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		1001	ОТРН1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(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

Client: Ensolum Job ID: 890-5522-1 SDG: 03C1558200 Project/Site: PLU CVX JVBS 008H

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

	MB	MB						
Analyte	Result	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

MB MB

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

Dil Fac Prepared Analyzed 10/25/23 11:32 10/27/23 11:15 10/25/23 11:32 10/27/23 11:15

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

Prep Batch: 65698

Lab Sample ID: MB 880-65698/5-A

Matrix: Solid

Analysis Batch: 65680

мв мв

Analyte	Result Qualifier	Result Qualifier RL		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	

MB MB

Surrogate	%Recovery	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

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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	

LCS LCS

Surrogate	%Recovery Q	ualifier	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

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

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H 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

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

LCSD LCSD

Surrogate	%Recovery	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

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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
•						0 0			

MS MS

Surrogate	%Recovery 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

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

MSD MSD

Surrogate	%Recovery	Quaimer	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

Gasoline Range Organics

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

Prep Batch: 65666

мв мв Result Qualifier RL Unit Prepared <50.0 U 50.0 mg/Kg 10/26/23 07:30 10/26/23 07:47

(GRO)-C6-C10

 Client: Ensolum
 Job ID: 890-5522-1

 Project/Site: PLU CVX JVBS 008H
 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

	MB	MB						
Analyte	Result	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
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/26/23 07:30	10/26/23 07:47	1
	МВ	MB						
Surrogate	%Recovery	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 Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Prep Batch: 65666 Analysis Batch: 65591 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 844.0 84 70 - 130 mg/Kg (GRO)-C6-C10 1000 788.5 Diesel Range Organics (Over mg/Kg 79 70 - 130C10-C28) LCS LCS Qualifier Limits Surrogate %Recovery 1-Chlorooctane 70 - 130 87 o-Terphenyl 92 70 - 130

Lab Sample ID: LCSD 880-65666/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 65591 Prep Batch: 65666 Spike LCSD LCSD %Rec **RPD** Added Result Qualifier %Rec Limits RPD Limit Analyte Unit D Gasoline Range Organics 1000 934.4 93 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 970.9 \*1 mg/Kg 97 70 - 130 21 20

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

Lab Sample ID: 880-34911-A-1-H MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 65591 Prep Batch: 65666 MS MS Spike %Rec Sample Sample Limits Result Qualifier Added Result Qualifier %Rec Analyte Unit <49.9 U F1 991 593.7 F1 70 - 130 Gasoline Range Organics 58 mg/Kg (GRO)-C6-C10 991 Diesel Range Organics (Over <49.9 U F1 \*1 616.4 F1 mg/Kg 62 70 - 130

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

**Eurofins Carlsbad** 

C10-C28)

C10-C28)

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H 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

	Sa	mple	Sample	Spike	MSD	MSD				%Rec		RPD
A	nalyte R	esult	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	Gasoline Range Organics GRO)-C6-C10	49.9	U F1	991	610.6	F1	mg/Kg		60	70 - 130	3	20
Ò	•	49.9	U F1 *1	991	612.6	F1	mg/Kg		62	70 - 130	1	20

MSD MSD %Recovery Qualifier Limits Surrogate 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 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65717** 

мв мв

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

Lab Sample ID: LCS 880-65623/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65717** 

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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 **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 65717

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	244.6		ma/Ka		08	90 110		20	

Lab Sample ID: 890-5522-1 MS **Client Sample ID: PH01 Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65717** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	120		251	363.7		ma/Ka		9/	90 110	 

Lab Sample ID: 890-5522-1 MSD **Client Sample ID: PH01 Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 65717

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

<b>Lab Sample ID</b> 890-5522-1	Client Sample ID PH01	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
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

Released to Imaging: 4/3/2025 2:21:25 PM

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 Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H 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 890-5522-1	Client Sample ID PH01	Prep Type Total/NA	Matrix Solid	Method 8015 NM	Prep Batch
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 Batcl
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

**Eurofins Carlsbad** 

Page 18 of 27

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-5522-1

 Project/Site: PLU CVX JVBS 008H
 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

j 132

--

6

Q

9

11

12

4 /

Project/Site: PLU CVX JVBS 008H

Job ID: 890-5522-1

SDG: 03C1558200

**Client Sample ID: PH01** 

Client: Ensolum

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

Lab Sample ID: 890-5522-1

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

Lab Sample ID: 890-5522-2

Matrix: Solid

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

Client Sample ID: PH01A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5522-3 Date Collected: 10/24/23 09:40 **Matrix: Solid** 

Date Received: 10/24/23 15:08

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5522-4

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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** 

Page 20 of 27

Released to Imaging: 4/3/2025 2:21:25 PM

**Matrix: Solid** 

#### Lab Chronicle

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H SDG: 03C1558200

**Client Sample ID: PH01C** 

Lab Sample ID: 890-5522-4 Date Collected: 10/24/23 09:45 **Matrix: Solid** 

Date Received: 10/24/23 15:08

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5522-5

Date Collected: 10/24/23 10:05 **Matrix: Solid** Date Received: 10/24/23 15:08

Batch Batch Dil Initial Final Batch Prepared Prep Type Method Amount Amount Number or Analyzed Type Run Factor Analyst Lab 5035 Total/NA Prep 5.01 g 5 mL 65698 10/27/23 11:54 EL **EET MID** Total/NA Analysis 8021B 5 mL 5 mL 65680 10/28/23 04:23 MNR EET MID 1 Total/NA Total BTEX Analysis 1 65808 10/28/23 04:23 SM **EET MID** Total/NA Analysis 8015 NM 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** 

**Client Sample ID: PHO1E** Lab Sample ID: 890-5522-6

1

Date Collected: 10/24/23 10:15 **Matrix: Solid** Date Received: 10/24/23 15:08

1 uL

4.95 g

50 mL

65591

65623

65717

1 uL

50 mL

50 mL

10/27/23 02:05

10/26/23 10:44

10/27/23 12:55

SM

SMC

СН

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 MIC
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 MI
Soluble	Analysis	300.0		1	50 ml	50 ml	65717	10/27/23 13:10	CH	FFT MI

**Laboratory References:** 

Total/NA

Soluble

Soluble

Analysis

Analysis

Leach

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

8015B NM

DI Leach

300.0

**Eurofins Carlsbad** 

EET MID

EET MID EET MID

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-5522-1 Project/Site: PLU CVX JVBS 008H

SDG: 03C1558200

#### **Laboratory: Eurofins Midland**

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

Authority	Progr	am	Identification Number	Expiration Date 06-30-24		
Texas	NELA	Р	T104704400-23-26			
· ·	are included in this report, but	ut the laboratory is not certif	fied by the governing authority. This lis	t may include analytes		
Analysis Method	Prep Method	Matrix	Analyte	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

**Eurofins Carlsbad** 

3

4

9

10

. .

