ENSOLUM

October 3, 2024

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

Re: Closure Request
Boone State 160 CTB
Incident Number NAPP2422763744
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared the following *Closure Request* to document excavation and soil sampling activities completed to address impacted soil at the Boone State 160 CTB (Site). Soil was impacted on the surface of the well pad as the result of a flare fire. Based on excavation activities and analytical results from the soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2422763744.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 16, Township 21 South, Range 33 East, in Lea County, New Mexico (32.47350833°, -103.57539444°) and is associated with oil and gas exploration and production operations on private land.

On August 14, 2024, equipment failure of a pump caused the release of oil to the flare, which resulted in a fire and the release of approximately 1 barrel (bbls) of crude oil. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on August 14, 2024, and submitted a Form C-141 Application (C-141) on August 19, 2024. The release was assigned Incident Number NAPP2422763744.

SITE CHARATERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest groundwater well is New Mexico Office of the State Engineer (NMOSE) soil boring CP-01880 POD 1, located approximately 1.25 miles southwest of the Site. On October 8, 2021, the soil boring was drilled utilizing a hollow-stemmed augur to determine regional depth of groundwater in the area. The soil boring was advanced to a total depth of 105 feet bgs. A field geologist logged and descibed soil continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to allow for the potential slow infill

of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed groundwater in the area is greater than 105 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. All wells used for depth to water determination are depicted on Figure 1 and the referenced well record is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash approximately 662 feet east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT AND SAMPLING ACTIVITIES

On August 28, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six preliminary soil samples (SS01, SS02, and DS01 through DS04) were collected within and around the release extent at a depth of 0.5 feet bgs to assess the extent of the release. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

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

Laboratory analytical results for preliminary soil samples SS02, collected within the release extent, indicated the chloride concentration exceeded the Closure Criteria. Laboratory analytical results for preliminary soil samples SS01 and DS01 through DS04, collected in and around the release extent, indicated all COC concentrations were compliant with the strictest Table I Closure Criteria, and confirmed the lateral extent of the release. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix C. Based on the laboratory analytical results, additional remediation activities were warranted.

EXCAVATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On September 16, 2024, Ensolum personnel returned to the Site to oversee excavation activities. Impacted soil was excavated from the release area as indicated by visible staining and laboratory analytical results for the preliminary soil samples. Excavation activities were performed using a backhoe and transport vehicle. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a depth of 1-foot bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected at least every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples CS01 through CS04 were collected from the floor of the excavation at a depth of 1-foot bgs. Confirmation soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from ground surface to 1-foot bgs. The confirmation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation area measured approximately 797 square feet. A total of approximately 30 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. The excavated area was secured with fencing and will be backfilled with locally sourced material and recontoured to match surrounding grade.

Laboratory analytical results for excavation floor samples CS01 through CS04, SW01 and SW02 indicated all COC concentrations were compliant with the Closure Criteria and no further remediation was required. The laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix C.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the August 2024 flare fire. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample laboratory analytical results, no further remediation is required. COG believe remedial actions completed at the Site have been protective of human health, the environmental, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2422763744.

If you have any questions or comments, please contact Mr. Daniel Moir at (303) 887-2946 or dmoir@ensolum.com.

Sincerely,
Ensolum, LLC

David A. McInnis
Project Geologist

Daniel R. Moir, PG (licensed in WY & TX)
Senior Managing Geologist

cc: Jacob Laird

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation

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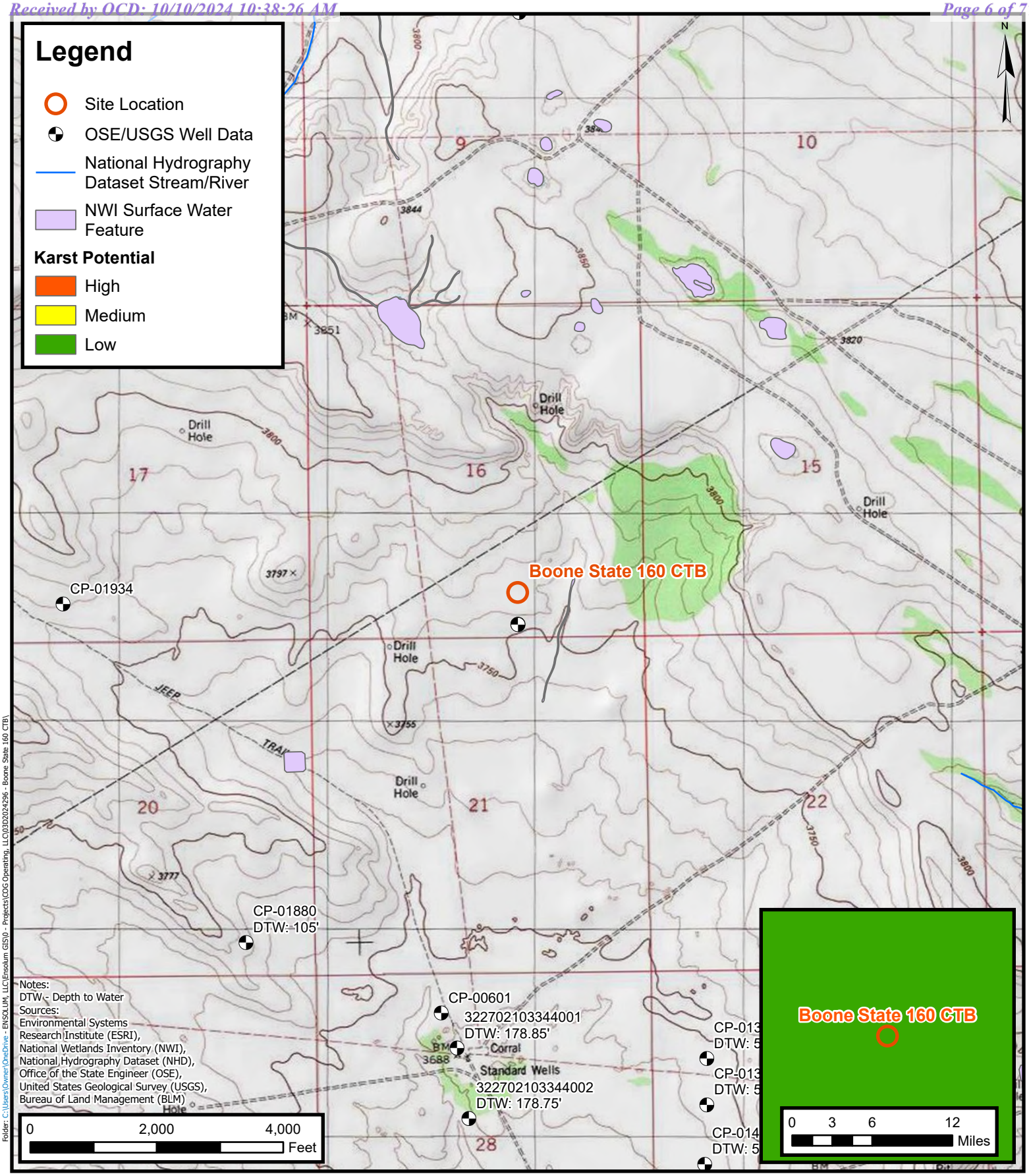
FIGURES



Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\COG Operating, LLC\03D2024296 - Boone State 160 CTB\

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Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

COG Operating, LLC
Boone State 160 CTB
Incident Number: NAPP2422763744
Unit O, Sec 16, T21S, R33E
Lea County, New Mexico

FIGURE 1

Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\COG Operating, LLC\03D2024296 - Boone State 160 CTB\

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Preliminary Soil Sample Locations

COG Operating, LLC
Boone State 160 CTB
Incident Number: NAPP2422763744
Unit O, Sec 16, T21S, R33E
Lea County, New Mexico

FIGURE 2

Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\COG Operating, LLC\03D2024296 - Boone State 160 CTB\

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Excavation Soil Sample Locations

COG Operating, LLC
Boone State 160 CTB
Incident Number: NAPP2422763744
Unit O, Sec 16, T21S, R33E
Lea County, New Mexico

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Boone State 160 CTB
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Preliminary Assessment Soil Samples										
~~SS01~~	~~8/28/2024~~	~~0.5~~	~~<0.00201~~	~~<0.00402~~	~~<49.7~~	~~81.6~~	~~<49.7~~	~~81.6~~	~~81.6~~	~~39.8~~
~~SS02~~	~~8/28/2024~~	~~0.5~~	~~<0.00200~~	~~<0.00399~~	~~<49.9~~	~~**338**~~	~~<49.9~~	~~**338**~~	~~**338**~~	~~<5.00~~
DS01	8/28/2024	0.5	<0.00199	<0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	145
DS02	8/28/2024	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	<4.95
DS03	8/28/2024	0.5	<0.00201	<0.00402	<49.6	<49.6	<49.6	<49.6	<49.6	6.87
DS04	8/28/2024	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	22.2
Excavation Soil Samples										
CS01	9/16/2024	1	<0.00200	0.00480	<49.9	<49.9	<49.9	<49.9	<49.9	23.2
CS02	9/16/2024	1	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	<5.00
CS03	9/16/2024	1	<0.00202	<0.00403	<49.7	<49.7	<49.7	<49.7	<49.7	<5.00
CS04	9/16/2024	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<4.97
SW01	9/16/2024	0 - 1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	<5.03
SW02	9/16/2024	0 - 1	<0.00200	<0.00399	<49.8	70.7	<49.8	70.7	70.7	<4.99

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
NMAC: New Mexico Administrative Code
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

*Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.*
Grey text represents samples that have been excavated
** indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.*

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (TW-1)	n/a	CP-1880

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Advanced Energy Partners	832.672.4700

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
11490 Westheimer Rd. Stuit 950	Houston	TX	77077

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS		
	LATITUDE	32	27	30.43	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND
	LONGITUDE	103	35	22.44	W	* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE
SE SE NE Sec. 30 T21S R33E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
10/08/2021	10/08/2021	temporary well material	105	n/a

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	105	±6.5	Boring- HSA	--	--	--	--

OSE DII NOV 2 2021 PM3:16

3. ANNULAR MATERIAL

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

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

FILE NO. CP-1880	POD NO. 1	TRN NO. 699664
LOCATION 21S.33E.20.443	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	9	9	Caliche, with fine-grained sand, White/Tan	Y ✓N	
9	19	10	Sand, Fine-grained, poorly graded, with Caliche, Tan/ Brown	Y ✓N	
19	105	86	Sand, Fine-grained, poorly graded, Tan/ Brown	Y ✓N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

OSE DIT NOV 2 2021 AM 9:15

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

Shane Eldridge, Carmelo Trevino, Cameron Pruitt

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 10/29/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

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APPENDIX B

Photographic Log

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Photographic Log
COG Operating, LLC
Boone State 160 CTB
NAPP2422763744

Photograph: 1 Date: 8/19/2024
Description: Soil staining in release footprint
View: West

Photograph: 2 Date: 8/28/2024
Description: Soil staining in release footprint
View: West

Photograph: 3 Date: 9/16/2024
Description: Final excavation extent
View: Northeast

Photograph: 4 Date: 9/16/2024
Description: Final excavation extent
View: Southwest

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APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: David Mcinnis
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/4/2024 11:26:07 AM

JOB DESCRIPTION

Boone 160 State CTB Flow Fire

JOB NUMBER

880-47874-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

Eurofins Midland

Job Notes

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

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

Authorization

Generated
9/4/2024 11:26:07 AM

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

Client: Ensolum
Project/Site: Boone 160 State CTB Flow Fire

Laboratory Job ID: 880-47874-1

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 880-47874-1
Project: Boone 160 State CTB Flow Fire

Job ID: 880-47874-1 Eurofins Midland

Job Narrative
880-47874-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

Receipt
The samples were received on 8/29/2024 10:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (880-47874-1), SS02 (880-47874-2), DS01 (880-47874-3), DS02 (880-47874-4), DS03 (880-47874-5) and DS04 (880-47874-6).

