



SITE CHARACTERIZATION AND REMEDIATION PLAN

Prepared For:

WPX Energy Permian, LLC

5315 Buena Vista Dr.

Carlsbad, NM 88220

Site Information:

Brushy Gathering Facility

Incident Number nAB1805133508

Unit M, Section 25, Township 26 South, Range 29 East

Eddy County, New Mexico

(32.00576, -103.94400)

Carlsbad • Houston • Midland • San Antonio • Lubbock • Hobbs • Lafayette



SYNOPSIS

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Site Characterization and Remediation Plan (SCRP) detailing site assessment and delineation soil sampling activities associated with inadvertent release of produced water at the Brushy Gathering Facility (Site). Based on laboratory analytical results from soil sampling activities at the Site, WPX proposes this RWP, which summarizes initial response efforts and details remediation objectives to rectify environmental impacts.

SITE LOCATION AND RELEASE BACKGROUND

The Site is located in Unit M, Section 25, Township 26 South, Range 29 East, in Eddy County, New Mexico (32.00576°, -103.94400°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM) (**Figure 1 in Appendix A**).

On February 5, 2018, it was discovered that an above ground poly line failure resulted in approximately 10 barrels (bbls) of produced water to be released onto a Right-Of-Way (ROW). Vacuum trucks were immediately dispatched and recovered approximately 7 bbls of standing fluids and additional fluids from draining the compromised poly line, which was subsequently removed. WPX reported the release to the NMOCDC on a Release Notification and Corrective Action Form C-141 (Form C-141), which was received by the NMOCDC on February 19, 2018, and was assigned Incident Number nAB1805133508. The observed extent of the release is presented as the Area of Concern (AOC) on **Figure 2 in Appendix A**. It should be noted that the release was reported on the Form C-141 to have occurred in 2016, however, this was an inadvertent mistake and email correspondence documents the correct year of the release occurrence as denoted above.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

Etech characterized the Site according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC) considering depth to groundwater and the proximity to:

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;
- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on a recent measurement of a nearby well at the JC Williams Yard, approximately 0.65 miles northwest of the Site. The well does not appear to have an identification number corresponding to the New Mexico Office of the State Engineer (NMOSE) or United States Geological Survey (USGS) well records. However, a depth to groundwater measurement at the well was obtained on



August 15, 2022, and measured 82.9 feet bgs. The Groundwater Measurement Form summarizing depth to groundwater data is provided as **Appendix B**. The location of the JC Williams well and additional regional groundwater well locations are shown in **Figure 1A** in **Appendix A**.

Based on the desktop review, the current BLM Carlsbad Field Office (CFO) karst cave potential map indicates the Site is located in a high potential karst area, and the National Wetlands Inventory indicates the Site intersects a wetland riverine. All other potential receptors are not within the established buffers in NMAC 19.15.29.12. Receptor details and sources used for the Site characterization are included in **Figure 1B** and **Figure 1C** in **Appendix A**.

Based on the results from the desktop review, specifically the designated karst potential at the Site and the proximity to a wetland feature, the following Closure Criteria was applied:

Constituents of Concern (COCs)	Laboratory Analytical Method	Closure Criteria [†]
Chloride	Environmental Protection Agency (EPA) 300.0	600 milligram per kilogram (mg/kg)
TPH (Total Petroleum Hydrocarbon)	EPA 8015 M/D	100 mg/kg
Benzene	EPA 8021B or EPA 8260B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B or EPA 8260B	50 mg/kg

[†]The reclamation standard concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.

DELINEATION SOIL SAMPLING ACTIVITIES

On September 8, 2022, a third-party environmental contractor conducted delineation activities to confirm details of the release provided on the Form C-141 and to characterize the AOC by verifying the presence or absence of impacted soil. Six delineation boreholes (BH01 through BH06) were advanced via hand auger to assess the lateral and vertical extents of the AOC. Delineation activities were driven by field screening soil for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. A total of two samples were collected from each delineation soil sampling location, representing the highest observed field screening concentrations and the greatest depth. Field screening results and soil descriptions are included on soil sampling logs shown in **Appendix C**. The locations of the delineation soil samples are shown in **Figure 2** in **Appendix A**. Photographic documentation of delineation activities is included in **Appendix D**.

The delineation soil samples were placed directly into lab provided pre-cleaned jars, packed with minimal void space, labeled, 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 COCs.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated that concentrations of COCs for all delineation soil samples were below the applicable Site Closure Criteria, except soil samples collected from BH02. Laboratory analytical results for BH02 indicated chloride concentrations exceeded the applicable Site Closure Criteria up to 1-foot bgs. Laboratory analytical results are summarized in Table 1 in **Attachment E**, and the complete laboratory reports with chain-of-custody documentation is included in **Attachment F**.



PROPOSED REMEDIATION WORK PLAN AND SCHEDULE

Based on the delineation soil sampling results, the following conclusions regarding the release are presented:

- Identified chloride impacts, characterized by concentrations ranging from 604 mg/kg to 3,560 mg/kg, exist within the top 1-foot of the AOC in the vicinity of BH02 sampling location. Laboratory analytical results for COC concentrations for the remaining delineation soil samples are below the applicable Site Closure Criteria.

Based on the conclusions drawn above, WPX proposes the following remedial corrective actions:

- Removal of impacted soil indicated by elevated chloride concentrations above the applicable Site Closure Criteria. The excavation will be advanced vertically and laterally until the applicable Site Closure Criteria is met. Sidewall soil samples will provide horizontal delineation of the release. Based on current delineation soil sampling results, an estimated 11 CYs of additional soil is anticipated to be removed from the Site in accordance with state and federal regulations.
- Following removal of soil impacts, 5-point composite confirmation soil samples will be collected from the excavation and analyzed by an accredited laboratory in accordance to NMAC 19.15.29.12.D. Excavated soil will then be transferred to an approved landfill facility for disposal.
 - (1) If the excavation area is smaller than the AOC and laboratory analytical results of floor and sidewall excavation confirmation soil samples are compliant with the Site Closure Criteria, additional confirmation soil samples will be collected from the remaining surface area of the AOC. Soil samples will be collected and analyzed as previously described.
- Upon receipt of soil confirmation results indicating impacted soil has been removed, the excavation will be backfilled with clean, locally sourced soil and restored to "as close to its original state" as possible.

PROPOSED TIMELINE

The tank battery storage facility associated with the Site, recently acquired by WaterBridge Operating, LLC. (WaterBridge), is scheduled to be decommissioned in the near future. As such, WPX requests to begin remediation activities concurrently with the proposed work associated with Incident Numbers nAB1501655607, nAB1504154780, nAB1522341642, nAB1621453181, nAB1633639499, nAPP2230032326, located due west of the Site, in accordance with the Site decommissioning schedule.

LIMITATIONS

Etech has prepared this SCRP to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

Based on the proposed scope of work, WPX believes the proposed remedial actions will meet the requirements set forth in NMAC 19.15.29.13 regulations to be protective of human health, the environment and groundwater. If you have any questions or comments, please do not hesitate to contact



Joseph Hernandez at (432) 305-6413 or joseph@etechnv.com or Anna Byers at (432) 305-6415 or anna@etechnv.com. Email correspondence regarding the Site is included in **Appendix G**.

Sincerely,

eTECH Environmental and Safety Solutions, Inc.

A handwritten signature in black ink that reads 'Anna Byers'.

Anna Byers
Senior Geologist
cc: Jim Raley, WPX
New Mexico Oil Conservation Division
Bureau of Land Management

A handwritten signature in black ink that reads 'Joseph S. Hernandez'.

Joseph S. Hernandez
Senior Managing Geologist

Appendices:

- Appendix A** Figure 1: Site Map
 - Figure 1A: Site Characterization Map – Groundwater
 - Figure 1B: Site Characterization Map – Surficial Receptors
 - Figure 1C: Site Characterization Map – Karst Potential
 - Figure 2: Delineation Soil Sample Locations
- Appendix B** Referenced Well Record
- Appendix C** Soil Sampling Logs
- Appendix D** Photographic Log
- Appendix E** Tables
- Appendix F** Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix G** Correspondence & Notifications

APPENDIX A

Figures

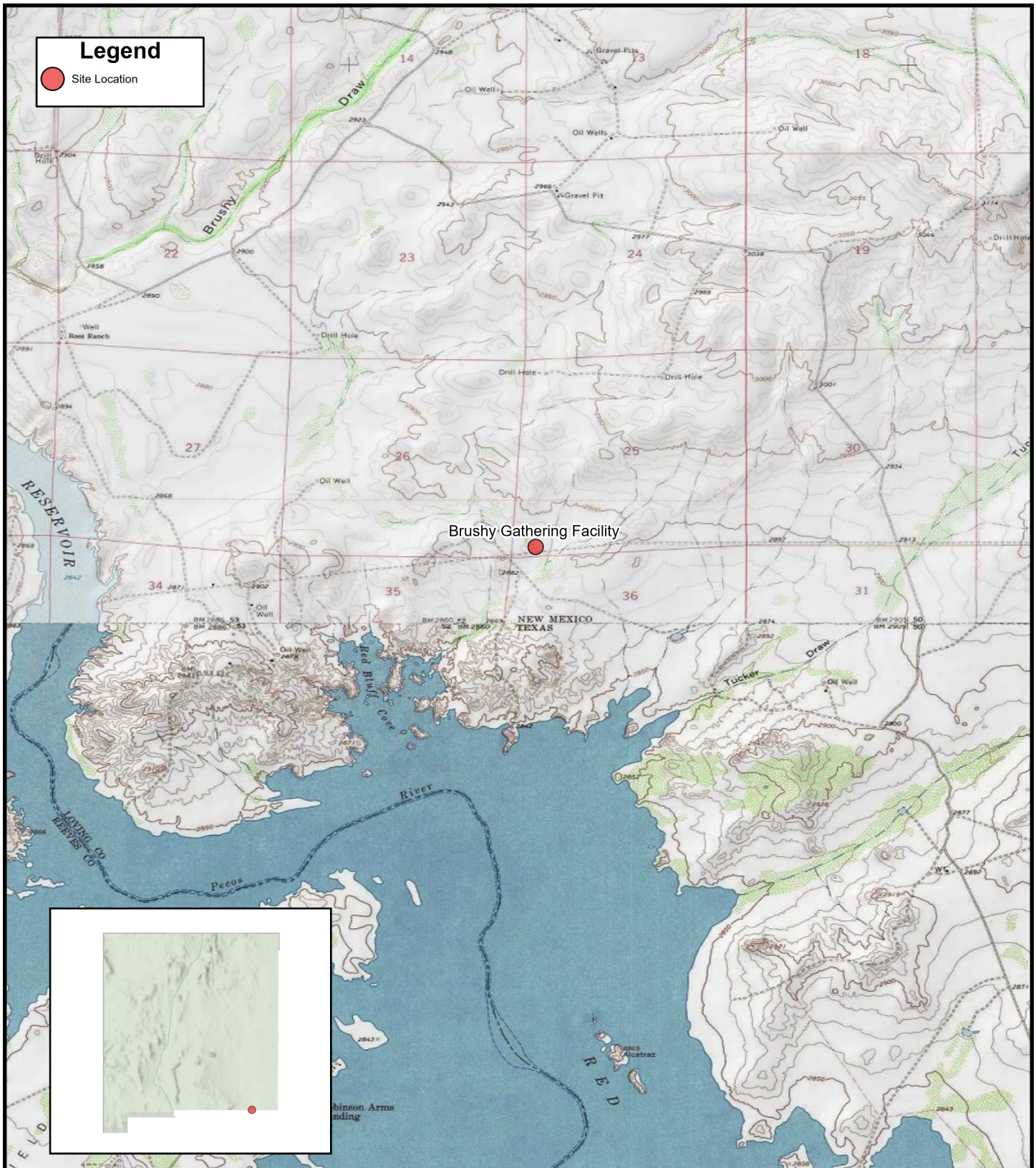


FIGURE 1

Site Location Map

WPX ENERGY PERMIAN, LLC
Brushy Gathering Facility
Unit M Sec 25 T26S R29E
Eddy County, New Mexico