13

Ш

# **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

City, State ZIP:

Carlsbad, NM 88220 3122 National Parks Hwy

City, State ZIP:

Company Name: Bill to: (if different)

XTO Energy Garrett Green

3104 E. Green St. Carlsbad, NM 88220

Deliverables: EDD

ADaPT 🗆

Company Name:

Ensolum

Tacoma Morrissey

Xenco

**Environment Testing** 

# Chain of Custody

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

TX (210) 509-3334 X (806) 794-1296 X (575) 988-3199	Work Order No:
A (575) 988-3199	www.xenco.com Page ! of 2
	Work Order Comments
	Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund ☐
	State of Project:
	Reporting: Level II  Level III  PST/UST TRRP Level IV

Phone: 303- Project Name:	303-887-2946 PLU CVX JV BS 008H		Turn Around	2)Exxo	nMobil.	Com	ANALYSIS REQUEST
Project Number:	03C1558200	√ Rou	Rush	Pres.			
Project Location:		Due Date					
Sampler's Name:	Connor Whitman		TAT starts the day received by				
PO #			the lab, if received by 4:30pm	rs	+	+	
SAMPLE RECEIPT	Temp Blank: ( Y	Yes No Wet Ice:	Yes No	ete	.0)		
Samples Received Intact:		meter ID	ا دـ	ıram	000		890-5522 Chain of Custody
Cooler Custody Seals:	O N/A	Correction Factor:	0.0	Pa	'A: 3		
Sample Custody Seals:	NO NIA	Jemperature Reading:	1.2		(EF	)	
Total Containers:		Corrected Temperature:	Ò			_	
Sample Identification	Matrix	Date Time Sampled Sampled	Depth Grab/	# of Cont	TPH (80	BTEX (	
1049	\$ \frac{1}{2}	0/24/13 970	9	-	1	1	
PHOIA		255	2	-	1	1	
810HJ		240	W	-		1	
pt)olc		She	C	-	1	1	
01010		5001	×>:	1	1	1	
310Ho	<b>(</b>	10/5	10	-	1		
				_			
						-	
						5	
				L	H	1	
Total 200.7 / 6010	200.8 / 6020:	8RCRA 13F	13PPM Texas 11	Al Sb	As Ba Be	Ве В	Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	letal(s) to be analyzed	TCLP /	TCLP / SPLP 6010: 8RCRA		Sb As Ba Be	За Ве	Cd Cr Co Cu Pb Mn Mo Ni Se Ag
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractor 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 or expenses incurred by the client if such losses for each expense of 65 for each sample submitted to Eurofins Xenco, but not analyzed. These for	ent and relinquishment of sar be liable only for the cost of s	nples constitutes a valid parameter and shall not assu	urchase order from cli- me any responsibility i	ent comp or any lo	any to Euromitted to	rofins Xei cpenses i	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 or successful that the control of service is a service of service or service or successful that the control of service or successful that th
Relinguished by (Sig	onature)	Received by: (Signature	ature)		Date/Time	9	Relinquished by: (Signature)
CAP.			X/		26		
3			(				
σ.							6

# **Login Sample Receipt Checklist**

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

Login Number: 5522 List Source: Eurofins Carlsbad

List Number: 1

Creator: Lopez, Abraham

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

**List Source: Eurofins Midland** 

Login Number: 5522 List Number: 2 List Creation: 10/26/23 04:35 PM Creator: Rodriguez, Leticia

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	N/A	

<6mm (1/4").

# **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

# **Eurofins Carlsbad**

# **Job Notes**

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

# **Authorization**

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

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

3

4

**5** 

7

10

12

13

14

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

# **Table of Contents**

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

è	

## **Definitions/Glossary**

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

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** 

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** 

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** 

Detection Limit (DoD/DOE) DL

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) Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NFG 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)

Relative Percent Difference, a measure of the relative difference between two points RPD

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.

2

5

6

<del>ا</del>

9

10

12

13

| 4

Matrix: Solid

Lab Sample ID: 890-4367-1

# **Client Sample Results**

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

Client Sample ID: SS04

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

Sample Depth: 0.5'

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 - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			04/03/23 15:53	-
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	GC)  RL 49.8	Unit ma/Ka	<u>D</u>	Prepared	Analyzed 03/27/23 17:15	
Method: SW846 8015 NM - Diese Analyte Total TPH	Result 85.2	Qualifier	49.8	Unit mg/Kg	<u>D</u>	Prepared		
Analyte Total TPH	Result 85.2 sel Range Orga	Qualifier nics (DRO)	49.8	mg/Kg	<u>D</u>	Prepared		1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte	Result 85.2 sel Range Orga Result	Qualifier nics (DRO) Qualifier	(GC) RL	mg/Kg	<u>D</u>	Prepared	03/27/23 17:15  Analyzed	1
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result 85.2 sel Range Orga	Qualifier nics (DRO) Qualifier	RL 49.8	mg/Kg			03/27/23 17:15	Dil Fac
Analyte	Result 85.2 sel Range Orga Result	Qualifier nics (DRO) Qualifier	(GC) RL	mg/Kg		Prepared	03/27/23 17:15  Analyzed	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result 85.2 sel Range Orga Result <a href="#">&lt;49.8</a>	Qualifier  nics (DRO)  Qualifier  U	(GC) RL 49.8	mg/Kg  Unit  mg/Kg		Prepared 03/24/23 16:55	03/27/23 17:15  Analyzed  03/27/23 16:50	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result 85.2 sel Range Orga Result <49.8 85.2	Qualifier  nics (DRO)  Qualifier  U	RL 49.8  (GC)  RL 49.8  49.8	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55	03/27/23 17:15  Analyzed  03/27/23 16:50  03/27/23 16:50	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier  nics (DRO) Qualifier U	RL 49.8 (GC) RL 49.8 49.8	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55	03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50 03/27/23 16:50	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result     85.2	Qualifier  nics (DRO) Qualifier U	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55 Prepared	03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50 03/27/23 16:50 Analyzed	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier  nics (DRO) Qualifier  U  Qualifier	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits  70 - 130  70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55  Prepared 03/24/23 16:55	03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50  Analyzed 03/27/23 16:50	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result 85.2 sel Range Orga Result <49.8 85.2 <49.8 %Recovery 97 89 Chromatograp	Qualifier  nics (DRO) Qualifier  U  Qualifier	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits  70 - 130  70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/24/23 16:55 03/24/23 16:55 03/24/23 16:55  Prepared 03/24/23 16:55	03/27/23 17:15  Analyzed 03/27/23 16:50 03/27/23 16:50  Analyzed 03/27/23 16:50	Dil Fac