GC VOA
Method 8021B: The laboratory control sample duplicate (LCSD) for preparation batch 880-89702 and analytical batch 880-89649 recovered outside control limits for the following analytes: m-Xylene & p-Xylene. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

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

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

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

Client Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: SS01
Lab Sample ID: 880-47874-1
Date Collected: 08/28/24 09:10
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/29/24 23:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/29/24 23:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/29/24 23:03	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/29/24 14:16	08/29/24 23:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/29/24 23:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/29/24 14:16	08/29/24 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:03*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/29/24 23:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**81.6**		49.7		mg/Kg			08/29/24 18:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/29/24 12:37	08/29/24 18:53	1
Diesel Range Organics (Over C10-C28)	**81.6**		49.7		mg/Kg		08/29/24 12:37	08/29/24 18:53	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/29/24 12:37	08/29/24 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/29/24 12:37*	*08/29/24 18:53*	*1*
o-Terphenyl	*116*		*70 - 130*	*08/29/24 12:37*	*08/29/24 18:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39.8**		5.01		mg/Kg			08/30/24 15:36	1

Client Sample ID: SS02
Lab Sample ID: 880-47874-2
Date Collected: 08/28/24 09:15
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 23:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 23:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 23:24	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		08/29/24 14:16	08/29/24 23:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 23:24	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/29/24 14:16	08/29/24 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:24*	*1*

Eurofins Midland

Client Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: SS02
Lab Sample ID: 880-47874-2
Date Collected: 08/28/24 09:15
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			08/29/24 23:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**338**		49.9	mg/Kg			08/29/24 19:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/29/24 12:37	08/29/24 19:42	1
Diesel Range Organics (Over C10-C28)	**338**		49.9	mg/Kg		08/29/24 12:37	08/29/24 19:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/29/24 12:37	08/29/24 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/29/24 12:37*	*08/29/24 19:42*	*1*
o-Terphenyl	*117*		*70 - 130*	*08/29/24 12:37*	*08/29/24 19:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			08/29/24 20:05	1

Client Sample ID: DS01
Lab Sample ID: 880-47874-3
Date Collected: 08/28/24 08:55
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/29/24 14:16	08/29/24 23:44	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/29/24 14:16	08/29/24 23:44	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/29/24 14:16	08/29/24 23:44	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		08/29/24 14:16	08/29/24 23:44	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/29/24 14:16	08/29/24 23:44	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/29/24 14:16	08/29/24 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:44*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*08/29/24 14:16*	*08/29/24 23:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/29/24 23:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			08/29/24 19:59	1

Eurofins Midland

Client Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: DS01
Lab Sample ID: 880-47874-3
Date Collected: 08/28/24 08:55
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 19:59	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 19:59	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/29/24 12:37*	*08/29/24 19:59*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/29/24 12:37*	*08/29/24 19:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**145**		5.00		mg/Kg			08/29/24 20:24	1

Client Sample ID: DS02
Lab Sample ID: 880-47874-4
Date Collected: 08/28/24 09:00
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:05	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:05	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:05	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/29/24 14:16	08/30/24 00:05	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:05	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/29/24 14:16	08/30/24 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:05*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/30/24 00:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/29/24 20:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 20:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 20:15	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/29/24 12:37	08/29/24 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:15*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:15*	*1*

Client Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: DS02
Lab Sample ID: 880-47874-4
Date Collected: 08/28/24 09:00
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			08/29/24 20:31	1

Client Sample ID: DS03
Lab Sample ID: 880-47874-5
Date Collected: 08/28/24 09:05
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:25	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:25	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:25	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/29/24 14:16	08/30/24 00:25	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/29/24 14:16	08/30/24 00:25	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/29/24 14:16	08/30/24 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:25*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/30/24 00:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/29/24 20:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/29/24 12:37	08/29/24 20:31	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/29/24 12:37	08/29/24 20:31	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/29/24 12:37	08/29/24 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:31*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.87**		4.95		mg/Kg			08/29/24 20:38	1

Client Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: DS04
Lab Sample ID: 880-47874-6
Date Collected: 08/28/24 08:50
Matrix: Solid
Date Received: 08/29/24 10:25
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/30/24 00:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/30/24 00:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/30/24 00:46	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		08/29/24 14:16	08/30/24 00:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/30/24 00:46	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/29/24 14:16	08/30/24 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:46*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/29/24 14:16*	*08/30/24 00:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/30/24 00:46	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/29/24 20:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/29/24 12:37	08/29/24 20:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/24 12:37	08/29/24 20:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/24 12:37	08/29/24 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:47*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/29/24 12:37*	*08/29/24 20:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.2**		5.02		mg/Kg			08/29/24 20:44	1

Surrogate Summary

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-47874-1	SS01	91	90
880-47874-1 MS	SS01	124	112
880-47874-1 MSD	SS01	112	107
880-47874-2	SS02	95	84
880-47874-3	DS01	97	86
880-47874-4	DS02	98	76
880-47874-5	DS03	94	74
880-47874-6	DS04	104	80
LCS 880-89702/1-A	Lab Control Sample	114	110
LCSD 880-89702/2-A	Lab Control Sample Dup	122	110
MB 880-89672/5-A	Method Blank	83	89
MB 880-89702/5-A	Method Blank	80	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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-47874-1	SS01	114	116
880-47874-1 MS	SS01	109	120
880-47874-1 MSD	SS01	107	119
880-47874-2	SS02	109	117
880-47874-3	DS01	111	109
880-47874-4	DS02	117	122
880-47874-5	DS03	111	121
880-47874-6	DS04	121	122
LCS 880-89689/2-A	Lab Control Sample	97	105
LCSD 880-89689/3-A	Lab Control Sample Dup	96	105
MB 880-89689/1-A	Method Blank	101	104