eTECH



0 2,000 4,000 Feet

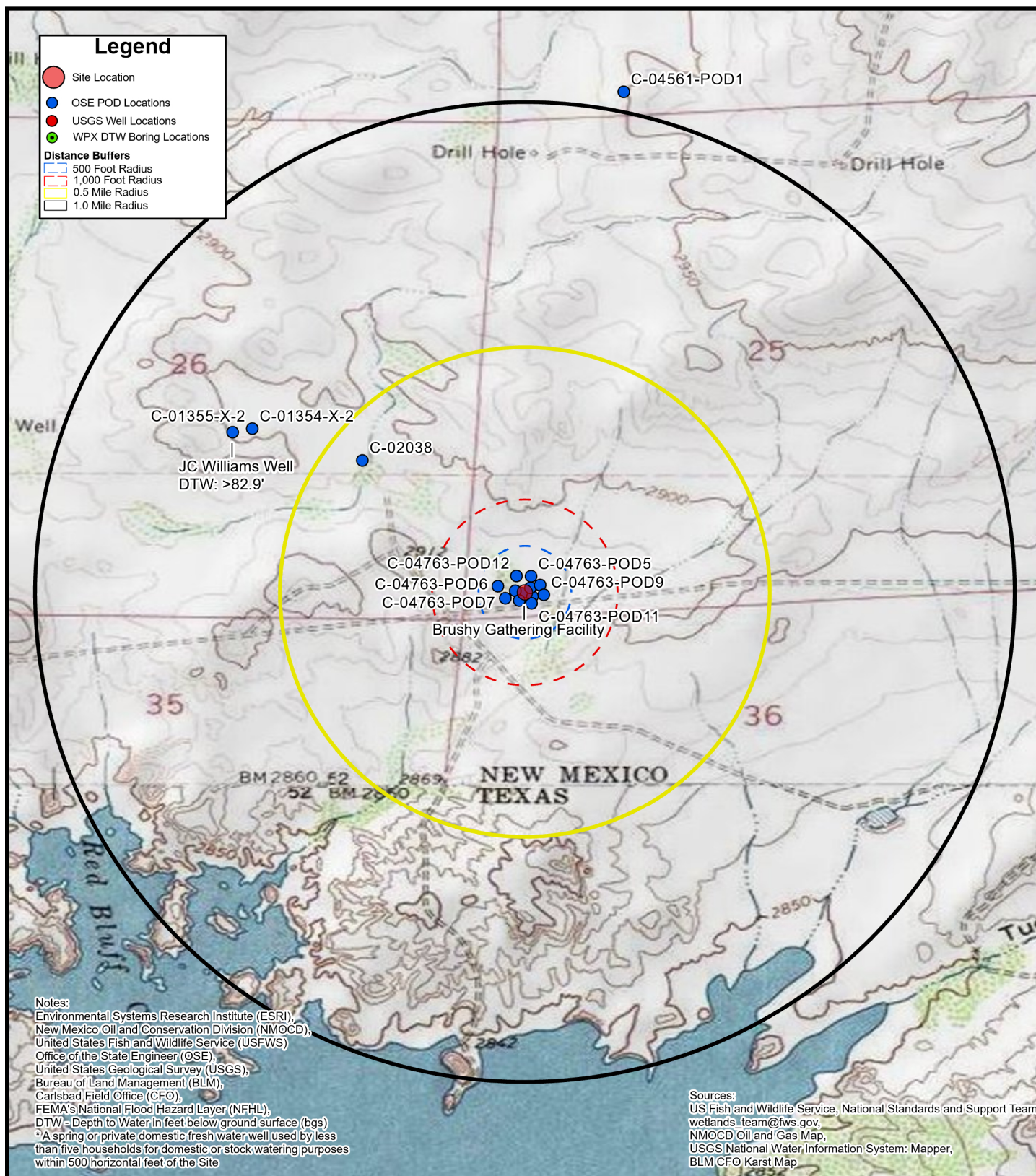
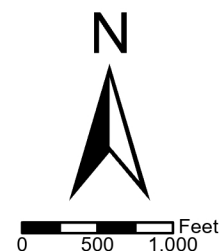


FIGURE 1A Site Characterization Map Ground Water

WPX ENERGY PERMIAN, LLC
Brushy Gathering Facility
Unit M Sec 25 T26S R29E
Eddy County, New Mexico



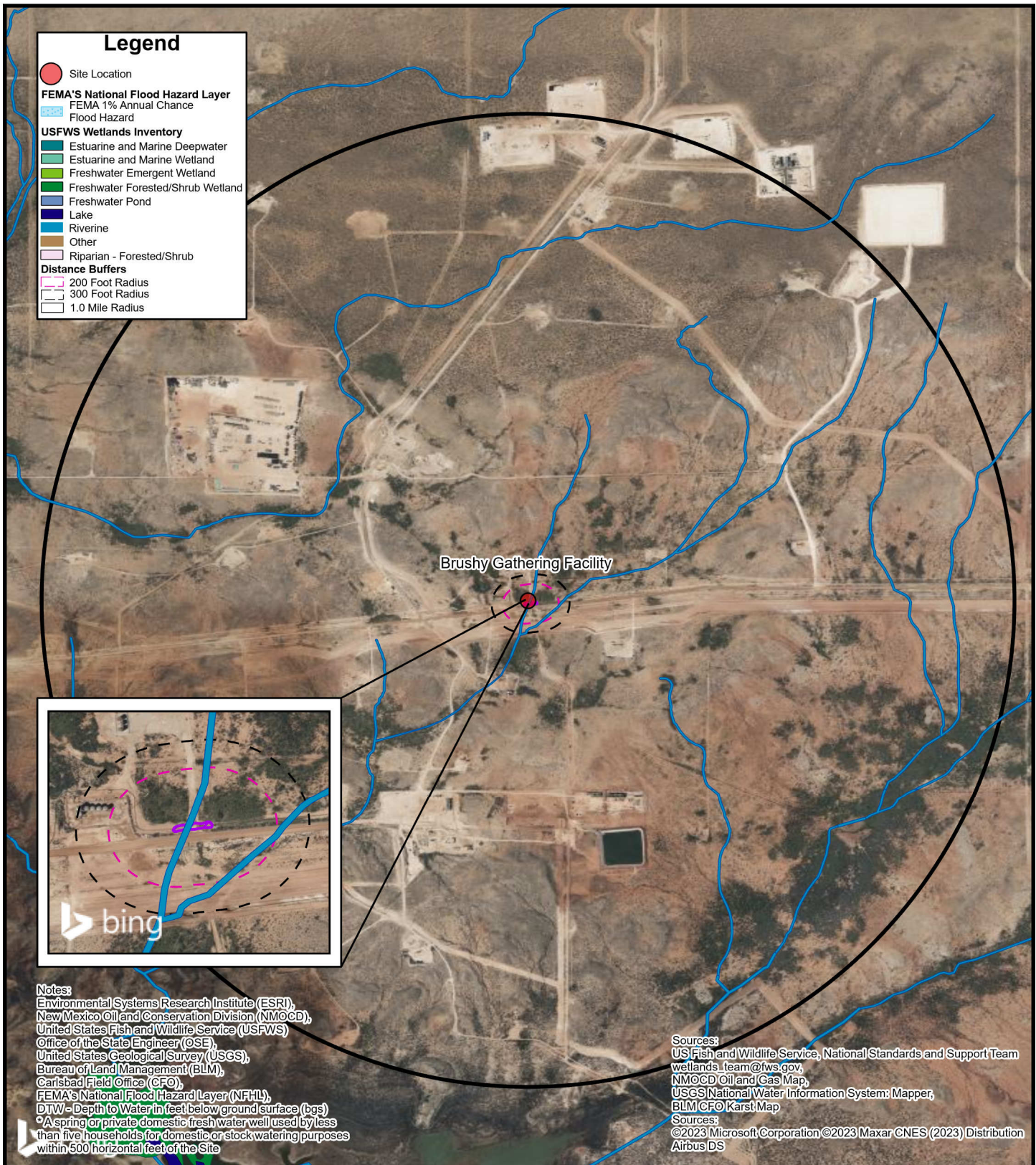
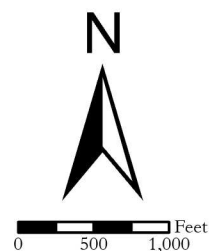
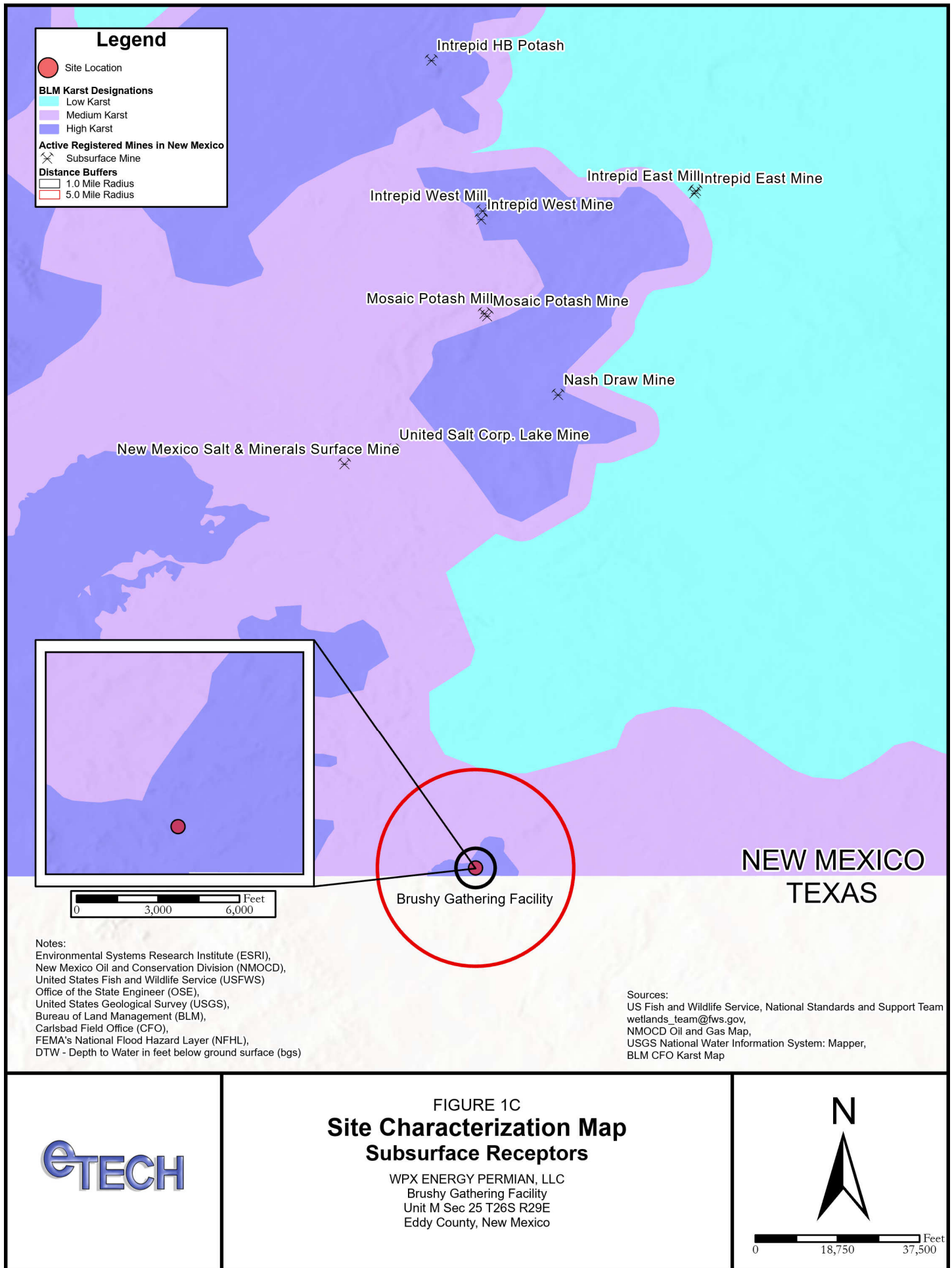
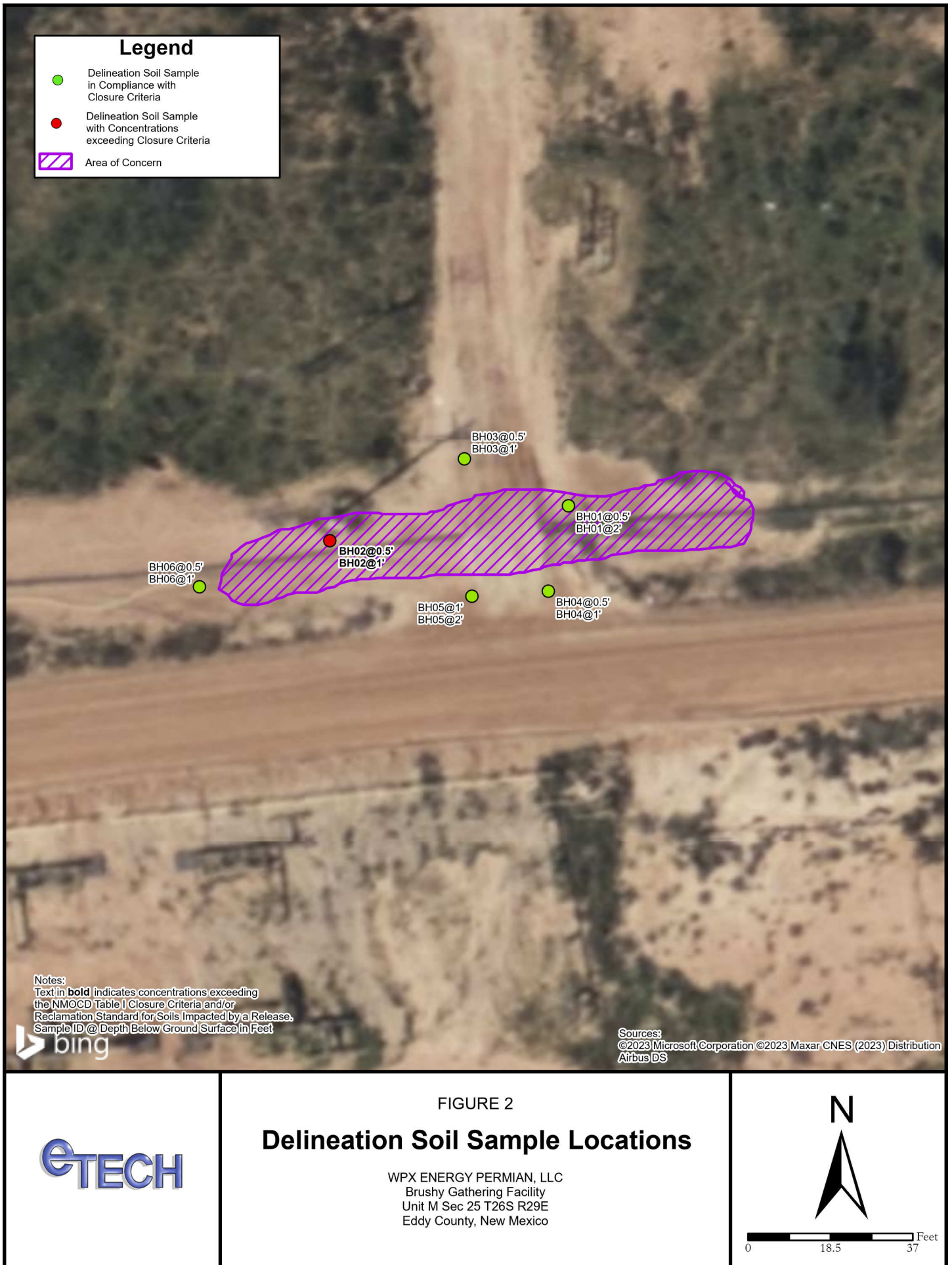