# **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Rec
		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	

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

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49657/5-A

Analysis Batch: 49999

**Matrix: Solid** 

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

Prep Batch: 49657

1

	IVID	IVID						
Analyte	Result	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	
Toluene	<0.00200	U	0.00200	mg/Kg		03/27/23 16:06	03/31/23 21:58	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/27/23 16:06	03/31/23 21:58	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/27/23 16:06	03/31/23 21:58	
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/27/23 16:06	03/31/23 21:58	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/27/23 16:06	03/31/23 21:58	

MB MB

MD MD

Surrogate	%Recovery 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** 

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

Prep Batch: 49803

Analysis Batch: 49999

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

MB MB

Surrogate	%Recovery	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

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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	

LCS LCS

Surrogate	%Recovery 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	<b>Control Sample Dup</b>
	Donner Towner To to 1/81 A

Prep Type: Total/NA

Prep Batch: 49803

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

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

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

LCSD LCSD

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

Lab Sample ID: 890-4388-A-21-F MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 49999

Prep Batch: 49803 MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene <0.00198 U 0.0998 0.09156 mg/Kg 92 70 - 130 Toluene <0.00198 UF1 0.0998 0.08803 88 70 - 130 mg/Kg Ethylbenzene 0.0998 0.09372 70 - 130 <0.00198 mg/Kg 94 m-Xylene & p-Xylene <0.00396 U 0.200 0.1948 98 70 - 130 mg/Kg o-Xylene <0.00198 U 0.0998 0.09966 mg/Kg 100 70 - 130

MS MS

Surrogate	%Recovery 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

%Rec Spike MSD MSD RPD Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Benzene <0.00198 U 0.100 0.07017 mg/Kg 70 70 - 130 26 35 Toluene <0.00198 UF1 0.100 0.06706 F1 mg/Kg 67 70 - 130 27 35 Ethylbenzene <0.00198 0.100 0.07394 mg/Kg 74 70 - 130 24 35 <0.00396 U 0.201 0.1510 75 70 - 130 25 35 m-Xylene & p-Xylene mg/Kg 0.100 o-Xylene <0.00198 U 0.07875 mg/Kg 78 70 - 130 23 35

MSD MSD

Surrogate	%Recovery	Quaimer	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

мв мв Analyte Result Qualifier RL Unit Prepared Analyzed <50.0 U 50.0 mg/Kg 03/24/23 16:55 03/27/23 08:47 Gasoline Range Organics

(GRO)-C6-C10

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

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

Lab Sample ID: MB 880-49457/1-A

Lab Sample ID: LCS 880-49457/2-A

**Matrix: Solid** 

Analysis Batch: 49559

**Matrix: Solid** Analysis Batch: 49559

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49457

ı									
	Analyte	Result	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
	Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1

MB MB

MR MR

Surrogate	%Recovery	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

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 49457

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

LCS LCS

ICED ICED

Surrogate	%Recovery Qualifi	ier 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

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

	LUSD	LUSD	
Surrogate	%Recovery	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

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

C10-C28)

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

Job ID: 890-4367-1 Client: Ensolum Project/Site: PLU CVX JV BS 008H 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** Analysis Batch: 49559 Prep Type: Total/NA Prep Batch: 49457

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Sample Sample MSD MSD RPD Spike Result Qualifier Analyte Added Result Qualifier %Rec Limits RPD Limit Unit D Gasoline Range Organics <50.0 U 998 1062 mg/Kg 102 70 - 130 2 20 (GRO)-C6-C10 998 727 0 70 70 - 130Diesel Range Organics (Over <50.0 U mg/Kg 20

C10-C28)

MSD MSD

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49798/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 49899** 

MB MB

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

Lab Sample ID: LCS 880-49798/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 49899** 

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

Lab Sample ID: LCSD 880-49798/3-A

**Matrix: Solid** 

Analysis Batch: 49899

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

Lab Sample ID: 890-4355-A-2-F MS

**Matrix: Solid** 

**Analysis Batch: 49899** 

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

Lab Sample ID: 890-4355-A-2-G MSD

**Matrix: Solid** 

Analysis Batch: 49899

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

# **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

<b>Lab Sample ID</b> 890-4367-1	Client Sample ID SS04	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
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
 Job ID: 890-4367-1

 Project/Site: PLU CVX JV BS 008H
 SDG: 03C1558200

HPLC/IC

Leach Batch: 49798

<b>Lab Sample ID</b> 890-4367-1	Client Sample ID SS04	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
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

Eurofins Carlsbad

5

7

8

10

11

13

14

Date Received: 03/20/23 14:34

#### **Lab Chronicle**

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

**Client Sample ID: SS04** Lab Sample ID: 890-4367-1 Date Collected: 03/20/23 12:50

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Job ID: 890-4367-1 Project/Site: PLU CVX JV BS 008H

Total BTEX

SDG: 03C1558200

Total BTEX

**Laboratory: Eurofins Midland** 

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-25	06-30-23
The fellowing and have				
The following analytes	are included in this report in	it the laboratory is not certit	ied by the governing authority. This list ma	av include analytes fo
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes fo
0 ,	' '	It the laboratory is not certifi  Matrix	led by the governing authority. This list ma	ay include analytes fo