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-89672/5-A
Matrix: Solid
Analysis Batch: 89649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 89672

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/24 09:47	08/29/24 11:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/24 09:47	08/29/24 11:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/24 09:47	08/29/24 11:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/24 09:47	08/29/24 11:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/24 09:47	08/29/24 11:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/24 09:47	08/29/24 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/29/24 09:47*	*08/29/24 11:57*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/29/24 09:47*	*08/29/24 11:57*	*1*

Lab Sample ID: MB 880-89702/5-A
Matrix: Solid
Analysis Batch: 89649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 89702

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 22:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 22:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 22:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/24 14:16	08/29/24 22:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/24 14:16	08/29/24 22:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/24 14:16	08/29/24 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/29/24 14:16*	*08/29/24 22:41*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/29/24 14:16*	*08/29/24 22:41*	*1*

Lab Sample ID: LCS 880-89702/1-A
Matrix: Solid
Analysis Batch: 89649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89702

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09944		mg/Kg		99	70 - 130		
Toluene			0.100	0.09692		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09974		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2368		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1107		mg/Kg		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-89702/2-A
Matrix: Solid
Analysis Batch: 89649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 89702

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1101		mg/Kg		110	70 - 130	10	35

QC Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

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

Lab Sample ID: LCSD 880-89702/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 89649 — **Prep Batch: 89702**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1062		mg/Kg		106	70 - 130	9	35
Ethylbenzene			0.100	0.1301		mg/Kg		130	70 - 130	26	35
m-Xylene & p-Xylene			0.200	0.2624	*+	mg/Kg		131	70 - 130	10	35
o-Xylene			0.100	0.1232		mg/Kg		123	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 880-47874-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 89649 — **Prep Batch: 89702**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.09364		mg/Kg		94	70 - 130
Toluene	<0.00201	U	0.100	0.08940		mg/Kg		89	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.08661		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00402	U *+	0.200	0.2126		mg/Kg		106	70 - 130
o-Xylene	<0.00201	U	0.100	0.09913		mg/Kg		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-47874-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 89649 — **Prep Batch: 89702**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.08881		mg/Kg		89	70 - 130	5	35
Toluene	<0.00201	U	0.100	0.08367		mg/Kg		84	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.100	0.09418		mg/Kg		94	70 - 130	8	35
m-Xylene & p-Xylene	<0.00402	U *+	0.200	0.1886		mg/Kg		94	70 - 130	12	35
o-Xylene	<0.00201	U	0.100	0.09102		mg/Kg		91	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-89689/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 89551 — **Prep Batch: 89689**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/29/24 12:36	08/29/24 18:02	1

QC Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

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

Lab Sample ID: MB 880-89689/1-A
Matrix: Solid
Analysis Batch: 89551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 89689

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/24 12:36	08/29/24 18:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/24 12:36	08/29/24 18:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/29/24 12:36*	*08/29/24 18:02*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/29/24 12:36*	*08/29/24 18:02*	*1*

Lab Sample ID: LCS 880-89689/2-A
Matrix: Solid
Analysis Batch: 89551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89689

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	837.5		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	794.9		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: LCSD 880-89689/3-A
Matrix: Solid
Analysis Batch: 89551

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 89689

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	837.7		mg/Kg		84	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	796.6		mg/Kg		80	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: 880-47874-1 MS
Matrix: Solid
Analysis Batch: 89551

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 89689

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	996	845.6		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	81.6		996	1031		mg/Kg		95	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

QC Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

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

Lab Sample ID: 880-47874-1 MSD
Matrix: Solid
Analysis Batch: 89551

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 89689

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	996	834.7		mg/Kg		84	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	81.6		996	1010		mg/Kg		93	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-89686/1-A
Matrix: Solid
Analysis Batch: 89692

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/24 10:57	1

Lab Sample ID: LCS 880-89686/2-A
Matrix: Solid
Analysis Batch: 89692

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.7		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-89686/3-A
Matrix: Solid
Analysis Batch: 89692

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	241.0		mg/Kg		96	90 - 110	1	20

Lab Sample ID: MB 880-89719/1-A
Matrix: Solid
Analysis Batch: 89724

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/29/24 19:45	1

Lab Sample ID: LCS 880-89719/2-A
Matrix: Solid
Analysis Batch: 89724

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	233.7		mg/Kg		93	90 - 110

QC Sample Results

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-89719/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Solid
Prep Type: Soluble
Analysis Batch: 89724

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	232.1		mg/Kg		93	90 - 110	1	20

Lab Sample ID: 880-47874-2 MS
Client Sample ID: SS02
Matrix: Solid
Prep Type: Soluble
Analysis Batch: 89724

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<5.00	U	250	234.3		mg/Kg		92	90 - 110		

Lab Sample ID: 880-47874-2 MSD
Client Sample ID: SS02
Matrix: Solid
Prep Type: Soluble
Analysis Batch: 89724

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.00	U	250	233.1		mg/Kg		92	90 - 110	0	20

QC Association Summary

Client: Ensolum Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

GC VOA

Analysis Batch: 89649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	8021B	89702
880-47874-2	SS02	Total/NA	Solid	8021B	89702
880-47874-3	DS01	Total/NA	Solid	8021B	89702
880-47874-4	DS02	Total/NA	Solid	8021B	89702
880-47874-5	DS03	Total/NA	Solid	8021B	89702
880-47874-6	DS04	Total/NA	Solid	8021B	89702
MB 880-89672/5-A	Method Blank	Total/NA	Solid	8021B	89672
MB 880-89702/5-A	Method Blank	Total/NA	Solid	8021B	89702
LCS 880-89702/1-A	Lab Control Sample	Total/NA	Solid	8021B	89702
LCSD 880-89702/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	89702
880-47874-1 MS	SS01	Total/NA	Solid	8021B	89702
880-47874-1 MSD	SS01	Total/NA	Solid	8021B	89702