FIGURE 1B
**Site Characterization Map
 Surficial Receptors**

WPX ENERGY PERMIAN, LLC
 Brushy Gathering Facility
 Unit M Sec 25 T26S R29E
 Eddy County, New Mexico







APPENDIX B

Referenced Well Records

Project Manager: Joseph Hernandez



APPENDIX C

Soil Sampling Logs

								Sample Name: BH01		Date: 09/08/2022			
								Site Name: Brushy Gathering Facility					
								Incident Number: nAB1805133508					
								Job Number: 18175					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: SK		Method: Hand Auger			
Site Coordinates: 32.0056975, -103.9438566								Hole Diameter: N/A		Total Depth: 2 feet			
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.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes					
Dry	ND	NT	No	BH01	0.5	0.5	SW-SM	(0-2') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor. ND - Non-detectable NT - Not Tested					
Dry	ND	NT	No	BH01	1	1							
Dry	ND	NT	No		2	2							
Total Depth													

				Sample Name: BH02		Date: 09/08/2022		
				Site Name: Brushy Gathering Facility				
				Incident Number: nAB1805133508				
				Job Number: 18175				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: SK		Method: Hand Auger		
Site Coordinates: 32.0056757, -103.9440322				Hole Diameter: N/A		Total Depth: 4 feet		
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.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	ND	NT	No	BH02	0.5	0.5	SW-SM	(0-4') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor.
Dry	845.6	NT	No	BH02	1	1		ND - Non-detectable NT - Not Tested
Dry	772	NT	No		2	2		
Dry	470.4	NT	No		3	3		
Dry	240.8	NT	No		4	4		
Total Depth								



Sample Name: BH03

Date: 09/08/2022

Site Name: Brushy Gathering Facility

Incident Number: nAB1805133508

Job Number: 18175

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: SK

Method: Hand Auger

Site Coordinates: 32.0057329, -103.9439383

Hole Diameter: N/A

Total Depth: 1 foot

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.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	ND	NT		BH03	0.5	0.5	SW-SM	(0-1') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor.
Dry	ND	NT		BH03	1	1		ND - Non-detectable NT - Not Tested

Total Depth

				Sample Name: BH04		Date: 09/08/2022		
				Site Name: Brushy Gathering Facility				
				Incident Number: nAB1805133508				
				Job Number: 18175				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: SK		Method: Hand Auger		
Site Coordinates: 32.0056372, -103.9438775				Hole Diameter: N/A		Total Depth: 1 foot		
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.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	324.8	NT		BH04	0.5	0.5	SW-SM	(0-1') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor.
Dry	280	NT		BH04	1	1		NT - Not Tested
Total Depth								

					Sample Name: BH05		Date: 09/08/2022	
					Site Name: Brushy Gathering Facility			
					Incident Number: nAB1805133508			
					Job Number: 18175			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: SK		Method: Hand Auger	
Site Coordinates: 32.0056336, -103.9439328					Hole Diameter: N/A		Total Depth: 2 feet	
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.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	414.4	NT			0.5	0.5	SW-SM	(0-2') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor.
Dry	324.8	NT		BH05	1	1		NT - Not Tested
Dry	240	NT		BH05	2	2		
Total Depth								

								Sample Name: BH06		Date: 09/08/2022	
								Site Name: Brushy Gathering Facility			
								Incident Number: nAB1805133508			
								Job Number: 18175			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: SK		Method: Hand Auger	
Site Coordinates: 32.0056404, -103.9441301								Hole Diameter: N/A		Total Depth: 1 foot	
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.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Dry	ND	NT		BH06	0.5	0.5	SW-SM	(0-1') SAND, dry, brown, poorly graded with silt, very fine grain, some organics, no stain, no odor.			
Dry	ND	NT		BH06	1	1		ND - Non-detectable NT - Not Tested			
Total Depth											

APPENDIX D

Photographic Log

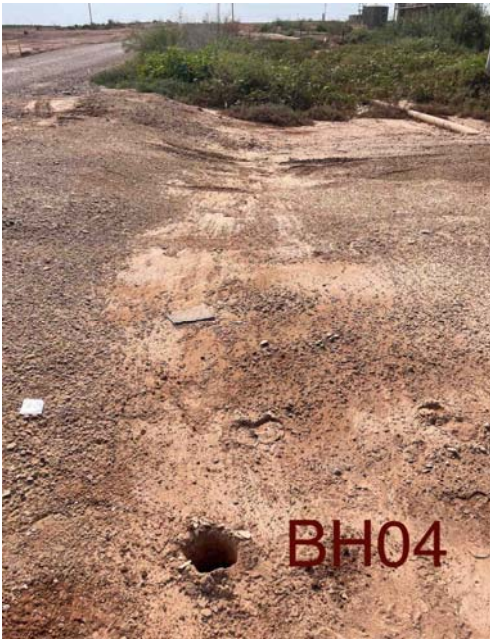


PHOTOGRAPHIC LOG

WPX Energy Permian, LLC

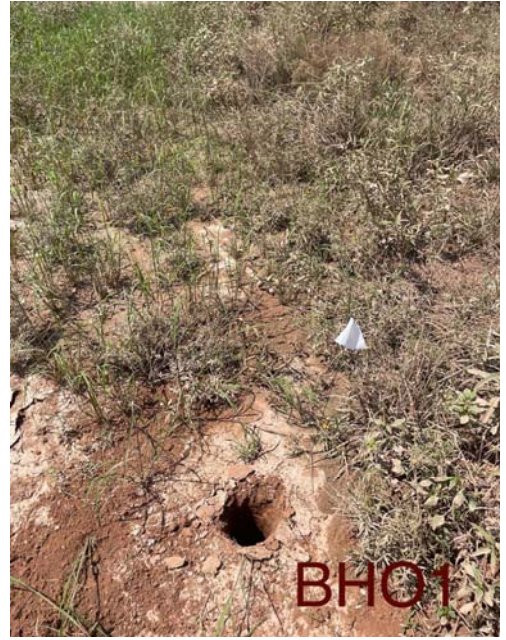
Brushy Gathering Facility

Incident Number nAB1805133508



Photograph 1 **Date: 09/08/2022**

Description: Western view of delineation activities near BH04.



Photograph 2 **Date: 09/08/2022**

Description: View of delineation activities near BH01.



Photograph 3 **Date: 09/08/2022**

Description: Eastern view of delineation activities near BH02.



Photograph 4 **Date: 09/08/2022**

Description: View of delineation activities near BH05.

APPENDIX E

Tables



Table 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
Brushy Gathering Facility
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)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Delineation Soil Samples - Incident Number nAB1805133508									
BH01	09/08/2022	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	20.4
BH01	09/08/2022	2	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	11.5
BH02	09/08/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	3,560
BH02	09/08/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	604
BH03	09/08/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	9.36
BH03	09/08/2022	1	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	12.2
BH04	09/08/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	370
BH04	09/08/2022	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	420
BH05	09/08/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	344
BH05	09/08/2022	2	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	381
BH06	09/08/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	69.0
BH06	09/08/2022	1	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	17.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Text in "grey" represents excavated soil samples

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard[†] for Soils Impacted by a Release[†] The reclamation concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.

APPENDIX F

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2927-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/21/2022 2:04:47 PM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2927-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Job ID: 890-2927-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-2927-1
-----------	-----------------------------

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

Method 8021B: The LCS was biased high for o-xylene. Since the method requires either an acceptable LCS or LCSD, the data was qualified and reported. (LCS 880-34854/1-A)

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-34854/1-A). Evidence of matrix interferences is not obvious.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Client Sample ID: BH01

Lab Sample ID: 890-2927-1

Date Collected: 09/08/22 10:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:55	09/20/22 16:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:55	09/20/22 16:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:55	09/20/22 16:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/19/22 14:55	09/20/22 16:54	1
o-Xylene	<0.00201	U **	0.00201		mg/Kg		09/19/22 14:55	09/20/22 16:54	1
Xylenes, Total	<0.00402	U **	0.00402		mg/Kg		09/19/22 14:55	09/20/22 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	09/19/22 14:55	09/20/22 16:54	1
1,4-Difluorobenzene (Surr)	89		70 - 130	09/19/22 14:55	09/20/22 16:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/21/22 09:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 03:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 03:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 03:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	09/13/22 11:41	09/14/22 03:56	1
o-Terphenyl	104		70 - 130	09/13/22 11:41	09/14/22 03:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.4		4.99		mg/Kg			09/15/22 12:13	1

Client Sample ID: BH01

Lab Sample ID: 890-2927-2

Date Collected: 09/08/22 10:45

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:55	09/20/22 17:14	1
Toluene	0.00207		0.00202		mg/Kg		09/19/22 14:55	09/20/22 17:14	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:55	09/20/22 17:14	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/19/22 14:55	09/20/22 17:14	1
o-Xylene	<0.00202	U **	0.00202		mg/Kg		09/19/22 14:55	09/20/22 17:14	1
Xylenes, Total	<0.00404	U **	0.00404		mg/Kg		09/19/22 14:55	09/20/22 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	09/19/22 14:55	09/20/22 17:14	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Client Sample ID: BH01

Lab Sample ID: 890-2927-2

Date Collected: 09/08/22 10:45

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	104		70 - 130	09/19/22 14:55	09/20/22 17:14	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/21/22 09:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 04:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 04:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 04:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130				09/13/22 11:41	09/14/22 04:18	1
o-Terphenyl	122		70 - 130				09/13/22 11:41	09/14/22 04:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.5		5.04		mg/Kg			09/15/22 13:31	1

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-19366-A-1-A MS	Matrix Spike	111	102
880-19366-A-1-B MSD	Matrix Spike Duplicate	127	95
890-2927-1	BH01	112	89
890-2927-2	BH01	101	104
LCS 880-34854/1-A	Lab Control Sample	149 S1+	99
LCSD 880-34854/2-A	Lab Control Sample Dup	118	90
MB 880-34854/5-A	Method Blank	98	91
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2927-1	BH01	102	104
890-2927-2	BH01	122	122
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34854/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34891							Prep Batch: 34854		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:55	09/20/22 10:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130				09/19/22 14:55	09/20/22 10:44	1
1,4-Difluorobenzene (Surr)	91		70 - 130				09/19/22 14:55	09/20/22 10:44	1

Lab Sample ID: LCS 880-34854/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34891							Prep Batch: 34854		
Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene		0.100	0.09097		mg/Kg		91	70 - 130	
Toluene		0.100	0.09371		mg/Kg		94	70 - 130	
Ethylbenzene		0.100	0.1136		mg/Kg		114	70 - 130	
m-Xylene & p-Xylene		0.200	0.2523		mg/Kg		126	70 - 130	
o-Xylene		0.100	0.1444	*+	mg/Kg		144	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130						
1,4-Difluorobenzene (Surr)	99		70 - 130						

Lab Sample ID: LCSD 880-34854/2-A							Client Sample ID: Lab Control Sample Dup			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 34891							Prep Batch: 34854			
Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene		0.100	0.07718		mg/Kg		77	70 - 130	16	35
Toluene		0.100	0.08630		mg/Kg		86	70 - 130	8	35
Ethylbenzene		0.100	0.1069		mg/Kg		107	70 - 130	6	35
m-Xylene & p-Xylene		0.200	0.2066		mg/Kg		103	70 - 130	20	35
o-Xylene		0.100	0.1153		mg/Kg		115	70 - 130	22	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
4-Bromofluorobenzene (Surr)	118		70 - 130							
1,4-Difluorobenzene (Surr)	90		70 - 130							

Lab Sample ID: 880-19366-A-1-A MS							Client Sample ID: Matrix Spike		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34891							Prep Batch: 34854		
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U F1	0.0998	0.06213	F1	mg/Kg		61	70 - 130
Toluene	0.0234	F1	0.0998	0.07378	F1	mg/Kg		50	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