Solid

# **Method Summary**

Client: Ensolum Job ID: 890-4367-1 Project/Site: PLU CVX JV BS 008H 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
3015NM 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

Job ID: 890-4367-1

Project/Site: PLU CVX JV BS 008H 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'

Work Order Comments	Garrett Green	Tarahma Mannisseu Bill to: (if different)	piect Manager:
www.xenco.com Page			
	Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199		
	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	Xenco	
Work Order No:	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Environment lesting	
	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300		eurotins
	Chain of Custody		·

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐

		2	1 20102 E	tiff 3	Bush &	sed but	10.00
Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	e)	Received by: (Signature	(Signature)	Relinquished by: (Signature)
	tions trol negotiated.	Notte: 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 \$35.00 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.	urofins Xenco, its affiliates and s xenses incurred by the client if s o Eurofins Xenco, but not analy	ler from client company to E ansibility for any losses or ex for each sample submitted	es constitutes a valid purchase or les and shall not assume any resp to each project and a charge of \$5	ment and relinquishment of sampl I be llable only for the cost of samp n charge of \$85.00 will be applied i	ce: Signature of this docu nvice. Eurofins Xenco wi Irofins Xenco. A minimu
0 / 7471	U Hg: 1631 / 245.1 / 7470 / 7471	TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Sb As Ba Be Cd C	PLP 6010 : 8RCRA		Circle Method(s) and Metal(s) to be analyzed	rcle Method(s) a
U V Zn	li K Se	Ca Cr Co Cu Fe Pb Mg Mn M	5b As Ba Be B Cd	8RCRA 13PPM Texas 11 Al Sb As Ba Be B	8RCRA 13PI	200.8 / 6020:	Total 200.7 / 6010
AB 1602 1549 400	72.2						
dunt # "			X X X	0.5 6 1	03/20/23 12:50	c,	408.8
Sample Comments			Ch TF BT	Depth Comp Cont	Date Time Sampled Sampled	fication Matrix	Sample Identification
NaOH+Ascorbic Acid: SAPC	NaOt		ilov H EX	4:6	Corrected Temperature:	(	Total Containers:
Zn Acetate+NaOH: Zn			(10	4	Temperature Reading:	Yes No (N/A)	Sample Custody Seals:
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>		890-4367 Chain of Custody			Correction Factor:	Yes No	Cooler Custody Seals:
NaHSO .: NABIS	NaHS		S		nometer I	+	Samples Received Intact:
H,PO.: HP	H <sub>3</sub> PO		(613	Yes No	Yas No Wet Ice:	Temp Blank:	SAMPI E RECEIPT
12	H <sub>2</sub> SO			the lab, if received by 4:30pm			PO #:
•	HCL:HC	-		TAT starts the day received by	11 .6.7	10 PUE 18 1	Sampler's Name:
	Cool: Cool		a a	-	72 9530	77 10110 10 10 10 10 10 10 10 10 10 10 10	Project Number:
None: NO DI Water: H.O	200	ANALYSIS REQUEST	ÿ.	Turn Around Pres.	V DV OCH Turn	36	Project Name:
Proconvative Codes		ANALYSIS DECLIEST				D. 1. 1. 1. 1. 1.	
Other:	Deliverables: EDD ADaPT	mobile com	Green@Exwn	Garrett.	2946 Email:	763 - 607	Phone:
T   TRRP   Level IV	Reporting: Level II   Level III   PST/UST   TRRP   Level IV	NM 60220 Report	Lary Dau	City, State ZIP:	M 8 8220	Carlibad N	City, State ZIP:
		2000			1 1 1 1 1 1	THE WALL	Addicss.

# **Login Sample Receipt Checklist**

Client: Ensolum

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

Login Number: 4367 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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 Source: Eurofins Midland** List Number: 2

List Creation: 03/22/23 11:06 AM

Creator: Rodriguez, Leticia

<6mm (1/4").

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	N/A	

Released to Imaging: 4/3/2025 2:21:25 PM

# **ANALYTICAL REPORT**

# PREPARED FOR

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

# **JOB DESCRIPTION**

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

PLU CVX JV BS SDG NUMBER 03C1558200

# **JOB NUMBER**

890-5524-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



# **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 12:11:12 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	17
Lab Chronicle	20
Certification Summary	22
Method Summary	23
Sample Summary	24
Chain of Custody	25
Receipt Checklists	26

3

4

6

8

10

13

14

#### **Definitions/Glossary**

Job ID: 890-5524-1 Client: Ensolum 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. Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

DFR 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

Decision Level Concentration (Radiochemistry) DLC

**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)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

#### Case Narrative

Client: Ensolum

Job ID: 890-5524-1 Project/Site: PLU CVX JV BS 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.

#### HPI C/IC

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

Matrix: Solid

Lab Sample ID: 890-5524-1

# **Client Sample Results**

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

**Client Sample ID: PH03** 

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

Sample Depth: 1

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 - 1	Total BTEX Cald	culation						
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
Mothod: SW046 9045 NM Diggs	ol Banga Organ	ico (DBO) (	20)					
Method: SW846 8015 NM - Diese Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			49.9	mg/Kg			10/26/23 17:34	1
	10.0	Ü	10.0	mg/ng			10/20/20 17:01	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	
								Dil Fac
5 5	<49.9	U	49.9	mg/Kg		10/26/23 13:31	10/26/23 17:34	
(GRO)-C6-C10	<49.9 <49.9		49.9	mg/Kg		10/26/23 13:31 10/26/23 13:31		
(GRO)-C6-C10 Diesel Range Organics (Over							10/26/23 17:34	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)		U					10/26/23 17:34	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9	U U	49.9	mg/Kg		10/26/23 13:31	10/26/23 17:34	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate	<49.9 <49.9	U U <b>Qualifier</b>	49.9 49.9	mg/Kg		10/26/23 13:31 10/26/23 13:31	10/26/23 17:34 10/26/23 17:34 10/26/23 17:34	1 1 1 Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<49.9 <49.9 <b>%Recovery</b> 152	U U <b>Qualifier</b>	49.9 49.9 <i>Limits</i>	mg/Kg		10/26/23 13:31 10/26/23 13:31 Prepared	10/26/23 17:34 10/26/23 17:34 10/26/23 17:34 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<49.9 <49.9 	U  Qualifier  S1+ S1+	49.9 49.9  Limits 70 - 130 70 - 130	mg/Kg		10/26/23 13:31 10/26/23 13:31 Prepared 10/26/23 13:31	10/26/23 17:34 10/26/23 17:34 10/26/23 17:34 Analyzed 10/26/23 17:34	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<49.9 <49.9  **Recovery 152 134  Chromatograp	U  Qualifier  S1+ S1+	49.9 49.9  Limits 70 - 130 70 - 130	mg/Kg		10/26/23 13:31 10/26/23 13:31 Prepared 10/26/23 13:31	10/26/23 17:34 10/26/23 17:34 10/26/23 17:34 Analyzed 10/26/23 17:34	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Client Sample ID: PH03A Lab Sample ID: 890-5524-2