Prep Batch: 89672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-89672/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 89702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	5035	
880-47874-2	SS02	Total/NA	Solid	5035	
880-47874-3	DS01	Total/NA	Solid	5035	
880-47874-4	DS02	Total/NA	Solid	5035	
880-47874-5	DS03	Total/NA	Solid	5035	
880-47874-6	DS04	Total/NA	Solid	5035	
MB 880-89702/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-89702/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-89702/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-47874-1 MS	SS01	Total/NA	Solid	5035	
880-47874-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 89760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	Total BTEX	
880-47874-2	SS02	Total/NA	Solid	Total BTEX	
880-47874-3	DS01	Total/NA	Solid	Total BTEX	
880-47874-4	DS02	Total/NA	Solid	Total BTEX	
880-47874-5	DS03	Total/NA	Solid	Total BTEX	
880-47874-6	DS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 89551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	8015B NM	89689
880-47874-2	SS02	Total/NA	Solid	8015B NM	89689
880-47874-3	DS01	Total/NA	Solid	8015B NM	89689
880-47874-4	DS02	Total/NA	Solid	8015B NM	89689
880-47874-5	DS03	Total/NA	Solid	8015B NM	89689
880-47874-6	DS04	Total/NA	Solid	8015B NM	89689
MB 880-89689/1-A	Method Blank	Total/NA	Solid	8015B NM	89689

QC Association Summary

Client: Ensolum Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

GC Semi VOA (Continued)

Analysis Batch: 89551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-89689/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	89689
LCSD 880-89689/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	89689
880-47874-1 MS	SS01	Total/NA	Solid	8015B NM	89689
880-47874-1 MSD	SS01	Total/NA	Solid	8015B NM	89689

Prep Batch: 89689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	8015NM Prep	
880-47874-2	SS02	Total/NA	Solid	8015NM Prep	
880-47874-3	DS01	Total/NA	Solid	8015NM Prep	
880-47874-4	DS02	Total/NA	Solid	8015NM Prep	
880-47874-5	DS03	Total/NA	Solid	8015NM Prep	
880-47874-6	DS04	Total/NA	Solid	8015NM Prep	
MB 880-89689/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-89689/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-89689/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-47874-1 MS	SS01	Total/NA	Solid	8015NM Prep	
880-47874-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 89833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Total/NA	Solid	8015 NM	
880-47874-2	SS02	Total/NA	Solid	8015 NM	
880-47874-3	DS01	Total/NA	Solid	8015 NM	
880-47874-4	DS02	Total/NA	Solid	8015 NM	
880-47874-5	DS03	Total/NA	Solid	8015 NM	
880-47874-6	DS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 89686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Soluble	Solid	DI Leach	
MB 880-89686/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-89686/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-89686/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 89692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-1	SS01	Soluble	Solid	300.0	89686
MB 880-89686/1-A	Method Blank	Soluble	Solid	300.0	89686
LCS 880-89686/2-A	Lab Control Sample	Soluble	Solid	300.0	89686
LCSD 880-89686/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	89686

Leach Batch: 89719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-2	SS02	Soluble	Solid	DI Leach	
880-47874-3	DS01	Soluble	Solid	DI Leach	
880-47874-4	DS02	Soluble	Solid	DI Leach	
880-47874-5	DS03	Soluble	Solid	DI Leach	
880-47874-6	DS04	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

HPLC/IC (Continued)

Leach Batch: 89719 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-89719/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-89719/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-89719/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-47874-2 MS	SS02	Soluble	Solid	DI Leach	
880-47874-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 89724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47874-2	SS02	Soluble	Solid	300.0	89719
880-47874-3	DS01	Soluble	Solid	300.0	89719
880-47874-4	DS02	Soluble	Solid	300.0	89719
880-47874-5	DS03	Soluble	Solid	300.0	89719
880-47874-6	DS04	Soluble	Solid	300.0	89719
MB 880-89719/1-A	Method Blank	Soluble	Solid	300.0	89719
LCS 880-89719/2-A	Lab Control Sample	Soluble	Solid	300.0	89719
LCSD 880-89719/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	89719
880-47874-2 MS	SS02	Soluble	Solid	300.0	89719
880-47874-2 MSD	SS02	Soluble	Solid	300.0	89719

Lab Chronicle

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: SS01
Lab Sample ID: 880-47874-1
Date Collected: 08/28/24 09:10
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/29/24 23:03
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/29/24 23:03
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 18:53
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 18:53
Soluble	Leach	DI Leach			89686	SA	EET MID	08/29/24 11:58
Soluble	Analysis	300.0		1	89692	SI	EET MID	08/30/24 15:36

Client Sample ID: SS02
Lab Sample ID: 880-47874-2
Date Collected: 08/28/24 09:15
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/29/24 23:24
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/29/24 23:24
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 19:42
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 19:42
Soluble	Leach	DI Leach			89719	SA	EET MID	08/29/24 15:14
Soluble	Analysis	300.0		1	89724	SI	EET MID	08/29/24 20:05

Client Sample ID: DS01
Lab Sample ID: 880-47874-3
Date Collected: 08/28/24 08:55
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/29/24 23:44
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/29/24 23:44
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 19:59
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 19:59
Soluble	Leach	DI Leach			89719	SA	EET MID	08/29/24 15:14
Soluble	Analysis	300.0		1	89724	SI	EET MID	08/29/24 20:24

Client Sample ID: DS02
Lab Sample ID: 880-47874-4
Date Collected: 08/28/24 09:00
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/30/24 00:05
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/30/24 00:05

Eurofins Midland

Lab Chronicle

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

Client Sample ID: DS02
Lab Sample ID: 880-47874-4
Date Collected: 08/28/24 09:00
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 20:15
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 20:15
Soluble	Leach	DI Leach			89719	SA	EET MID	08/29/24 15:14
Soluble	Analysis	300.0		1	89724	SI	EET MID	08/29/24 20:31