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

Lab Sample ID: 880-19366-A-1-A MS
Matrix: Solid
Analysis Batch: 34891

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34854

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.0228	F1	0.0998	0.06507	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	0.0552	F1	0.200	0.1410	F1	mg/Kg		43	70 - 130
o-Xylene	0.0303	*+ F1	0.0998	0.08285	F1	mg/Kg		53	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	111		70 - 130						
1,4-Difluorobenzene (Surr)	102		70 - 130						

Lab Sample ID: 880-19366-A-1-B MSD
Matrix: Solid
Analysis Batch: 34891

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34854

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.100	0.05480	F1	mg/Kg		53	70 - 130	13	35
Toluene	0.0234	F1	0.100	0.06882	F1	mg/Kg		45	70 - 130	7	35
Ethylbenzene	0.0228	F1	0.100	0.06318	F1	mg/Kg		40	70 - 130	3	35
m-Xylene & p-Xylene	0.0552	F1	0.200	0.1334	F1	mg/Kg		39	70 - 130	6	35
o-Xylene	0.0303	*+ F1	0.100	0.07350	F1	mg/Kg		43	70 - 130	12	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	127		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								

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

Lab Sample ID: MB 880-34396/1-A
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34396

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1-Chlorooctane	105		70 - 130						
o-Terphenyl	110		70 - 130						

Lab Sample ID: LCS 880-34396/2-A
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

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

Lab Sample ID: LCS 880-34396/2-A
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34396

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	133	S1+	70 - 130
o-Terphenyl	133	S1+	70 - 130

Lab Sample ID: LCSD 880-34396/3-A
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34396

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	981.9		mg/Kg		98	70 - 130	7	20

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

Lab Sample ID: 880-19130-A-8-B MS
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34396

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 880-19130-A-8-C MSD
Matrix: Solid
Analysis Batch: 34334

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34396

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	83		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34414/1-A										Client Sample ID: Method Blank	
Matrix: Solid										Prep Type: Soluble	
Analysis Batch: 34568											
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00		mg/Kg			09/15/22 11:58	1		
Lab Sample ID: LCS 880-34414/2-A										Client Sample ID: Lab Control Sample	
Matrix: Solid										Prep Type: Soluble	
Analysis Batch: 34568											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			200	192.2		mg/Kg		96	90 - 110		
Lab Sample ID: LCSD 880-34414/3-A										Client Sample ID: Lab Control Sample Dup	
Matrix: Solid										Prep Type: Soluble	
Analysis Batch: 34568											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			200	192.7		mg/Kg		96	90 - 110	0	20
Lab Sample ID: 890-2927-1 MS										Client Sample ID: BH01	
Matrix: Solid										Prep Type: Soluble	
Analysis Batch: 34568											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	20.4		250	263.9		mg/Kg		98	90 - 110		
Lab Sample ID: 890-2927-1 MSD										Client Sample ID: BH01	
Matrix: Solid										Prep Type: Soluble	
Analysis Batch: 34568											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.4		250	265.5		mg/Kg		98	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

GC VOA

Prep Batch: 34854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	5035	
890-2927-2	BH01	Total/NA	Solid	5035	
MB 880-34854/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34854/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34854/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19366-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-19366-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 34891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	8021B	34854
890-2927-2	BH01	Total/NA	Solid	8021B	34854
MB 880-34854/5-A	Method Blank	Total/NA	Solid	8021B	34854
LCS 880-34854/1-A	Lab Control Sample	Total/NA	Solid	8021B	34854
LCSD 880-34854/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34854
880-19366-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	34854
880-19366-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34854

Analysis Batch: 35019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	Total BTEX	
890-2927-2	BH01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	8015B NM	34396
890-2927-2	BH01	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	8015NM Prep	
890-2927-2	BH01	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Total/NA	Solid	8015 NM	
890-2927-2	BH01	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

HPLC/IC

Leach Batch: 34414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Soluble	Solid	DI Leach	
890-2927-2	BH01	Soluble	Solid	DI Leach	
MB 880-34414/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34414/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34414/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2927-1 MS	BH01	Soluble	Solid	DI Leach	
890-2927-1 MSD	BH01	Soluble	Solid	DI Leach	

Analysis Batch: 34568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2927-1	BH01	Soluble	Solid	300.0	34414
890-2927-2	BH01	Soluble	Solid	300.0	34414
MB 880-34414/1-A	Method Blank	Soluble	Solid	300.0	34414
LCS 880-34414/2-A	Lab Control Sample	Soluble	Solid	300.0	34414
LCSD 880-34414/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34414
890-2927-1 MS	BH01	Soluble	Solid	300.0	34414
890-2927-1 MSD	BH01	Soluble	Solid	300.0	34414

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Client Sample ID: BH01

Lab Sample ID: 890-2927-1

Date Collected: 09/08/22 10:30

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	34854	09/19/22 14:55	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34891	09/20/22 16:54	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35019	09/21/22 09:38	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34484	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 03:56	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34414	09/13/22 15:08	KS	EET MID
Soluble	Analysis	300.0		1			34568	09/15/22 12:13	CH	EET MID

Client Sample ID: BH01

Lab Sample ID: 890-2927-2

Date Collected: 09/08/22 10:45

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	34854	09/19/22 14:55	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34891	09/20/22 17:14	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35019	09/21/22 09:38	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34484	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 04:18	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	34414	09/13/22 15:08	KS	EET MID
Soluble	Analysis	300.0		1			34568	09/15/22 13:31	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2927-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2927-1	BH01	Solid	09/08/22 10:30	09/09/22 15:05	0.5
890-2927-2	BH01	Solid	09/08/22 10:45	09/09/22 15:05	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

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

Chain of Custody

Work Order No:

Page 1 of 1

Project Manager:	Ben Beilil	Bill to: (if different)	Jim Raley
Company Name:	Ensolum, LLC	Company Name:	Devon Energy Corporation
Address:	2351 W Northwest Hwy Suite 1203A	Address:	5315 Buena Vista Dr.
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	jim.raley@dvn.com

Work Order Comments	
Program: UST/PST	☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible][illegible]

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 A Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
TCLP / SPLP 6010. 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
Hg: 1631 / 245.1 / 7470 / 7747

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xanco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xanco 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 Xanco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xanco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		9-9-22 1503			
3					
5					

Revised Date 10/25/2020 Rev. 2020.

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2927-1

SDG Number: 03A1987009

Login Number: 2927

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2927-1

SDG Number: 03A1987009

Login Number: 2927

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2926-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/21/2022 5:16:54 PM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2926-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Job ID: 890-2926-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-2926-1

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34858 and analytical batch 880-34895 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Client Sample ID: BH02

Lab Sample ID: 890-2926-1

Date Collected: 09/08/22 11:15

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 12:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 12:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 12:39	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/19/22 15:06	09/21/22 12:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 12:39	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/19/22 15:06	09/21/22 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	09/19/22 15:06	09/21/22 12:39	1
1,4-Difluorobenzene (Surr)	113		70 - 130	09/19/22 15:06	09/21/22 12:39	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/21/22 15:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 03:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 03:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 03:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	09/13/22 11:41	09/14/22 03:13	1
o-Terphenyl	123		70 - 130	09/13/22 11:41	09/14/22 03:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3560		50.5		mg/Kg			09/14/22 03:16	10

Client Sample ID: BH02

Lab Sample ID: 890-2926-2

Date Collected: 09/08/22 11:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/19/22 15:06	09/21/22 12:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/19/22 15:06	09/21/22 12:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/19/22 15:06	09/21/22 12:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/19/22 15:06	09/21/22 12:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/19/22 15:06	09/21/22 12:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/19/22 15:06	09/21/22 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	09/19/22 15:06	09/21/22 12:59	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Client Sample ID: BH02

Lab Sample ID: 890-2926-2

Date Collected: 09/08/22 11:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)										
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	112		70 - 130				09/19/22 15:06	09/21/22 12:59	1	
Method: Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/21/22 15:17	1	
Method: 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1	
Method: 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 03:35	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 03:35	1	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 03:35	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	97		70 - 130				09/13/22 11:41	09/14/22 03:35	1	
o-Terphenyl	99		70 - 130				09/13/22 11:41	09/14/22 03:35	1	
Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	604		4.99		mg/Kg			09/14/22 03:21	1	

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-19019-A-1-E MS	Matrix Spike	117	114
880-19019-A-1-F MSD	Matrix Spike Duplicate	92	112
890-2926-1	BH02	93	113
890-2926-2	BH02	95	112
LCS 880-34858/1-A	Lab Control Sample	91	102
LCSD 880-34858/2-A	Lab Control Sample Dup	94	103
MB 880-34692/5-A	Method Blank	102	116
MB 880-34858/5-A	Method Blank	104	116
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2926-1	BH02	124	123
890-2926-2	BH02	97	99
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34692/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34692		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130				09/16/22 16:15	09/20/22 17:37	1
1,4-Difluorobenzene (Surr)	116		70 - 130				09/16/22 16:15	09/20/22 17:37	1

Lab Sample ID: MB 880-34858/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				09/19/22 15:06	09/21/22 05:13	1
1,4-Difluorobenzene (Surr)	116		70 - 130				09/19/22 15:06	09/21/22 05:13	1

Lab Sample ID: LCS 880-34858/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.100	0.09802		mg/Kg		98	70 - 130		
Toluene	0.100	0.08583		mg/Kg		86	70 - 130		
Ethylbenzene	0.100	0.08534		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene	0.200	0.1780		mg/Kg		89	70 - 130		
o-Xylene	0.100	0.08903		mg/Kg		89	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		70 - 130						
1,4-Difluorobenzene (Surr)	102		70 - 130						

Lab Sample ID: LCSD 880-34858/2-A							Client Sample ID: Lab Control Sample Dup		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09393		mg/Kg		94	70 - 130	4	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

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

Lab Sample ID: LCSD 880-34858/2-A

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.08451		mg/Kg		85	70 - 130		2	35
Ethylbenzene	0.100	0.08316		mg/Kg		83	70 - 130		3	35
m-Xylene & p-Xylene	0.200	0.1731		mg/Kg		87	70 - 130		3	35
o-Xylene	0.100	0.08797		mg/Kg		88	70 - 130		1	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-19019-A-1-E MS

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00201	U F2 F1	0.0998	0.04876	F1	mg/Kg		49	70 - 130	
Toluene	<0.00201	U F2 F1	0.0998	0.04594	F1	mg/Kg		46	70 - 130	
Ethylbenzene	<0.00201	U F2 F1	0.0998	0.04536	F1	mg/Kg		45	70 - 130	
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.200	0.09537	F1	mg/Kg		48	70 - 130	
o-Xylene	<0.00201	U F2 F1	0.0998	0.05511	F1	mg/Kg		55	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 880-19019-A-1-F MSD

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00201	U F2 F1	0.0990	0.1026	F2	mg/Kg		104	70 - 130		71	35
Toluene	<0.00201	U F2 F1	0.0990	0.08240	F2	mg/Kg		83	70 - 130		57	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.07768	F2	mg/Kg		78	70 - 130		53	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.198	0.1614	F2	mg/Kg		82	70 - 130		51	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.08266	F2	mg/Kg		83	70 - 130		40	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	105		70 - 130				09/13/22 11:41	09/13/22 19:23	1
o-Terphenyl	110		70 - 130				09/13/22 11:41	09/13/22 19:23	1

Lab Sample ID: LCS 880-34396/2-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130		
Surrogate	LCS	LCS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	133	S1+	70 - 130						
o-Terphenyl	133	S1+	70 - 130						

Lab Sample ID: LCSD 880-34396/3-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	981.9		mg/Kg		98	70 - 130	7	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	130		70 - 130						
o-Terphenyl	128		70 - 130						

Lab Sample ID: 880-19130-A-8-B MS

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	97		70 - 130								
o-Terphenyl	86		70 - 130								

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

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

Lab Sample ID: 880-19130-A-8-C MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Total/NA								
Analysis Batch: 34334				Prep Batch: 34396								
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20	
	MSD %Recovery	MSD Qualifier	Limits									
Surrogate												
1-Chlorooctane	95		70 - 130									
o-Terphenyl	83		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34376/1-A				Client Sample ID: Method Blank								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34467												
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 00:37	1			

Lab Sample ID: LCS 880-34376/2-A				Client Sample ID: Lab Control Sample								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34467												
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride			250	242.6		mg/Kg		97	90 - 110			

Lab Sample ID: LCSD 880-34376/3-A				Client Sample ID: Lab Control Sample Dup								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34467												
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride			250	243.0		mg/Kg		97	90 - 110	0	20	

Lab Sample ID: 880-18884-A-8-D MS				Client Sample ID: Matrix Spike								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34467												
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride	74.5		250	334.2		mg/Kg		104	90 - 110			

Lab Sample ID: 880-18884-A-8-E MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34467												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	74.5		250	336.7		mg/Kg		105	90 - 110	1	20	

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

GC VOA

Prep Batch: 34692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34692/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 34858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	5035	
890-2926-2	BH02	Total/NA	Solid	5035	
MB 880-34858/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34858/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34858/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19019-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-19019-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 34895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	8021B	34858
890-2926-2	BH02	Total/NA	Solid	8021B	34858
MB 880-34692/5-A	Method Blank	Total/NA	Solid	8021B	34692
MB 880-34858/5-A	Method Blank	Total/NA	Solid	8021B	34858
LCS 880-34858/1-A	Lab Control Sample	Total/NA	Solid	8021B	34858
LCSD 880-34858/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34858
880-19019-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	34858
880-19019-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34858