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

Sample Depth: 2

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

**Eurofins Carlsbad** 

Matrix: Solid

Job ID: 890-5524-1

Client: Ensolum Project/Site: PLU CVX JV BS SDG: 03C1558200

Client Sample ID: PH03A Lab Sample ID: 890-5524-2

Date Collected: 10/24/23 11:30 Matrix: Solid Date Received: 10/24/23 15:08

Sample Depth: 2

Surrogate	%Recovery Qua	alifier	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: TAI	SOP Total BTEX	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	ma/Ka			10/28/23 05:24	1

Mathada OMO40 0045 NM Disaal Damas Omasias (DDO) (OO	Α.
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC	. 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.8	U	49.8	ma/Ka			10/26/23 17:56	1	

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

		()	( /					
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
Oll 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

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

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

Sample Depth: 3

Mothodi	CIMOAC GOOAD	Valatile Or	ganic Compour	de (CC)
i wethod:	5W846 8U21B	- volatile Ur	danic Compour	ias (GC)

Mictiloa. Offoro COZ ID - Volat	ne organie comp		,					
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 A-Diffuorobenzene (Surr)	76		70 130			10/27/23 11:54	10/28/23 05:44	1

4-bromonuorobenzene (Surr)	93	10 - 130	10/21/23 11.54	10/20/23 03.44	ı
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	DII Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			10/28/23 05:44	1

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** 

Matrix: Solid

Matrix: Solid

Job ID: 890-5524-1

Client: Ensolum Project/Site: PLU CVX JV BS SDG: 03C1558200

**Client Sample ID: PH03B** Lab Sample ID: 890-5524-3 Date Collected: 10/24/23 11:35 Date Received: 10/24/23 15:08

Sample Depth: 3

Method: SW846 8015B NM - Dies	el Range Orga	nics (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	
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		10/26/23 13:31	10/26/23 18:18	
Oll Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		10/26/23 13:31	10/26/23 18:18	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	164	S1+	70 - 130			10/26/23 13:31	10/26/23 18:18	
o-Terphenyl	147	S1+	70 - 130			10/26/23 13:31	10/26/23 18:18	
- Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	165		5.00	mg/Kg			10/27/23 14:39	

**Client Sample ID: PH03C** Lab Sample ID: 890-5524-4 Date Collected: 10/24/23 11:40 Matrix: Solid

Date Received: 10/24/23 15:08

Sample Depth: 4

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 - 1	Total BTEX Cald	culation						
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 - Diese			GC)					
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH		Qualifier	•	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared	Analyzed 10/26/23 18:40	Dil Fac
Analyte	Result < 50.5	Qualifier U	RL 50.5		<u>D</u>	Prepared		
Analyte Total TPH	Result <50.5	Qualifier U	RL 50.5		<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies	Result <50.5	Qualifier Unics (DRO) Qualifier	RL 50.5	mg/Kg			10/26/23 18:40	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <50.5 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.5 (GC)	mg/Kg		Prepared	10/26/23 18:40 Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.5 sel Range Orga	Qualifier U  nics (DRO) Qualifier U	RL 50.5 (GC)	mg/Kg		Prepared	10/26/23 18:40 Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U  nics (DRO) Qualifier U	RL 50.5  (GC)  RL 50.5  50.5	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 10/26/23 13:31 10/26/23 13:31	10/26/23 18:40  Analyzed  10/26/23 18:40  10/26/23 18:40	1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.5  sel Range Orga Result <50.5	Qualifier U  nics (DRO) Qualifier U	RL 50.5  (GC) RL 50.5	mg/Kg  Unit  mg/Kg		Prepared 10/26/23 13:31	10/26/23 18:40  Analyzed  10/26/23 18:40	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.5  (GC)  RL 50.5  50.5	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 10/26/23 13:31 10/26/23 13:31	10/26/23 18:40  Analyzed  10/26/23 18:40  10/26/23 18:40	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.5	Qualifier U  nics (DRO) Qualifier U  U	RL 50.5 (GC) RL 50.5 50.5	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 10/26/23 13:31 10/26/23 13:31 10/26/23 13:31	Analyzed 10/26/23 18:40 10/26/23 18:40 10/26/23 18:40 10/26/23 18:40	1 Dil Fac 1

Job ID: 890-5524-1

SDG: 03C1558200

**Client Sample ID: PH03C** 

Project/Site: PLU CVX JV BS

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

Sample Depth: 4

Client: Ensolum

Lab Sample ID: 890-5524-4

Matrix: Solid

Method: EPA 300.0 - Anions, Ion C	hromatograp	hy - 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** Lab Sample ID: 890-5524-5 Matrix: Solid

Date Collected: 10/24/23 11:50 Date Received: 10/24/23 15:08

Method: SW846 8021B - Volatile	<b>Organic Comp</b>	ounds (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 06:25	
Toluene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 06:25	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/27/23 11:54	10/28/23 06:25	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/27/23 11:54	10/28/23 06:25	
o-Xylene	<0.00201	U *+	0.00201	mg/Kg		10/27/23 11:54	10/28/23 06:25	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/27/23 11:54	10/28/23 06:25	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	88		70 - 130			10/27/23 11:54	10/28/23 06:25	
1,4-Difluorobenzene (Surr)	53	S1-	70 - 130			10/27/23 11:54	10/28/23 06:25	
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/28/23 06:25	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (0	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.1	U	50.1	mg/Kg			10/26/23 19:24	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		10/26/23 13:31	10/26/23 19:24	
Diesel Range Organics (Over	<50.1	U	50.1	mg/Kg		10/26/23 13:31	10/26/23 19:24	
C10-C28) Oll Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		10/26/23 13:31	10/26/23 19:24	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	148	S1+	70 - 130			10/26/23 13:31	10/26/23 19:24	
o-Terphenyl	133	S1+	70 - 130			10/26/23 13:31	10/26/23 19:24	
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	е					
					_			B.: E
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa

Matrix: Solid

Lab Sample ID: 890-5524-6

# **Client Sample Results**

 Client: Ensolum
 Job ID: 890-5524-1

 Project/Site: PLU CVX JV BS
 SDG: 03C1558200

Client Sample ID: PH03E

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

Sample Depth: 10

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 - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/28/23 06:46	
Thethod: SW846 8015 NM - Diese	•	ics (DRO) (	GC)					
Method: SW846 8015 NM - Diese Analyte	Result	ics (DRO) (C	GC)	Unit	<u>D</u>	Prepared	Analyzed	
Thethod: SW846 8015 NM - Diese	•	ics (DRO) (C	GC)		<u>D</u>	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Result   <50.3	ics (DRO) (Country of the Country of	RL 50.3	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Result  <50.3 sel Range Orga	ics (DRO) (Country of the Country of	RL 50.3	Unit	D_	Prepared Prepared	Analyzed	1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	Result  <50.3 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.3	Unit mg/Kg	<u> </u>	· · · · · · · · · · · · · · · · · · ·	Analyzed 10/26/23 19:46	1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	Result <50.3 sel Range Orga	Qualifier U nics (DRO) Qualifier U u U	GC)  RL  50.3  (GC)  RL	Unit mg/Kg	<u> </u>	Prepared	Analyzed 10/26/23 19:46 Analyzed	1 Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.3 sel Range Orga Result <50.3	cos (DRO) (On Qualifier Unics (DRO) Qualifier Unics (DRO) Qualifier U	(GC)  RL  50.3  (GC)  RL  50.3	Unit mg/Kg  Unit mg/Kg	<u> </u>	Prepared 10/26/23 13:31	Analyzed  10/26/23 19:46  Analyzed  10/26/23 19:46	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.3	cos (DRO) (Control of the control of	GC)  RL  50.3  (GC)  RL  50.3  50.3	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 10/26/23 13:31 10/26/23 13:31	Analyzed 10/26/23 19:46  Analyzed 10/26/23 19:46 10/26/23 19:46	1 Dil Fac 1 1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.3	cos (DRO) (Control of the control of	GC) RL 50.3  (GC) RL 50.3  50.3  50.3	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 10/26/23 13:31 10/26/23 13:31 10/26/23 13:31	Analyzed 10/26/23 19:46  Analyzed 10/26/23 19:46 10/26/23 19:46 10/26/23 19:46	Dil Fac  1  1  Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <50.3	Company of the compan	GC) RL 50.3  (GC) RL 50.3  50.3  Limits	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 10/26/23 13:31 10/26/23 13:31 10/26/23 13:31 Prepared	Analyzed 10/26/23 19:46  Analyzed 10/26/23 19:46 10/26/23 19:46 10/26/23 19:46  Analyzed	Dil Fac  1  1  Dil Fac  1  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <50.3	Qualifier U  Qualifier U  Qualifier U  Qualifier U  Qualifier S1+ S1+	GC)  RL  50.3  (GC)  RL  50.3  50.3  50.3  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 10/26/23 13:31 10/26/23 13:31 10/26/23 13:31  Prepared 10/26/23 13:31	Analyzed 10/26/23 19:46  Analyzed 10/26/23 19:46 10/26/23 19:46  Analyzed 10/26/23 19:46	Dil Fac  1  1  Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  Qualifier U  Qualifier U  Qualifier U  Qualifier S1+ S1+	GC)  RL  50.3  (GC)  RL  50.3  50.3  50.3  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 10/26/23 13:31 10/26/23 13:31 10/26/23 13:31  Prepared 10/26/23 13:31	Analyzed 10/26/23 19:46  Analyzed 10/26/23 19:46 10/26/23 19:46  Analyzed 10/26/23 19:46	1 Dil Fac 1 Dil Fac 1

# **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-5524-1

 Project/Site: PLU CVX JV BS
 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)	
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-Bromofluorober	nzene (Surr)			
DFBZ = 1,4-Difluorobenz	zene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		1001	ОТРН1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(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+	
390-5524-6	PH03E	151 S1+	135 S1+	
_CS 880-65653/2-A	Lab Control Sample	98	107	
_CSD 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

Eurofins Carlsbad

3

8

10

4.0

13

14

### **QC Sample Results**

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

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

	MB	MB						
Analyte	Result	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

MB MB

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

Dil Fac Prepared Analyzed 10/25/23 11:32 10/27/23 11:15 10/25/23 11:32 10/27/23 11:15

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 65698

Matrix: Solid Analysis Batch: 65680

Lab Sample ID: MB 880-65698/5-A

мв мв

	IVID	IVIE
nalyte	Result	Qι
007000	<0.00200	11

Analyte	Result	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

мв мв

Surrogate	%Recovery	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** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 65698

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%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	

LCS LCS

Surrogate	%Recovery 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		Prep Type: Total/NA									
Analysis Batch: 65680							Prep Batch: 65698				
	Spike	LCSD	LCSD				%Rec		RPD		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
Benzene	0.100	0.1103		mg/Kg		110	70 - 130	11	35		

**Eurofins Carlsbad** 

Page 12 of 27

### QC Sample Results

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

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

LCSD LCSD

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

Client Sample ID: Matrix Spike Lab Sample ID: 820-10620-A-7-C MS

**Matrix: Solid** 

Analysis Batch: 65680

Prep Type: Total/NA

Prep Batch: 65698

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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	

MS MS

Surrogate	%Recovery 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

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	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