Client Sample ID: DS03
Lab Sample ID: 880-47874-5
Date Collected: 08/28/24 09:05
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/30/24 00:25
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/30/24 00:25
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 20:31
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 20:31
Soluble	Leach	DI Leach			89719	SA	EET MID	08/29/24 15:14
Soluble	Analysis	300.0		1	89724	SI	EET MID	08/29/24 20:38

Client Sample ID: DS04
Lab Sample ID: 880-47874-6
Date Collected: 08/28/24 08:50
Matrix: Solid
Date Received: 08/29/24 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			89702	MNR	EET MID	08/29/24 14:16
Total/NA	Analysis	8021B		1	89649	AJ	EET MID	08/30/24 00:46
Total/NA	Analysis	Total BTEX		1	89760	AJ	EET MID	08/30/24 00:46
Total/NA	Analysis	8015 NM		1	89833	SM	EET MID	08/29/24 20:47
Total/NA	Prep	8015NM Prep			89689	EL	EET MID	08/29/24 12:37
Total/NA	Analysis	8015B NM		1	89551	TKC	EET MID	08/29/24 20:47
Soluble	Leach	DI Leach			89719	SA	EET MID	08/29/24 15:14
Soluble	Analysis	300.0		1	89724	SI	EET MID	08/29/24 20:44

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

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	06-30-25

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
Job ID: 880-47874-1
Project/Site: Boone 160 State CTB Flow Fire

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum

Job ID: 880-47874-1

Project/Site: Boone 160 State CTB Flow Fire

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-47874-1	SS01	Solid	08/28/24 09:10	08/29/24 10:25	0.5'
880-47874-2	SS02	Solid	08/28/24 09:15	08/29/24 10:25	0.5'
880-47874-3	DS01	Solid	08/28/24 08:55	08/29/24 10:25	0.5'
880-47874-4	DS02	Solid	08/28/24 09:00	08/29/24 10:25	0.5'
880-47874-5	DS03	Solid	08/28/24 09:05	08/29/24 10:25	0.5'
880-47874-6	DS04	Solid	08/28/24 08:50	08/29/24 10:25	0.5'

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Chain of Custody

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

Wor

880-47874 Chain of Custody

www.xenco.com Page ____ of ____

Project Manager:	David McGuire	Bill to: (if different)	
Company Name:	Ensolum LLC	Company Name:	Ensolum LLC
Address:	601 N Marienfeld St. Ste. 400	Address:	
City, State ZIP:	Midland, TX, 79701	City, State ZIP:	
Phone:	409-454-3009	Email:	dmcguire@ensolum.com/ dmarr@ensolum.com

Work Order Comments

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

Project Name:	Boone 160 State CTB Flare Pit	Turn Around	
Project Number:	03E2024296	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Noah Duker/Azaan Udin	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	03E2024296		

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	IR8	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-.1	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.6	
Total Containers:		Corrected Temperature:	5.5	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	Chlorides 300	Sample Comments
SS01	S	8/28/24	0910	0.5	G	1		X	X	X	
SS02	S	8/28/24	0915	0.5	G	1		X	X	X	
DS01	S	8/28/24	0855	0.5	G	1		X	X	X	
DS02	S	8/28/24	0900	0.5	G	1		X	X	X	
DS03	S	8/28/24	0905	0.5	G	1		X	X	X	
DS04	S	8/28/24	0850	0.5	G	1		X	X	X	

Preservative Codes

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8/29/24 1025	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum Job Number: 880-47874-1

Login Number: 47874 **List Source: Eurofins Midland**
List Number: 1
Creator: Vasquez, Julisa

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: David Mcinnis
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/30/2024 10:53:11 AM Revision 1

JOB DESCRIPTION

Boone State 160 CTB
32.473369, -103.5754411

JOB NUMBER

880-48521-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

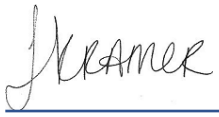
Eurofins Midland

Job Notes

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

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

Authorization



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9/30/2024 10:53:11 AM
Revision 1

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

Client: Ensolum
Project/Site: Boone State 160 CTB

Laboratory Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Qualifiers

GC VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project: Boone State 160 CTB

Job ID: 880-48521-1

Job ID: 880-48521-1 Eurofins Midland

Job Narrative
880-48521-1

REVISION

The report being provided is a revision of the original report sent on 9/19/2024. The report (revision 1) is being revised due to Per client email, requesting BTEX 8021.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

Receipt
The samples were received on 9/17/2024 8:50 AM. 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 3.6°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: CS01 (880-48521-1), CS02 (880-48521-2), CS03 (880-48521-3), CS04 (880-48521-4), SW01 (880-48521-5) and SW02 (880-48521-6).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-91227 and analytical batch 880-91420 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: CS02 (880-48521-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-91311 and analytical batch 880-91420 was outside the upper control limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-91311 and analytical batch 880-91420 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: CS01 (880-48521-1) and CS02 (880-48521-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Diesel Range Organics
Method 8015MOD_NM: The method blank for preparation batch 880-91010 and analytical batch 880-91142 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-91010 and analytical batch 880-91142 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: CS02 (880-48521-2), CS03 (880-48521-3) and (MB 880-91010/1-A). Evidence of matrix interferences is not obvious.