Analysis Batch: 35089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	Total BTEX	
890-2926-2	BH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	8015B NM	34396
890-2926-2	BH02	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	8015NM Prep	
890-2926-2	BH02	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

GC Semi VOA

Analysis Batch: 34483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Total/NA	Solid	8015 NM	
890-2926-2	BH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Soluble	Solid	DI Leach	
890-2926-2	BH02	Soluble	Solid	DI Leach	
MB 880-34376/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2926-1	BH02	Soluble	Solid	300.0	34376
890-2926-2	BH02	Soluble	Solid	300.0	34376
MB 880-34376/1-A	Method Blank	Soluble	Solid	300.0	34376
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	300.0	34376
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34376
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	300.0	34376
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34376

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Client Sample ID: BH02

Lab Sample ID: 890-2926-1

Date Collected: 09/08/22 11:15

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	34858	09/19/22 15:06	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34895	09/21/22 12:39	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35089	09/21/22 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			34483	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 03:13	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	34376	09/13/22 14:00	SMC	EET MID
Soluble	Analysis	300.0		10			34467	09/14/22 03:16	CH	EET MID

Client Sample ID: BH02

Lab Sample ID: 890-2926-2

Date Collected: 09/08/22 11:30

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	34858	09/19/22 15:06	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34895	09/21/22 12:59	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35089	09/21/22 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			34483	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 03:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	34376	09/13/22 14:00	SMC	EET MID
Soluble	Analysis	300.0		1			34467	09/14/22 03:21	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2926-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2926-1	BH02	Solid	09/08/22 11:15	09/09/22 15:05	0.5
890-2926-2	BH02	Solid	09/08/22 11:30	09/09/22 15:05	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

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

Chain of Custody

Work Order No:

Page 1 of 1

Project Manager:	Ben Beill	Bill to: (if different)	Jim Raley
Company Name:	Ensolium, LLC.	Company Name:	Devon Energy Corporation
Address:	2351 W Northwest Hwy Suite 1203A	Address:	5315 Buena Vista Dr.
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	jim.raley@dvn.com

Work Order Comments	
Program: UST/PST	☐ PRR ☐ Brownfields ☐ IRC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:		UCBH WW ROW BOOSTER STATION		Turn Around		Pres. Code		ANALYSIS REQUEST										Preservative Codes					
Project Number:		03A1987009		☒ Routine ☐ Rush														None: NO					
Project Location:				Due Date:		STAT												Cool: Cool					
Sampler's Name:		Sanju Khatri		TAT starts the day received by the lab, if received by 4:30pm														HCL: HC					
PO #:				Wet Ice:		(Yes) No												H ₂ SO ₄ : H ₂					
SAMPLE RECEIPT		Temp Blank:		(Yes) No		(Yes) No												H ₃ PO ₄ : HP					
Samples Received Intact:		(Yes) No		Thermometer ID:		TM-097												NaHSO ₄ : NABIS					
Cooler Custody Seals:		Yes No		Correction Factor:		-0.0												Na ₂ S ₂ O ₃ : NaSO ₃					
Sample Custody Seals:		Yes No		Temperature Reading:		4.0												Zn Acetate+NaOH: Zn					
Total Containers:				Corrected Temperature:		4.0												NaOH+Ascorbic Acid: SASC					
Parameters																							
EPA METHOD 8021B																							
EPA METHOD 8015M/D																							
RIDGE - EPA METHOD 300.0																							
 890-2926 Chain of Custody																							

[illegible]

Circle Method(s) and Metal(s) to be analyzed	200.7 / 6010	200.8 / 6020:	
	8RCRA	13PPM	Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
	TCLP / SPLP 6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
			Hg: 1631 / 245.1 / 7470 / 7474

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	9-9-2015			
3		4			
5		6			

Revised Date: 08/25/2020 Rev. 2020

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2926-1

SDG Number: 03A1987009

Login Number: 2926

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2926-1

SDG Number: 03A1987009

Login Number: 2926

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2925-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/21/2022 5:16:39 PM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2925-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Job ID: 890-2925-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-2925-1
-----------	-----------------------------

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34858 and analytical batch 880-34895 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Client Sample ID: BH03

Lab Sample ID: 890-2925-1

Date Collected: 09/08/22 14:15

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/19/22 15:06	09/21/22 11:58	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/19/22 15:06	09/21/22 11:58	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/19/22 15:06	09/21/22 11:58	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/19/22 15:06	09/21/22 11:58	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/19/22 15:06	09/21/22 11:58	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/19/22 15:06	09/21/22 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	09/19/22 15:06	09/21/22 11:58	1
1,4-Difluorobenzene (Surr)	110		70 - 130	09/19/22 15:06	09/21/22 11:58	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/21/22 15:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 02:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 02:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 02:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	09/13/22 11:41	09/14/22 02:31	1
o-Terphenyl	102		70 - 130	09/13/22 11:41	09/14/22 02:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.36		5.00		mg/Kg			09/14/22 03:06	1

Client Sample ID: BH03

Lab Sample ID: 890-2925-2

Date Collected: 09/08/22 14:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/19/22 15:06	09/21/22 12:18	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/19/22 15:06	09/21/22 12:18	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/19/22 15:06	09/21/22 12:18	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/19/22 15:06	09/21/22 12:18	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/19/22 15:06	09/21/22 12:18	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		09/19/22 15:06	09/21/22 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	09/19/22 15:06	09/21/22 12:18	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Client Sample ID: BH03

Lab Sample ID: 890-2925-2

Date Collected: 09/08/22 14:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)										
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	111		70 - 130				09/19/22 15:06	09/21/22 12:18	1	
Method: Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/21/22 15:17	1	
Method: 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<50.0	U	50.0		mg/Kg			09/14/22 09:34	1	
Method: 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:52	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:52	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:52	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	101		70 - 130				09/13/22 11:41	09/14/22 02:52	1	
o-Terphenyl	102		70 - 130				09/13/22 11:41	09/14/22 02:52	1	
Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	12.2		5.00		mg/Kg			09/14/22 03:11	1	

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-19019-A-1-E MS	Matrix Spike	117	114
880-19019-A-1-F MSD	Matrix Spike Duplicate	92	112
890-2925-1	BH03	95	110
890-2925-2	BH03	107	111
LCS 880-34858/1-A	Lab Control Sample	91	102
LCSD 880-34858/2-A	Lab Control Sample Dup	94	103
MB 880-34692/5-A	Method Blank	102	116
MB 880-34858/5-A	Method Blank	104	116
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2925-1	BH03	101	102
890-2925-2	BH03	101	102
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34692/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34692		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/16/22 16:15	09/20/22 17:37	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130				09/16/22 16:15	09/20/22 17:37	1
1,4-Difluorobenzene (Surr)	116		70 - 130				09/16/22 16:15	09/20/22 17:37	1

Lab Sample ID: MB 880-34858/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 15:06	09/21/22 05:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				09/19/22 15:06	09/21/22 05:13	1
1,4-Difluorobenzene (Surr)	116		70 - 130				09/19/22 15:06	09/21/22 05:13	1

Lab Sample ID: LCS 880-34858/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.100	0.09802		mg/Kg		98	70 - 130		
Toluene	0.100	0.08583		mg/Kg		86	70 - 130		
Ethylbenzene	0.100	0.08534		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene	0.200	0.1780		mg/Kg		89	70 - 130		
o-Xylene	0.100	0.08903		mg/Kg		89	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	91		70 - 130						
1,4-Difluorobenzene (Surr)	102		70 - 130						

Lab Sample ID: LCSD 880-34858/2-A							Client Sample ID: Lab Control Sample Dup		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 34895							Prep Batch: 34858		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09393		mg/Kg		94	70 - 130	4	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

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

Lab Sample ID: LCSD 880-34858/2-A

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.08451		mg/Kg		85	70 - 130		2	35
Ethylbenzene	0.100	0.08316		mg/Kg		83	70 - 130		3	35
m-Xylene & p-Xylene	0.200	0.1731		mg/Kg		87	70 - 130		3	35
o-Xylene	0.100	0.08797		mg/Kg		88	70 - 130		1	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 880-19019-A-1-E MS

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00201	U F2 F1	0.0998	0.04876	F1	mg/Kg		49	70 - 130	
Toluene	<0.00201	U F2 F1	0.0998	0.04594	F1	mg/Kg		46	70 - 130	
Ethylbenzene	<0.00201	U F2 F1	0.0998	0.04536	F1	mg/Kg		45	70 - 130	
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.200	0.09537	F1	mg/Kg		48	70 - 130	
o-Xylene	<0.00201	U F2 F1	0.0998	0.05511	F1	mg/Kg		55	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 880-19019-A-1-F MSD

Matrix: Solid

Analysis Batch: 34895

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34858

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00201	U F2 F1	0.0990	0.1026	F2	mg/Kg		104	70 - 130		71	35
Toluene	<0.00201	U F2 F1	0.0990	0.08240	F2	mg/Kg		83	70 - 130		57	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.07768	F2	mg/Kg		78	70 - 130		53	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.198	0.1614	F2	mg/Kg		82	70 - 130		51	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.08266	F2	mg/Kg		83	70 - 130		40	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	105		70 - 130				09/13/22 11:41	09/13/22 19:23	1
o-Terphenyl	110		70 - 130				09/13/22 11:41	09/13/22 19:23	1

Lab Sample ID: LCS 880-34396/2-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130		
Surrogate	LCS	LCS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	133	S1+	70 - 130						
o-Terphenyl	133	S1+	70 - 130						

Lab Sample ID: LCSD 880-34396/3-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	981.9		mg/Kg		98	70 - 130	7	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	130		70 - 130						
o-Terphenyl	128		70 - 130						

Lab Sample ID: 880-19130-A-8-B MS

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	97		70 - 130								
o-Terphenyl	86		70 - 130								

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

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

Lab Sample ID: 880-19130-A-8-C MSD

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	95		70 - 130								
o-Terphenyl	83		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34376/1-A

Matrix: Solid

Analysis Batch: 34467

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 00:37	1

Lab Sample ID: LCS 880-34376/2-A

Matrix: Solid

Analysis Batch: 34467

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-34376/3-A

Matrix: Solid

Analysis Batch: 34467

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	243.0		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-18884-A-8-D MS

Matrix: Solid

Analysis Batch: 34467

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	74.5		250	334.2		mg/Kg		104	90 - 110

Lab Sample ID: 880-18884-A-8-E MSD

Matrix: Solid

Analysis Batch: 34467

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	74.5		250	336.7		mg/Kg		105	90 - 110	1	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

GC VOA

Prep Batch: 34692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34692/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 34858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	5035	
890-2925-2	BH03	Total/NA	Solid	5035	
MB 880-34858/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34858/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34858/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-19019-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-19019-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 34895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	8021B	34858
890-2925-2	BH03	Total/NA	Solid	8021B	34858
MB 880-34692/5-A	Method Blank	Total/NA	Solid	8021B	34692
MB 880-34858/5-A	Method Blank	Total/NA	Solid	8021B	34858
LCS 880-34858/1-A	Lab Control Sample	Total/NA	Solid	8021B	34858
LCSD 880-34858/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34858
880-19019-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	34858
880-19019-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34858

Analysis Batch: 35088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	Total BTEX	
890-2925-2	BH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	8015B NM	34396
890-2925-2	BH03	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	8015NM Prep	
890-2925-2	BH03	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

GC Semi VOA

Analysis Batch: 34482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Total/NA	Solid	8015 NM	
890-2925-2	BH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Soluble	Solid	DI Leach	
890-2925-2	BH03	Soluble	Solid	DI Leach	
MB 880-34376/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2925-1	BH03	Soluble	Solid	300.0	34376
890-2925-2	BH03	Soluble	Solid	300.0	34376
MB 880-34376/1-A	Method Blank	Soluble	Solid	300.0	34376
LCS 880-34376/2-A	Lab Control Sample	Soluble	Solid	300.0	34376
LCSD 880-34376/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34376
880-18884-A-8-D MS	Matrix Spike	Soluble	Solid	300.0	34376
880-18884-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34376

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Client Sample ID: BH03
Date Collected: 09/08/22 14:15
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2925-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	34858	09/19/22 15:06	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34895	09/21/22 11:58	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35088	09/21/22 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			34482	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 02:31	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34376	09/13/22 14:00	SMC	EET MID
Soluble	Analysis	300.0		1			34467	09/14/22 03:06	CH	EET MID

Client Sample ID: BH03
Date Collected: 09/08/22 14:30
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2925-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	34858	09/19/22 15:06	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34895	09/21/22 12:18	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35088	09/21/22 15:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			34482	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 02:52	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34376	09/13/22 14:00	SMC	EET MID
Soluble	Analysis	300.0		1			34467	09/14/22 03:11	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2925-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2925-1	BH03	Solid	09/08/22 14:15	09/09/22 15:05	0.5
890-2925-2	BH03	Solid	09/08/22 14:30	09/09/22 15:05	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2925-1

SDG Number: 03A1987009

Login Number: 2925

List Source: Eurofins Carlsbad

List Number: 1

Creator: Clifton, Cloe

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2925-1

SDG Number: 03A1987009

Login Number: 2925

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2924-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/22/2022 9:13:32 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2924-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Job ID: 890-2924-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-2924-1
-----------	-----------------------------