MSD MSD

Surrogate	%Recovery 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

**Matrix: Solid** 

Analysis Batch: 65586

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

Prep Batch: 65653

мв мв Result Qualifier RL Unit Prepared Gasoline Range Organics <50.0 U 50.0 mg/Kg 10/26/23 07:31 10/26/23 08:31

(GRO)-C6-C10

**Eurofins Carlsbad** 

o-Terphenyl

10/26/23 07:31

10/26/23 08:31

# **QC Sample Results**

 Client: Ensolum
 Job ID: 890-5524-1

 Project/Site: PLU CVX JV BS
 SDG: 03C1558200

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

184 S1+

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

	MB	MB						
Analyte	Result	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
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	201	S1+	70 - 130			10/26/23 07:31	10/26/23 08:31	1

70 - 130

Lab Sample ID: LCS 880-65653/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 65586 Prep Batch: 65653 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 845.1 85 70 - 130 mg/Kg (GRO)-C6-C10 1000 860.3 Diesel Range Organics (Over mg/Kg 86 70 - 130C10-C28) LCS LCS Qualifier Limits Surrogate %Recovery 1-Chlorooctane 70 - 130 98

o-Terphenyl 107 70 - 130

Lab Sample ID: LCSD 880-65653/3-A Client Sample ID: Lab Control Sample Dup
Matrix: Solid Prep Type: Total/NA
Analysis Batch: 65586 Prep Batch: 65653

Prep Batch: 65653 Spike LCSD LCSD %Rec RPD Added Result Qualifier %Rec Limits RPD Limit Analyte Unit D Gasoline Range Organics 1000 836.1 84 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 878.2 mg/Kg 88 70 - 130 2 20 C10-C28)

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 107
 70 - 130

 o-Terphenyl
 104
 70 - 130

Lab Sample ID: 890-5523-A-1-F MS

Client Sample ID: Matrix Spike
Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 65586 Prep Batch: 65653

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%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	
	MS	MS								

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 138
 S1+
 70 - 130

 o-Terphenyl
 112
 70 - 130

**Eurofins Carlsbad** 

2

4

6

Ω

10

12

13

rofins Carlsbac

### QC Sample Results

Job ID: 890-5524-1 Client: Ensolum Project/Site: PLU CVX JV BS 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 Prep Batch: 65653

Analysis Batch: 65586 Sample Sample MSD MSD RPD Spike Result Qualifier Analyte Added Result Qualifier %Rec Limits RPD Limit Unit D Gasoline Range Organics <49.5 U 1010 1300 mg/Kg 127 70 - 130 2 20

(GRO)-C6-C10 1010 1185 Diesel Range Organics (Over 118 mg/Kg 106 70 - 1302 20

C10-C28)

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-65614/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65660** 

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

Lab Sample ID: LCS 880-65614/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65660** 

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

Lab Sample ID: LCSD 880-65614/3-A

MB MB

Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 65660

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

Lab Sample ID: 880-34889-A-1-B MS

Client Sample ID: Matrix Spike **Matrix: Solid** 

**Analysis Batch: 65660** 

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

Lab Sample ID: 880-34889-A-1-C MSD

Matrix: Solid

Analysis Batch: 65660

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

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

### QC Sample Results

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

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-65623/1-A Client Sample ID: Method Blank

MD MD

**Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 65717

۱		IVID	IVID						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
l	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

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %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

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

Lab Sample ID: 890-5523-A-5-B MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 65717** 

_	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	75.5		249	315.1		mg/Kg		96	90 - 110	 

Lab Sample ID: 890-5523-A-5-C MSD Client Sample ID: Matrix Spike Duplicate **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 65717

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	75.5		249	315.8		mg/Kg		96	90 - 110	0	20

**Eurofins Carlsbad** 

# **QC Association Summary**

Client: Ensolum

Job ID: 890-5524-1 Project/Site: PLU CVX JV BS 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

**Eurofins Carlsbad** 

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-5524-1

 Project/Site: PLU CVX JV BS
 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

<b>Lab Sample ID</b> 890-5524-5	Client Sample ID PH03D	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
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	

**Eurofins Carlsbad** 

2

3

4

6

8

10

12

13

14

# **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

1

4

5

Ω

9

10

12

13

14

Date Received: 10/24/23 15:08

Job ID: 890-5524-1

10/27/23 14:28

CH

65717

50 mL

Client: Ensolum Project/Site: PLU CVX JV BS SDG: 03C1558200

**Client Sample ID: PH03** Lab Sample ID: 890-5524-1 Date Collected: 10/24/23 11:25 Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

Client Sample ID: PH03A Lab Sample ID: 890-5524-2 Date Collected: 10/24/23 11:30 Matrix: Solid

50 mL

Date Received: 10/24/23 15:08

Analysis

300.0

Soluble

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5524-3 Date Collected: 10/24/23 11:35 **Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5524-4 Date Collected: 10/24/23 11:40

Date Received: 10/24/23 15:08

Released to Imaging: 4/3/2025 2:21:25 PM

Date Received: 10/24/23 15:08

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

**Eurofins Carlsbad** 

EET MID

**Matrix: Solid** 

Client: Ensolum

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

**Client Sample ID: PH03C** Lab Sample ID: 890-5524-4

Date Collected: 10/24/23 11:40 Matrix: Solid Date Received: 10/24/23 15:08

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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** Lab Sample ID: 890-5524-5 **Matrix: Solid** 

Date Collected: 10/24/23 11:50 Date Received: 10/24/23 15:08

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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	СН	EET MID
Soluble	Analysis	300.0		1			65660	10/26/23 14:44	CH	EET MID

Lab Sample ID: 890-5524-6 **Client Sample ID: PH03E** 

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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	СН	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

**Eurofins Carlsbad** 

**Matrix: Solid** 

# **Accreditation/Certification Summary**

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

**Laboratory: Eurofins Midland** 

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

Authority	Progra	am	Identification Number	Expiration Date
Texas	NELA	Р	T104704400-23-26	06-30-24
	are included in this report, bu	it the laboratory is not certif	fied by the governing authority. This lis	t may include analytes
Analysis Method	Prep Method	Matrix	Analyte	
8015 NM		Solid	Total TPH	
Total BTEX		Solid	Total BTEX	

# **Method Summary**

 Client: Ensolum
 Job ID: 890-5524-1

 Project/Site: PLU CVX JV BS
 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