Eurofins Midland

Case Narrative

Client: Ensolum
Job ID: 880-48521-1
Project: Boone State 160 CTB

Job ID: 880-48521-1 (Continued)
Eurofins Midland

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: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS01

Lab Sample ID: 880-48521-1
Matrix: Solid
Date Collected: 09/16/24 13:10
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/23/24 09:50	09/23/24 17:13	1
Toluene	**0.00260**		0.00200		mg/Kg		09/23/24 09:50	09/23/24 17:13	1
Ethylbenzene	**0.00220**		0.00200		mg/Kg		09/23/24 09:50	09/23/24 17:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/23/24 09:50	09/23/24 17:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/23/24 09:50	09/23/24 17:13	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/23/24 09:50	09/23/24 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*55*	*S1-*	*70 - 130*	*09/23/24 09:50*	*09/23/24 17:13*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*09/23/24 09:50*	*09/23/24 17:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00480**		0.00401		mg/Kg			09/23/24 17:13	1

Method: SW846 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			09/18/24 20:37	1

Method: SW846 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		09/17/24 13:28	09/18/24 20:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/17/24 13:28	09/18/24 20:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/17/24 13:28	09/18/24 20:37	1
Total TPH	<49.9	U	49.9		mg/Kg		09/17/24 13:28	09/18/24 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*09/17/24 13:28*	*09/18/24 20:37*	*1*
o-Terphenyl	*87*		*70 - 130*	*09/17/24 13:28*	*09/18/24 20:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23.2**		5.01		mg/Kg			09/17/24 18:37	1

Client Sample ID: CS02

Lab Sample ID: 880-48521-2
Matrix: Solid
Date Collected: 09/16/24 13:12
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 04:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 04:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 04:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/20/24 10:45	09/23/24 04:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 04:29	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/20/24 10:45	09/23/24 04:29	1

Client Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS02

Lab Sample ID: 880-48521-2
Matrix: Solid
Date Collected: 09/16/24 13:12
Date Received: 09/17/24 08:50
Sample Depth: 1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*338*	*S1+*	*70 - 130*	*09/20/24 10:45*	*09/23/24 04:29*	*1*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*09/20/24 10:45*	*09/23/24 04:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			09/23/24 04:29	1

Method: SW846 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			09/18/24 20:53	1

Method: SW846 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		09/17/24 13:28	09/18/24 20:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 20:53	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 20:53	1
Total TPH	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*09/17/24 13:28*	*09/18/24 20:53*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*09/17/24 13:28*	*09/18/24 20:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/17/24 18:46	1

Client Sample ID: CS03

Lab Sample ID: 880-48521-3
Matrix: Solid
Date Collected: 09/16/24 13:14
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/20/24 10:45	09/23/24 04:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/20/24 10:45	09/23/24 04:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/20/24 10:45	09/23/24 04:50	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/20/24 10:45	09/23/24 04:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/20/24 10:45	09/23/24 04:50	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/20/24 10:45	09/23/24 04:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*09/20/24 10:45*	*09/23/24 04:50*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/20/24 10:45*	*09/23/24 04:50*	*1*

Method: TAL SOP 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			09/23/24 04:50	1

Client Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS03

Lab Sample ID: 880-48521-3
Matrix: Solid
Date Collected: 09/16/24 13:14
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			09/18/24 21:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		09/17/24 13:28	09/18/24 21:09	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/17/24 13:28	09/18/24 21:09	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/17/24 13:28	09/18/24 21:09	1
Total TPH	<49.7	U	49.7		mg/Kg		09/17/24 13:28	09/18/24 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:09*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*09/17/24 13:28*	*09/18/24 21:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/17/24 18:55	1

Client Sample ID: CS04

Lab Sample ID: 880-48521-4
Matrix: Solid
Date Collected: 09/16/24 13:16
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/20/24 10:45	09/23/24 05:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/20/24 10:45	09/23/24 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:10*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:10*	*1*

Method: TAL SOP 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			09/23/24 05:10	1

Method: SW846 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			09/18/24 21:25	1

Method: SW846 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		09/17/24 13:28	09/18/24 21:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 21:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 21:25	1

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Client Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS04

Lab Sample ID: 880-48521-4
Matrix: Solid
Date Collected: 09/16/24 13:16
Date Received: 09/17/24 08:50
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:25*	*1*
o-Terphenyl	*84*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.97	U	4.97		mg/Kg			09/17/24 19:04	1

Client Sample ID: SW01

Lab Sample ID: 880-48521-5
Matrix: Solid
Date Collected: 09/16/24 13:18
Date Received: 09/17/24 08:50
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/20/24 10:45	09/23/24 05:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/20/24 10:45	09/23/24 05:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/20/24 10:45	09/23/24 05:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:30*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:30*	*1*

Method: TAL SOP 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			09/23/24 05:30	1

Method: SW846 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			09/18/24 21:41	1

Method: SW846 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		09/17/24 13:28	09/18/24 21:41	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 21:41	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 21:41	1
Total TPH	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:41*	*1*
o-Terphenyl	*73*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:41*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: SW01

Lab Sample ID: 880-48521-5
Matrix: Solid
Date Collected: 09/16/24 13:18
Date Received: 09/17/24 08:50
Sample Depth: 0-1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.03	U	5.03		mg/Kg			09/17/24 19:12	1

Client Sample ID: SW02

Lab Sample ID: 880-48521-6
Matrix: Solid
Date Collected: 09/16/24 13:20
Date Received: 09/17/24 08:50
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 05:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 05:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 05:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/20/24 10:45	09/23/24 05:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 05:51	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/20/24 10:45	09/23/24 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:51*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*09/20/24 10:45*	*09/23/24 05:51*	*1*

Method: TAL SOP 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			09/23/24 05:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**70.7**		49.8		mg/Kg			09/18/24 21:57	1

Method: SW846 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		09/17/24 13:28	09/18/24 21:57	1
Diesel Range Organics (Over C10-C28)	**70.7**		49.8		mg/Kg		09/17/24 13:28	09/18/24 21:57	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/17/24 13:28	09/18/24 21:57	1
Total TPH	**70.7**		49.8		mg/Kg		09/17/24 13:28	09/18/24 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*09/17/24 13:28*	*09/18/24 21:57*	*1*
o-Terphenyl	*69*	*S1-*	*70 - 130*	*09/17/24 13:28*	*09/18/24 21:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg			09/17/24 19:21	1