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34288 and analytical batch 880-34499 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Client Sample ID: BH04

Lab Sample ID: 890-2924-1

Date Collected: 09/08/22 13:45

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/22/22 04:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/22/22 04:11	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/22/22 04:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/19/22 14:33	09/22/22 04:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/19/22 14:33	09/22/22 04:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/19/22 14:33	09/22/22 04:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	09/19/22 14:33	09/22/22 04:11	1
1,4-Difluorobenzene (Surr)	84		70 - 130	09/19/22 14:33	09/22/22 04:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/22/22 09:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	123		70 - 130	09/13/22 11:41	09/14/22 01:48	1
o-Terphenyl	122		70 - 130	09/13/22 11:41	09/14/22 01:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		24.9		mg/Kg			09/15/22 00:48	5

Client Sample ID: BH04

Lab Sample ID: 890-2924-2

Date Collected: 09/08/22 14:00

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 04:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 04:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 04:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/22/22 04:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 04:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/22/22 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	09/19/22 14:33	09/22/22 04:32	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Client Sample ID: BH04

Lab Sample ID: 890-2924-2

Date Collected: 09/08/22 14:00

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	85		70 - 130	09/19/22 14:33	09/22/22 04:32	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/22/22 09:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	09/13/22 11:41	09/14/22 02:09	1
o-Terphenyl	118		70 - 130	09/13/22 11:41	09/14/22 02:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420		25.3		mg/Kg			09/15/22 00:53	5

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2915-A-1-C MS	Matrix Spike	115	109
890-2915-A-1-D MSD	Matrix Spike Duplicate	117	102
890-2924-1	BH04	114	84
890-2924-2	BH04	113	85
LCS 880-34851/1-A	Lab Control Sample	114	106
LCSD 880-34851/2-A	Lab Control Sample Dup	115	108
MB 880-34851/5-A	Method Blank	88	77
MB 880-34941/5-A	Method Blank	100	93
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2924-1	BH04	123	122
890-2924-2	BH04	120	118
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34851/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	09/19/22 14:33	09/21/22 20:40	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/19/22 14:33	09/21/22 20:40	1

Lab Sample ID: LCS 880-34851/1-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09662		mg/Kg		97	70 - 130
Toluene	0.100	0.08888		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09395		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1964		mg/Kg		98	70 - 130
o-Xylene	0.100	0.1106		mg/Kg		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-34851/2-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09096		mg/Kg		91	70 - 130	6	35
Toluene	0.100	0.08531		mg/Kg		85	70 - 130	4	35
Ethylbenzene	0.100	0.08835		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1845		mg/Kg		92	70 - 130	6	35
o-Xylene	0.100	0.1080		mg/Kg		108	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.09155		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.101	0.08263		mg/Kg		82	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

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

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.08658		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1775		mg/Kg		88	70 - 130
o-Xylene	<0.00202	U	0.101	0.1042		mg/Kg		103	70 - 130

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

Lab Sample ID: 890-2915-A-1-D MSD

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.08776		mg/Kg		88	70 - 130	4	35
Toluene	<0.00202	U	0.0996	0.08175		mg/Kg		82	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0996	0.08872		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1777		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00202	U	0.0996	0.1037		mg/Kg		104	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: MB 880-34941/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34941

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	09/20/22 12:51	09/21/22 10:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	09/20/22 12:51	09/21/22 10:04	1

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	105		70 - 130				09/13/22 11:41	09/13/22 19:23	1
o-Terphenyl	110		70 - 130				09/13/22 11:41	09/13/22 19:23	1

Lab Sample ID: LCS 880-34396/2-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130		
Surrogate	LCS	LCS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	133	S1+	70 - 130						
o-Terphenyl	133	S1+	70 - 130						

Lab Sample ID: LCSD 880-34396/3-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	981.9		mg/Kg		98	70 - 130	7	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	130		70 - 130						
o-Terphenyl	128		70 - 130						

Lab Sample ID: 880-19130-A-8-B MS

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	97		70 - 130								
o-Terphenyl	86		70 - 130								

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

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

Lab Sample ID: 880-19130-A-8-C MSD

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	95		70 - 130								
o-Terphenyl	83		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34288/1-A

Matrix: Solid

Analysis Batch: 34499

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 22:32	1

Lab Sample ID: LCS 880-34288/2-A

Matrix: Solid

Analysis Batch: 34499

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.4		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-34288/3-A

Matrix: Solid

Analysis Batch: 34499

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	RPD	RPD
							Limits		Limit
Chloride	250	242.0		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 880-19037-A-2-D MS

Matrix: Solid

Analysis Batch: 34499

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Chloride	29800	F1	12600	54900	F1	mg/Ka		200	90 - 110		

Lab Sample ID: 880-19037-A-2-E MSD

Matrix: Solid

Analysis Batch: 34499

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29800	F1	12600	53580	F1	mg/Kg		190	90 - 110	2	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

GC VOA

Prep Batch: 34851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	5035	
890-2924-2	BH04	Total/NA	Solid	5035	
MB 880-34851/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 34941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34941/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 35013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	8021B	34851
890-2924-2	BH04	Total/NA	Solid	8021B	34851
MB 880-34851/5-A	Method Blank	Total/NA	Solid	8021B	34851
MB 880-34941/5-A	Method Blank	Total/NA	Solid	8021B	34941
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	8021B	34851
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34851
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	34851
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34851

Analysis Batch: 35147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	Total BTEX	
890-2924-2	BH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	8015B NM	34396
890-2924-2	BH04	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	8015NM Prep	
890-2924-2	BH04	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

GC Semi VOA

Analysis Batch: 34481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Total/NA	Solid	8015 NM	
890-2924-2	BH04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Soluble	Solid	DI Leach	
890-2924-2	BH04	Soluble	Solid	DI Leach	
MB 880-34288/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19037-A-2-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19037-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2924-1	BH04	Soluble	Solid	300.0	34288
890-2924-2	BH04	Soluble	Solid	300.0	34288
MB 880-34288/1-A	Method Blank	Soluble	Solid	300.0	34288
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	300.0	34288
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34288
880-19037-A-2-D MS	Matrix Spike	Soluble	Solid	300.0	34288
880-19037-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34288

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Client Sample ID: BH04
Date Collected: 09/08/22 13:45
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2924-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 04:11	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35147	09/22/22 09:56	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34481	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 01:48	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		5			34499	09/15/22 00:48	CH	EET MID

Client Sample ID: BH04
Date Collected: 09/08/22 14:00
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2924-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 04:32	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35147	09/22/22 09:56	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34481	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 02:09	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		5			34499	09/15/22 00:53	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2924-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2924-1	BH04	Solid	09/08/22 13:45	09/09/22 15:05	0.5
890-2924-2	BH04	Solid	09/08/22 14:00	09/09/22 15:05	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

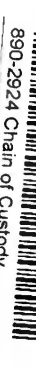


Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

Page 1 of 1

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADaPT ☐ Other:	

Project Name:						UCBH WW ROW BOOSTER STATION											
Project Number:						03A1987009											
Project Location:																	
Sampler's Name:						Sanju Khatri											
PO #:																	
SAMPLE RECEIPT Samples Received Intact: Cooler Custody Seals: Sample Custody Seals: Total Containers:						Temp Blank:		Yes No		Thermometer ID:		Correction Factor:		Temperature Reading:		Corrected Temperature:	
						(Yes) No				(N/A)		(N/A)		4.0		4.0	
						(Yes) No				(N/A)		(N/A)		4.0		4.0	
						(Yes) No				(N/A)		(N/A)		4.0		4.0	
						(Yes) No				(N/A)		(N/A)		4.0		4.0	
Parameters															Pres. Code		
EPA METHOD 8021B																	
EPA METHOD 8015M/D																	
RIDE - EPA METHOD 300.0																	
 890-2924 Chain of Custody																	
ANALYSIS REQUEST																	
Preservative Codes																	
None: NO DI Water: H ₂ O																	
Cool: Cool MeOH: Me																	
HCL: HC HNO ₃ : HN																	
H ₂ SO ₄ : H ₂ NaOH: Na																	
H ₃ PO ₄ : HP																	
NaHSO ₄ : NABIS																	
Na ₂ S ₂ O ₃ : NASO ₃																	
Zn Acetate+NaOH: Zn																	
NaOH+Ascorbic Acid: SASC																	

[illegible]

Total	200.7 / 6010	200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed	8RCRA TCLP / SPLP 6010:	Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		9.9.22 1305	2		
3			4		
5			6		

Revised Date: 09/25/2020 Rev. 2020.

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2924-1

SDG Number: 03A1987009

Login Number: 2924

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2924-1

SDG Number: 03A1987009

Login Number: 2924

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2923-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/22/2022 9:13:00 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2923-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Job ID: 890-2923-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-2923-1
-----------	-----------------------------

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-34288 and analytical batch 880-34499 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Client Sample ID: BH05
Date Collected: 09/08/22 13:15
Date Received: 09/09/22 15:05
Sample Depth: 1

Lab Sample ID: 890-2923-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/19/22 14:33	09/22/22 03:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130				09/19/22 14:33	09/22/22 03:31	1
1,4-Difluorobenzene (Surr)	85		70 - 130				09/19/22 14:33	09/22/22 03:31	1

Method: Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/22/22 09:55	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 01:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				09/13/22 11:41	09/14/22 01:05	1
o-Terphenyl	97		70 - 130				09/13/22 11:41	09/14/22 01:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	344		25.2		mg/Kg			09/15/22 00:39	5

Client Sample ID: BH05
Date Collected: 09/08/22 13:30
Date Received: 09/09/22 15:05
Sample Depth: 2

Lab Sample ID: 890-2923-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/19/22 14:33	09/22/22 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130				09/19/22 14:33	09/22/22 03:51	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Client Sample ID: BH05

Lab Sample ID: 890-2923-2

Date Collected: 09/08/22 13:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	73		70 - 130	09/19/22 14:33	09/22/22 03:51	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 01:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 01:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/22 11:41	09/14/22 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	09/13/22 11:41	09/14/22 01:26	1
o-Terphenyl	104		70 - 130	09/13/22 11:41	09/14/22 01:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	381		4.97		mg/Kg			09/15/22 00:44	1

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2915-A-1-C MS	Matrix Spike	115	109
890-2915-A-1-D MSD	Matrix Spike Duplicate	117	102
890-2923-1	BH05	117	85
890-2923-2	BH05	107	73
LCS 880-34851/1-A	Lab Control Sample	114	106
LCSD 880-34851/2-A	Lab Control Sample Dup	115	108
MB 880-34851/5-A	Method Blank	88	77
MB 880-34941/5-A	Method Blank	100	93
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2923-1	BH05	96	97
890-2923-2	BH05	101	104
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34851/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	09/19/22 14:33	09/21/22 20:40	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/19/22 14:33	09/21/22 20:40	1

Lab Sample ID: LCS 880-34851/1-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09662		mg/Kg		97	70 - 130
Toluene	0.100	0.08888		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09395		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1964		mg/Kg		98	70 - 130
o-Xylene	0.100	0.1106		mg/Kg		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-34851/2-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09096		mg/Kg		91	70 - 130	6	35
Toluene	0.100	0.08531		mg/Kg		85	70 - 130	4	35
Ethylbenzene	0.100	0.08835		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1845		mg/Kg		92	70 - 130	6	35
o-Xylene	0.100	0.1080		mg/Kg		108	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.09155		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.101	0.08263		mg/Kg		82	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

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

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.08658		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1775		mg/Kg		88	70 - 130
o-Xylene	<0.00202	U	0.101	0.1042		mg/Kg		103	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	115		70 - 130						
1,4-Difluorobenzene (Surr)	109		70 - 130						

Lab Sample ID: 890-2915-A-1-D MSD

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.08776		mg/Kg		88	70 - 130	4	35
Toluene	<0.00202	U	0.0996	0.08175		mg/Kg		82	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0996	0.08872		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1777		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00202	U	0.0996	0.1037		mg/Kg		104	70 - 130	1	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	117		70 - 130								
1,4-Difluorobenzene (Surr)	102		70 - 130								

Lab Sample ID: MB 880-34941/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34941

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				09/20/22 12:51	09/21/22 10:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130				09/20/22 12:51	09/21/22 10:04	1

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	105		70 - 130				09/13/22 11:41	09/13/22 19:23	1
o-Terphenyl	110		70 - 130				09/13/22 11:41	09/13/22 19:23	1

Lab Sample ID: LCS 880-34396/2-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130		
Surrogate	LCS	LCS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	133	S1+	70 - 130						
o-Terphenyl	133	S1+	70 - 130						

Lab Sample ID: LCSD 880-34396/3-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	981.9		mg/Kg		98	70 - 130	7	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	130		70 - 130						
o-Terphenyl	128		70 - 130						

Lab Sample ID: 880-19130-A-8-B MS

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	97		70 - 130								
o-Terphenyl	86		70 - 130								

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

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

Lab Sample ID: 880-19130-A-8-C MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Total/NA								
Analysis Batch: 34334				Prep Batch: 34396								
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20	
	MSD %Recovery	MSD Qualifier	Limits									
Surrogate												
1-Chlorooctane	95		70 - 130									
o-Terphenyl	83		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34288/1-A				Client Sample ID: Method Blank								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 22:32	1			