Eurofins Carlsbad

3

4

6

0

9

11

14

# **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

City, State ZIP:

Carlsbad, NM 88220 3122 National Parks Hwy

City, State ZIP:

Company Name: Bill to: (if different)

XTO Energy Garrett Green

3104 E. Green St. Carlsbad, NM 88220

Project Manager: Company Name:

Tacoma Morrissey

Xenco

Environment Testing

Ensolum

121314

# 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

Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	State of Project:	Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund [	Work Order Comments	www.xenco.com	Work Order No:	
ST ☐ TRRP ☐ Level IV ☐		elds RRC Superfund	nments	Page 2 of 2		

Page decision.  Connot Whitman Tal raise time any presented by a Storm Program Received Interference Connot Whitman To any time any presented by a Storm Program Received Interference Connot Connot Connot Start Received Interference Connot Connot Start Received Interference Connot Connot Start Received Interference Connot Interference Connot Start Received Interference Connot Int
Cool: Cool HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> P0 <sub>4</sub> : HP NaHSO <sub>4</sub> : NaSO <sub>3</sub> Zn Acetate+NaO+ NaOH+Ascorbic A Sample Cc Incident ID: nAB1802: AFE: Cost Center: 113970 AFE: Daure) Daure) Daure) Daure
Cool: Cool HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> P0 <sub>4</sub> : HP NaHS0 <sub>4</sub> : NaSis Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOt NaOH+Ascorbic / Sample Cc Incident ID: nAB1602: AFE: 113970 AFE: Va Sr TI Sn U V
Cool: Cool HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> P0 <sub>4</sub> : HP NaHS0 <sub>4</sub> : NaS0 <sub>3</sub> Zn Acetate+NaOh NaOH+Ascorbic A Sample Cc Incident ID: nAB1602 AFE: AFE: 113970 AFE:
Connor Whitman
Connor Whitman
Connor Whitman
Connor Whitman
Tamp Blank   Yes   No   The starts the day received by 4-30pm   He lab, if received by 4-30p
Tamp Blank   Yes No
Connor Whitman
Connor Whitman   TAT starts the day received by the lab, if received by 4 30pm   Pamp Blank:   Yes No   Wet loe:   Yes No   Thermometer ID:   TAT starts the day received by 4 30pm   Pamp Blank:   Yes No   Thermometer ID:   TAT starts the day received by 4 30pm   Pamp Blank:   Yes No   Thermometer ID:   TAT starts the day received by 4 30pm   Pamp Blank:   Yes No   Thermometer ID:   TAT starts the day received by 4 30pm   Pamp Blank:   Yes No   Thermometer ID:   TAT starts the day received by 4 30pm   Pamp Blank:   Yes No   Tat
Connor Whitman
Connor Whitman  TAT starts the day received by the lab, if received by 4:30pm the lab, if rec
Connor Whitman  TAT starts the day received by the lab, if received by 4:30pm the lab, if rec
Connor Whitman  TAT starts the day received by the lab, if received by 4:30pm the lab, if rec
Due Date:  No Wet Ice: Yes No Wet Ice: Yes No Remperature Reading: 1, 33  Corrected Temperature: 1, 0  Controlled Temperature:
nnor Whitman  TAT starts the day received by 4:30pm the lab, if received by 4:30pm the lab, i
nnor Whitman  TAT starts the day received by 4:30pm the lab, if received by 4:30pm the lab, i
The rmometer ID:  Due Date:  Cool: Cool HCL: HC H2sO4: H2 H3sO4: H2 NaHSO4: NABIS
TAT starts the day received by the lab, if received by 4:30pm
Due Date:   Cool: Cool TAT starts the day received by the lab, if received by 4:30pm  ### H2SO4: H2
TAT starts the day received by  TAT starts the day received by
Cool: Cool
03C1558200 Press None: NO DI Water: H <sub>2</sub> O
PLU CVX JV BS 008H Turn Around ANALYSIS REQUEST Preservative Codes
Turn Around  Routine Rush

### **Login Sample Receipt Checklist**

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

Login Number: 5524 List Source: Eurofins Carlsbad

List Number: 1

Creator: Lopez, Abraham

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

**List Source: Eurofins Midland** 

Login Number: 5524 List Number: 2 List Creation: 10/26/23 11:43 AM

Creator: Rodriguez, Leticia

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	

Sante Fe Main Office Phone: (505) 476-3441 General Information

Phone: (505) 629-6116
Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 447975

#### **QUESTIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	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.	

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 2

Action 447975

QUESTI	IONS (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.	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 s The source of the release has been stopped	
The impacted area has been secured to protect human health and the environment	True 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.
	I Iation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.
to report and/or file certain release notifications and perform corrective actions for releathe OCD does not relieve the operator of liability should their operations have failed to a	knowledge and understand that pursuant to OCD rules and regulations all operators are require ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface it does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 3

Action 447975

**QUESTIONS** (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	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 approva release discovery date.	l and beyond). This information must be provided to the appropriate district office no later than 90 days after the	
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 tha	at apply or are indicated. This information must be provided to t	he appropriate district office no later than 90 days after the release discovery date.
Requesting a remediation p	olan approval with this submission	Yes
Attach a comprehensive report dem	nonstrating 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 co	ntained 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 CI 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	e final sampling or liner inspection occur	10/24/2023
On what date will (or was) the	ne remediation complete(d)	10/24/2023
What is the estimated surface	ce area (in square feet) that will be reclaimed	0
What is the estimated volum	ne (in cubic yards) that will be reclaimed	0
What is the estimated surface	ce area (in square feet) that will be remediated	0
What is the estimated volum	ne (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.

Released to Imaging: 4/3/2025 2:21:25 PM

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 4

Action 447975

**QUESTIONS** (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	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.

Name: Colton Brown Title: Environmental Advisor I hereby agree and sign off to the above statement 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.

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 5

Action 447975

**QUESTIONS** (continued)

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

#### 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

General Information Phone: (505) 629-6116 Online Phone Directory

https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 6

Action 447975

QUESTIONS (continued)

40-0110110 (0011011000)	
Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	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
--	---

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 7

Action 447975

**QUESTIONS** (continued)

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	447975
	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

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 447975

#### **CONDITIONS**

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