Lab Sample ID: LCS 880-34288/2-A				Client Sample ID: Lab Control Sample								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride			250	241.4		mg/Kg		97	90 - 110			

Lab Sample ID: LCSD 880-34288/3-A				Client Sample ID: Lab Control Sample Dup								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride			250	242.0		mg/Kg		97	90 - 110	0	20	

Lab Sample ID: 880-19037-A-2-D MS				Client Sample ID: Matrix Spike								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride	29800	F1	12600	54900	F1	mg/Kg		200	90 - 110			

Lab Sample ID: 880-19037-A-2-E MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	29800	F1	12600	53580	F1	mg/Kg		190	90 - 110	2	20	

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2913-A-1-C MS							Client Sample ID: Matrix Spike				
Matrix: Solid							Prep Type: Soluble				
Analysis Batch: 34499											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	22.1		250	276.5		mg/Kg		102	90 - 110		

Lab Sample ID: 890-2913-A-1-D MSD							Client Sample ID: Matrix Spike Duplicate				
Matrix: Solid							Prep Type: Soluble				
Analysis Batch: 34499											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	22.1		250	277.5		mg/Kg		102	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

GC VOA

Prep Batch: 34851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	5035	
890-2923-2	BH05	Total/NA	Solid	5035	
MB 880-34851/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 34941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34941/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 35013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	8021B	34851
890-2923-2	BH05	Total/NA	Solid	8021B	34851
MB 880-34851/5-A	Method Blank	Total/NA	Solid	8021B	34851
MB 880-34941/5-A	Method Blank	Total/NA	Solid	8021B	34941
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	8021B	34851
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34851
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	34851
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34851

Analysis Batch: 35146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	Total BTEX	
890-2923-2	BH05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	8015B NM	34396
890-2923-2	BH05	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	8015NM Prep	
890-2923-2	BH05	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

GC Semi VOA

Analysis Batch: 34480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Total/NA	Solid	8015 NM	
890-2923-2	BH05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Soluble	Solid	DI Leach	
890-2923-2	BH05	Soluble	Solid	DI Leach	
MB 880-34288/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-19037-A-2-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19037-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2913-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2913-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2923-1	BH05	Soluble	Solid	300.0	34288
890-2923-2	BH05	Soluble	Solid	300.0	34288
MB 880-34288/1-A	Method Blank	Soluble	Solid	300.0	34288
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	300.0	34288
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34288
880-19037-A-2-D MS	Matrix Spike	Soluble	Solid	300.0	34288
880-19037-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34288
890-2913-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	34288
890-2913-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34288

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Client Sample ID: BH05
Date Collected: 09/08/22 13:15
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2923-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 03:31	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35146	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34480	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 01:05	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		5			34499	09/15/22 00:39	CH	EET MID

Client Sample ID: BH05
Date Collected: 09/08/22 13:30
Date Received: 09/09/22 15:05

Lab Sample ID: 890-2923-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 03:51	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35146	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34480	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 01:26	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		1			34499	09/15/22 00:44	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2923-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2923-1	BH05	Solid	09/08/22 13:15	09/09/22 15:05	1
890-2923-2	BH05	Solid	09/08/22 13:30	09/09/22 15:05	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Beill	Bill to: (if different)	Jim Raley
Company Name:	Ensolum, LLC.	Company Name:	Devon Energy Corporation
Address:	2351 W Northwest Hwy Suite 1203A	Address:	5315 Buena Vista Dr.
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	jim.raley@dvn.com

Program: ☐ PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐	
State of Project: _____	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other: _____

Project Name:	UCBH WW ROW BOOSTER STATION	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03A1987009	Due Date:	STAT		
Project Location:		TAT starts the day received by the lab, if received by 4:30pm			
Sample's Name:	Sanju Khatri				
PO #:					
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☐ No	Thermometer ID:	☒ Yes ☐ No		
Samples Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	☒ Yes ☐ No	Temperature Reading:	4.2		
Sample Custody Seals:	☒ Yes ☐ No	Corrected Temperature:	4.0		
Total Containers:					



890-2923 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
BH05	S	9/8/2022	13:15	1'	Grab/	1	BTEX - EPA METHOD 8021B		None: NO	Incident ID: NAB1805133508
BH05	S	9/8/2022	13:30	2'	Grab/	1	TPH - EPA METHOD 8015M/D		Cool: Cool	Cost center: 9030007583
							CHLORIDE - EPA METHOD 300.0		HCL: HC	
									H ₂ SO ₄ : H ₂	
									H ₃ PO ₄ : HP	
									NaHSO ₄ : NABIS	
									Na ₂ S ₂ O ₃ : NaSO ₃	
									Zn Acetate+NaOH: Zn	
									NaOH+Ascorbic Acid: SAPC	

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn			
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA		Sb		As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U	Hg: 1631 / 245.1 / 7470 / 7471											

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		9-9-22 15:04			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2923-1

SDG Number: 03A1987009

Login Number: 2923

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2923-1

SDG Number: 03A1987009

Login Number: 2923

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2922-1

Laboratory Sample Delivery Group: 03A1987009

Client Project/Site: UCBH WW ROW BOOSTER STATION

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Devon Team

Authorized for release by:

9/22/2022 9:13:01 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Laboratory Job ID: 890-2922-1
SDG: 03A1987009

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Definitions/Glossary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Job ID: 890-2922-1

Laboratory: Eurofins Carlsbad

Narrative	
Job Narrative 890-2922-1	

Receipt

The samples were received on 9/9/2022 3:05 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 4.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-34396/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34396 and analytical batch 880-34334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Client Sample ID: BH06

Lab Sample ID: 890-2922-1

Date Collected: 09/08/22 12:30

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 02:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 02:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 02:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/22/22 02:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/22/22 02:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/22/22 02:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	09/19/22 14:33	09/22/22 02:50	1
1,4-Difluorobenzene (Surr)	83		70 - 130	09/19/22 14:33	09/22/22 02:50	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/22/22 09:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			09/14/22 09:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 00:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 00:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/14/22 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	09/13/22 11:41	09/14/22 00:01	1
o-Terphenyl	110		70 - 130	09/13/22 11:41	09/14/22 00:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.0		5.00		mg/Kg			09/15/22 00:29	1

Client Sample ID: BH06

Lab Sample ID: 890-2922-2

Date Collected: 09/08/22 12:45

Matrix: Solid

Date Received: 09/09/22 15:05

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/22/22 03:10	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/22/22 03:10	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/22/22 03:10	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/19/22 14:33	09/22/22 03:10	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/19/22 14:33	09/22/22 03:10	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/19/22 14:33	09/22/22 03:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	09/19/22 14:33	09/22/22 03:10	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Client Sample ID: BH06
Date Collected: 09/08/22 12:45
Date Received: 09/09/22 15:05
Sample Depth: 1

Lab Sample ID: 890-2922-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)										
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	85		70 - 130				09/19/22 14:33	09/22/22 03:10	1	
Method: Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/22/22 09:55	1	
Method: 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.9	U	49.9		mg/Kg			09/14/22 09:34	1	
Method: 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 00:22	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 00:22	1	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/22 11:41	09/14/22 00:22	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	104		70 - 130				09/13/22 11:41	09/14/22 00:22	1	
o-Terphenyl	106		70 - 130				09/13/22 11:41	09/14/22 00:22	1	
Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	17.0		4.95		mg/Kg			09/15/22 00:34	1	

Surrogate Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2915-A-1-C MS	Matrix Spike	115	109
890-2915-A-1-D MSD	Matrix Spike Duplicate	117	102
890-2922-1	BH06	116	83
890-2922-2	BH06	117	85
LCS 880-34851/1-A	Lab Control Sample	114	106
LCSD 880-34851/2-A	Lab Control Sample Dup	115	108
MB 880-34851/5-A	Method Blank	88	77
MB 880-34941/5-A	Method Blank	100	93
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-19130-A-8-B MS	Matrix Spike	97	86
880-19130-A-8-C MSD	Matrix Spike Duplicate	95	83
890-2922-1	BH06	108	110
890-2922-2	BH06	104	106
LCS 880-34396/2-A	Lab Control Sample	133 S1+	133 S1+
LCSD 880-34396/3-A	Lab Control Sample Dup	130	128
MB 880-34396/1-A	Method Blank	105	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34851/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/22 14:33	09/21/22 20:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/22 14:33	09/21/22 20:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	09/19/22 14:33	09/21/22 20:40	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/19/22 14:33	09/21/22 20:40	1

Lab Sample ID: LCS 880-34851/1-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09662		mg/Kg		97	70 - 130
Toluene	0.100	0.08888		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09395		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1964		mg/Kg		98	70 - 130
o-Xylene	0.100	0.1106		mg/Kg		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-34851/2-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09096		mg/Kg		91	70 - 130	6	35
Toluene	0.100	0.08531		mg/Kg		85	70 - 130	4	35
Ethylbenzene	0.100	0.08835		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1845		mg/Kg		92	70 - 130	6	35
o-Xylene	0.100	0.1080		mg/Kg		108	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.09155		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.101	0.08263		mg/Kg		82	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

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

Lab Sample ID: 890-2915-A-1-C MS

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.08658		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1775		mg/Kg		88	70 - 130
o-Xylene	<0.00202	U	0.101	0.1042		mg/Kg		103	70 - 130
Surrogate	%Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	115		70 - 130						
1,4-Difluorobenzene (Surr)	109		70 - 130						

Lab Sample ID: 890-2915-A-1-D MSD

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 34851

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0996	0.08776		mg/Kg		88	70 - 130	4	35
Toluene	<0.00202	U	0.0996	0.08175		mg/Kg		82	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0996	0.08872		mg/Kg		89	70 - 130	2	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1777		mg/Kg		89	70 - 130	0	35
o-Xylene	<0.00202	U	0.0996	0.1037		mg/Kg		104	70 - 130	1	35
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	117		70 - 130								
1,4-Difluorobenzene (Surr)	102		70 - 130								

Lab Sample ID: MB 880-34941/5-A

Matrix: Solid

Analysis Batch: 35013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34941

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/22 12:51	09/21/22 10:04	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				09/20/22 12:51	09/21/22 10:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130				09/20/22 12:51	09/21/22 10:04	1

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

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

Lab Sample ID: MB 880-34396/1-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 34396

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 11:41	09/13/22 19:23	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	105		70 - 130				09/13/22 11:41	09/13/22 19:23	1
o-Terphenyl	110		70 - 130				09/13/22 11:41	09/13/22 19:23	1

Lab Sample ID: LCS 880-34396/2-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	951.8		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	917.8		mg/Kg		92	70 - 130		
Surrogate	LCS	LCS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	133	S1+	70 - 130						
o-Terphenyl	133	S1+	70 - 130						

Lab Sample ID: LCSD 880-34396/3-A

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	981.9		mg/Kg		98	70 - 130	7	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	130		70 - 130						
o-Terphenyl	128		70 - 130						

Lab Sample ID: 880-19130-A-8-B MS

Matrix: Solid

Analysis Batch: 34334

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 34396

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	630.3	F1	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	913.7		mg/Kg		92	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	97		70 - 130								
o-Terphenyl	86		70 - 130								

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

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

Lab Sample ID: 880-19130-A-8-C MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Total/NA								
Analysis Batch: 34334				Prep Batch: 34396								
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	645.9	F1	mg/Kg		63	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	899.8		mg/Kg		90	70 - 130	2	20	
	MSD %Recovery	MSD Qualifier	Limits									
Surrogate												
1-Chlorooctane	95		70 - 130									
o-Terphenyl	83		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-34288/1-A				Client Sample ID: Method Blank								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	<5.00	U	5.00		mg/Kg			09/14/22 22:32	1			

Lab Sample ID: LCS 880-34288/2-A				Client Sample ID: Lab Control Sample								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride			250	241.4		mg/Kg		97	90 - 110			

Lab Sample ID: LCSD 880-34288/3-A				Client Sample ID: Lab Control Sample Dup								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride			250	242.0		mg/Kg		97	90 - 110	0	20	

Lab Sample ID: 890-2913-A-1-C MS				Client Sample ID: Matrix Spike								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride	22.1		250	276.5		mg/Kg		102	90 - 110			

Lab Sample ID: 890-2913-A-1-D MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 34499												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	22.1		250	277.5		mg/Kg		102	90 - 110	0	20	

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

GC VOA

Prep Batch: 34851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	5035	
890-2922-2	BH06	Total/NA	Solid	5035	
MB 880-34851/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 34941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34941/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 35013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	8021B	34851
890-2922-2	BH06	Total/NA	Solid	8021B	34851
MB 880-34851/5-A	Method Blank	Total/NA	Solid	8021B	34851
MB 880-34941/5-A	Method Blank	Total/NA	Solid	8021B	34941
LCS 880-34851/1-A	Lab Control Sample	Total/NA	Solid	8021B	34851
LCSD 880-34851/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34851
890-2915-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	34851
890-2915-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	34851

Analysis Batch: 35145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	Total BTEX	
890-2922-2	BH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 34334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	8015B NM	34396
890-2922-2	BH06	Total/NA	Solid	8015B NM	34396
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015B NM	34396
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34396
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34396
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34396
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34396

Prep Batch: 34396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	8015NM Prep	
890-2922-2	BH06	Total/NA	Solid	8015NM Prep	
MB 880-34396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19130-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19130-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

GC Semi VOA

Analysis Batch: 34479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Total/NA	Solid	8015 NM	
890-2922-2	BH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 34288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Soluble	Solid	DI Leach	
890-2922-2	BH06	Soluble	Solid	DI Leach	
MB 880-34288/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2913-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2913-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 34499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2922-1	BH06	Soluble	Solid	300.0	34288
890-2922-2	BH06	Soluble	Solid	300.0	34288
MB 880-34288/1-A	Method Blank	Soluble	Solid	300.0	34288
LCS 880-34288/2-A	Lab Control Sample	Soluble	Solid	300.0	34288
LCSD 880-34288/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	34288
890-2913-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	34288
890-2913-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	34288

Lab Chronicle

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Client Sample ID: BH06

Lab Sample ID: 890-2922-1

Date Collected: 09/08/22 12:30

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 02:50	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35145	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34479	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 00:01	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		1			34499	09/15/22 00:29	CH	EET MID

Client Sample ID: BH06

Lab Sample ID: 890-2922-2

Date Collected: 09/08/22 12:45

Matrix: Solid

Date Received: 09/09/22 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	34851	09/19/22 14:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	35013	09/22/22 03:10	MR	EET MID
Total/NA	Analysis	Total BTEX		1			35145	09/22/22 09:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			34479	09/14/22 09:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	34396	09/13/22 11:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	34334	09/14/22 00:22	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	34288	09/12/22 11:50	KS	EET MID
Soluble	Analysis	300.0		1			34499	09/15/22 00:34	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

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

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: UCBH WW ROW BOOSTER STATION

Job ID: 890-2922-1
SDG: 03A1987009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2922-1	BH06	Solid	09/08/22 12:30	09/09/22 15:05	0.5
890-2922-2	BH06	Solid	09/08/22 12:45	09/09/22 15:05	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing

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

Chain of Custody

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Ben Bellill	Bill to: (if different)	Jim Raley
Company Name:	Ensolium, LLC.	Company Name:	Devon Energy Corporation
Address:	2351 W Northwest Hwy Suite 1203A	Address:	5315 Buena Vista Dr.
City, State ZIP:	Dallas, TX 75220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	jim.raley@dvn.com

Work Order Comments	
Program: UST/PST	☐ PBP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:	UCBH WW ROW BOOSTER STATION	Turn Around						Pess.
Project Number:	03A1987009	☒ Routine ☐ Rush						Code
Project Location:		Due Date: 5TAT						
Sampler's Name:	Sanju Khatri	TAT starts the day received by the lab, if received by 4:30pm						
PO #:								
SAMPLE RECEIPT	Temp Blank:	(Yes) No	(Yes) No	Wet Ice:	(Yes) No			
	Samples Received Intact:	(Yes) Yes	No	Thermometer ID:	TN-ww-007			
	Cooler Custody Seals:	Yes	No (NA)	Correction Factor:	-0.2			
	Sample Custody Seals:	Yes	No (NA)	Temperature Reading:	H.B			
	Total Containers:			Corrected Temperature:	A.O			
Parameters								
EPA METHOD 8021B								
EPA METHOD 8015M/D								
RIDE - EPA METHOD 300.0								
ANALYSIS REQUEST								
 890-2922 Chain of Custody								
Preservative Codes								
None; NO	DI Water; H ₂ O							
Cool; Cool	MEOH; Me							
HCL; HC	HNO ₃ ; HN							
H ₂ SO ₄ ; H ₂	NaOH; Na							
H ₃ PO ₄ ; HP								
NaHSO ₄ ; NABIS								
Na ₂ S ₂ O ₃ ; NASO ₃								
Zn Acetate+NaOH; Zn								
NaOH+Ascorbic Acid; SAPC								

[illegible]

Total 200.7 / 6010	200.8 / 6020:	
8RCRA 13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
TCLP / SPLP 6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
		Hg: 163.1 / 245.1 / 7470 / 747

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if those losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$65.00 will be applied to each project and a charge of \$3 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	9.9.2015 05:2			
3		4			
5		6			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2922-1

SDG Number: 03A1987009

Login Number: 2922

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2922-1

SDG Number: 03A1987009

Login Number: 2922

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 09/13/22 10:37 AM

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

APPENDIX G

Correspondence & Notifications

NM OIL CONSERVATION
ARTESIA DISTRICT

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

State of New Mexico
Energy Minerals and Natural Resources

FEB 19 2018

Form C-141
Revised April 3, 2017

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

RECEIVED
Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

PAB1805133323
NAB1805133508

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: RKI Exploration / WPX Energy <i>244289</i>	Contact: James Raley
Address: 5315 Buena Vista Dr.	Telephone No: 575-689-7597
Facility Name: Brushy Gathering Facility	Facility Type: Produced Water Gathering Facility
Surface Owner: Federal	Mineral Owner: Federal
API No.	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	25	26s	29E					Eddy

Latitude 32.00576 Longitude -103.94400 NAD83

NATURE OF RELEASE

Type of Release: Produced Water Release	Volume of Release: 10 bbls	Volume Recovered: 7 bbls
Source of Release: Above Ground Line	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher	
By Whom? Jim Raley	Date and Hour: 2/5/2016	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* An above ground poly line that was not in use was damaged by a piece of heavy equipment, which resulted in the release of residual produced water to the soils in pipeline ROW. A vac truck was immediately dispatched to remove standing liquids and drain line. Line was removed. Impacted soils were confined to an area of approx 50'x50'. Spill was along Stateline road at coordinates 32.00576, -103.94400. Did not occur on facility.		
Describe Area Affected and Cleanup Action Taken.* Obviously impacted soils were removed and samples collected to determine depths of impacts.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.		
Signature: <i>Jim Raley</i>	OIL CONSERVATION DIVISION	
Printed Name: Jim Raley	Approved by Environmental Specialist: Signed By <i>Mike Bratcher</i>	
Title: Environmental Specialist	Approval Date: 2/20/18	Expiration Date: N/A
E-mail Address: james.ralej@wpxenergy.com	Conditions of Approval: See attached	Attached <i>ARP-4630</i>
Date: 2/19/2019	Phone: 575-689-7597	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/19/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP41030 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 3/19/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From: Raley, Jim <James.Raley@wpxenergy.com>
Sent: Tuesday, February 20, 2018 6:45 AM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Cc: Tucker, Shelly; Blaney, Karolina
Subject: RE: [EXTERNAL] RE: Initial Notification - WPX Brushy Gathering Station

Mike,
The legal should be S25 T26S R29E.

Jim Raley | Environmental Specialist - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | james.ralej@wpxenergy.com
WPXENERGY

From: Bratcher, Mike, EMNRD [mailto:mike.bratcher@state.nm.us]
Sent: Monday, February 19, 2018 4:49 PM
To: Raley, Jim <James.Raley@wpxenergy.com>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>
Cc: Tucker, Shelly <stucker@blm.gov>; Blaney, Karolina <Karolina.Blaney@wpxenergy.com>
Subject: [EXTERNAL] RE: Initial Notification - WPX Brushy Gathering Station

CAUTION: This email was sent from an EXTERNAL source. Use caution when clicking links or opening attachments.

Jim – Do have the STR for this site?

Thanks,

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 Ext 108

From: Raley, Jim [mailto:James.Raley@wpxenergy.com]
Sent: Monday, February 19, 2018 4:34 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>
Cc: Tucker, Shelly <stucker@blm.gov>; Blaney, Karolina <Karolina.Blaney@wpxenergy.com>
Subject: RE: Initial Notification - WPX Brushy Gathering Station

Please find attached C-141 for this incident.

Jim Raley | Environmental Specialist - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | james.ralej@wpxenergy.com

WPXENERGY

From: Raley, Jim

Sent: Tuesday, February 06, 2018 10:11 AM

To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; 'Weaver, Crystal, EMNRD' <Crystal.Weaver@state.nm.us>

Cc: 'Tucker, Shelly' <stucker@blm.gov>; Blaney, Karolina <Karolina.Blaney@wpxenergy.com>

Subject: Initial Notification - WPX Brushy Gathering Station

Good Morning,

This is a follow-up email in regards to a voicemail left for Mike Bratcher giving immediate notification on 2/5/2016 at 8:44 A.M of a release that occurred near our Brushy Booster Station.

An unauthorized release of approx. 10bbls/produced water occurred near our Brushy Draw Booster Station. This release was the result of equipment damage to a produced water transfer line that was being removed. The line had not been fully drained and the damage allowed fluids to impact soils along the State Line Road in an area of approx. 50'x50'. The spill is located at 32.00576,-103.94400 which I show as BLM surface. No water was threatened. The spill was mapped with a Trimble GPS

In giving verbal notification I had indicated that 80 bbls was recovered. Upon further investigation it was discovered that the additional fluids were from draining the damaged gathering line and did not impact soils. A C-141 will be submitted within the next 15 days.

WPX would like permission to remove impacted soils to a depth of 1' within the spill area and collect samples to delineate the vertical extent of the impacts.

Jim Raley | Environmental Specialist - Permian Basin

5315 Buena Vista Dr., Carlsbad, NM 88220

C: (575)689-7597 | james.ralej@wpxenergy.com

WPXENERGY

Weaver, Crystal, EMNRD

From: Raley, Jim <James.Raley@wpxenergy.com>
Sent: Tuesday, February 6, 2018 10:11 AM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Cc: Tucker, Shelly; Blaney, Karolina
Subject: Initial Notification - WPX Brushy Gathering Station

Good Morning,

This is a follow-up email in regards to a voicemail left for Mike Bratcher giving immediate notification on 2/5/2016 at 8:44 A.M of a release that occurred near our Brushy Booster Station.

An unauthorized release of approx. 10bbls/produced water occurred near our Brushy Draw Booster Station. This release was the result of equipment damage to a produced water transfer line that was being removed. The line had not been fully drained and the damage allowed fluids to impact soils along the State Line Road in an area of approx. 50'x50'. The spill is located at 32.00576,-103.94400 which I show as BLM surface. No water was threatened. The spill was mapped with a Trimble GPS

In giving verbal notification I had indicated that 80 bbls was recovered. Upon further investigation it was discovered that the additional fluids were from draining the damaged gathering line and did not impact soils. A C-141 will be submitted within the next 15 days.

WPX would like permission to remove impacted soils to a depth of 1' within the spill area and collect samples to delineate the vertical extent of the impacts.

Jim Raley | Environmental Specialist - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | james.ralej@wpxenergy.com
WPXENERGY

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

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

QUESTIONS

Action 376289

QUESTIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
	246289
	Action Number:
	376289
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1805133508
Incident Name	NAB1805133508 BRUSHY GATHERING FACILITY @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Facility	[fAB1805133323] Brushy Gathering Facility

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Brushy Gathering Facility
Date Release Discovered	02/05/2016
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	Not answered.
Produced Water Released (bbls) Details	Cause: Vandalism Flow Line - Production Produced Water Released: 10 BBL Recovered: 7 BBL Lost: 3 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.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 2

Action 376289

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
	246289
	Action Number:
	376289
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

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	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dmn.com Date: 08/21/2024
--	--

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 3

Action 376289

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
	246289
	Action Number: 376289
Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (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 100 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 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 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Zero feet, overlying, or within area
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	High
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	3560
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
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	09/08/2022
On what date will (or did) the final sampling or liner inspection occur	12/31/2024
On what date will (or was) the remediation complete(d)	12/31/2024
What is the estimated surface area (in square feet) that will be reclaimed	200
What is the estimated volume (in cubic yards) that will be reclaimed	11
What is the estimated surface area (in square feet) that will be remediated	200
What is the estimated volume (in cubic yards) that will be remediated	11

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.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 4

Action 376289

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:	246289
	Action Number:	376289
	Action Type:	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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.)	Yes
Which OCD approved facility will be used for off-site disposal	Not answered.
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Yes
In which state is the disposal taking place	Texas
What is the name of the out-of-state facility	R360
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(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)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dv.com Date: 08/21/2024
--	---

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.

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

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

QUESTIONS, Page 5

Action 376289

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 376289
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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

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

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

QUESTIONS, Page 6
Action 376289

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 376289
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	{Unavailable.}

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	No

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 376289

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID:
	246289
	Action Number:
	376289
Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan conditionally approved.	8/22/2024
bhall	Vertical delineation must be completed through excavation and confirmation sampling pursuant to 19.15.29.12 NMAC.	8/22/2024
bhall	Remediation confirmation samples must meet the most stringent remediation closure criteria found on Table I of 19.15.29 NMAC.	8/22/2024
bhall	Confirmation samples must be 5-point composite samples not representative of more than 200 square feet.	8/22/2024
bhall	This area is considered not reasonably needed for production operations or for subsequent drilling operations therefore, it must meet the requirements of 19.15.29.13 NMAC at the time of remediation.	8/22/2024
bhall	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	8/22/2024
bhall	OCD will NOT approve the proposed schedule of completing remediation of this site concurrently with the proposed work associated with Incident Numbers nAB1501655607, nAB1504154780, nAB1522341642, nAB1621453181, nAB1633639499, nAPP2230032326, located due west of the site. The proposed workplans for the adjacent releases were denied.	8/22/2024
bhall	Submit a complete remediation closure report through the OCD Permitting website by 11/22/2024.	8/22/2024
bhall	A complete reclamation report can be submitted with the closure report or can be submitted after the closure report is approved.	8/22/2024