Surrogate Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

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)
880-48521-1	CS01	55 S1-	85
880-48521-1 MS	CS01	115	102
880-48521-1 MSD	CS01	112	99
880-48521-2	CS02	338 S1+	66 S1-
880-48521-3	CS03	99	107
880-48521-4	CS04	111	107
880-48521-5	SW01	124	117
880-48521-6	SW02	111	112
LCS 880-91311/1-A	Lab Control Sample	110	96
LCS 880-91369/1-A	Lab Control Sample	100	99
LCSD 880-91311/2-A	Lab Control Sample Dup	110	103
LCSD 880-91369/2-A	Lab Control Sample Dup	102	98
MB 880-91227/5-A	Method Blank	170 S1+	99
MB 880-91311/5-A	Method Blank	185 S1+	113
MB 880-91369/5-A	Method Blank	107	99

Surrogate Legend

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-48521-1	CS01	103	87
880-48521-2	CS02	86	67 S1-
880-48521-3	CS03	85	67 S1-
880-48521-4	CS04	105	84
880-48521-5	SW01	91	73
880-48521-6	SW02	87	69 S1-
LCS 880-91010/2-A	Lab Control Sample	95	92
LCSD 880-91010/3-A	Lab Control Sample Dup	93	87
MB 880-91010/1-A	Method Blank	132 S1+	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-91227/5-A
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/19/24 13:42	09/22/24 16:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/19/24 13:42	09/22/24 16:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/19/24 13:42	09/22/24 16:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/19/24 13:42	09/22/24 16:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/19/24 13:42	09/22/24 16:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/19/24 13:42	09/22/24 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*70 - 130*	*09/19/24 13:42*	*09/22/24 16:04*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/19/24 13:42*	*09/22/24 16:04*	*1*

Lab Sample ID: MB 880-91311/5-A
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 03:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 03:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 03:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/24 10:45	09/23/24 03:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/24 10:45	09/23/24 03:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/24 10:45	09/23/24 03:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*185*	*S1+*	*70 - 130*	*09/20/24 10:45*	*09/23/24 03:40*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*09/20/24 10:45*	*09/23/24 03:40*	*1*

Lab Sample ID: LCS 880-91311/1-A
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08794		mg/Kg		88	70 - 130
Toluene	0.100	0.08031		mg/Kg		80	70 - 130
Ethylbenzene	0.100	0.09666		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.2084		mg/Kg		104	70 - 130
o-Xylene	0.100	0.09591		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-91311/2-A
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09488		mg/Kg		95	70 - 130	8	35

QC Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

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

Lab Sample ID: LCSD 880-91311/2-A
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91311

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08076		mg/Kg		81	70 - 130	1	35
Ethylbenzene			0.100	0.09871		mg/Kg		99	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2166		mg/Kg		108	70 - 130	4	35
o-Xylene			0.100	0.1007		mg/Kg		101	70 - 130	5	35

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

Lab Sample ID: 880-48521-1 MS
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: CS01
Prep Type: Total/NA
Prep Batch: 91311

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0562	F1	0.101	0.09273	F1	mg/Kg		36	70 - 130
Toluene	0.0410	F1	0.101	0.08338	F1	mg/Kg		42	70 - 130
Ethylbenzene	0.0613	F1	0.101	0.09222	F1	mg/Kg		31	70 - 130
m-Xylene & p-Xylene	0.0220		0.202	0.2048		mg/Kg		91	70 - 130
o-Xylene	0.464	E	0.101	0.09866	4	mg/Kg		-362	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-48521-1 MSD
Matrix: Solid
Analysis Batch: 91420

Client Sample ID: CS01
Prep Type: Total/NA
Prep Batch: 91311

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0562	F1	0.0998	0.09199	F1	mg/Kg		36	70 - 130	1	35
Toluene	0.0410	F1	0.0998	0.08034	F1	mg/Kg		39	70 - 130	4	35
Ethylbenzene	0.0613	F1	0.0998	0.09657	F1	mg/Kg		35	70 - 130	5	35
m-Xylene & p-Xylene	0.0220		0.200	0.2089		mg/Kg		94	70 - 130	2	35
o-Xylene	0.464	E	0.0998	0.09738	4	mg/Kg		-367	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 880-91369/5-A
Matrix: Solid
Analysis Batch: 91431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/20/24 15:45	09/23/24 11:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/20/24 15:45	09/23/24 11:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/20/24 15:45	09/23/24 11:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/20/24 15:45	09/23/24 11:24	1

QC Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

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

Lab Sample ID: MB 880-91369/5-A
Matrix: Solid
Analysis Batch: 91431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/20/24 15:45	09/23/24 11:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/20/24 15:45	09/23/24 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*09/20/24 15:45*	*09/23/24 11:24*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/20/24 15:45*	*09/23/24 11:24*	*1*

Lab Sample ID: LCS 880-91369/1-A
Matrix: Solid
Analysis Batch: 91431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08242		mg/Kg		82	70 - 130
Toluene	0.100	0.07877		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.07785		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1658		mg/Kg		83	70 - 130
o-Xylene	0.100	0.08337		mg/Kg		83	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-91369/2-A
Matrix: Solid
Analysis Batch: 91431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91369

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08127		mg/Kg		81	70 - 130	1	35
Toluene	0.100	0.07787		mg/Kg		78	70 - 130	1	35
Ethylbenzene	0.100	0.07697		mg/Kg		77	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1638		mg/Kg		82	70 - 130	1	35
o-Xylene	0.100	0.08260		mg/Kg		83	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-91010/1-A
Matrix: Solid
Analysis Batch: 91142

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91010

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		09/17/24 13:28	09/18/24 13:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 13:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 13:09	1

QC Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

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

Lab Sample ID: MB 880-91010/1-A
Matrix: Solid
Analysis Batch: 91142

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91010

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg		09/17/24 13:28	09/18/24 13:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*09/17/24 13:28*	*09/18/24 13:09*	*1*
o-Terphenyl	*116*		*70 - 130*	*09/17/24 13:28*	*09/18/24 13:09*	*1*

Lab Sample ID: LCS 880-91010/2-A
Matrix: Solid
Analysis Batch: 91142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	880.4		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	755.3		mg/Kg		76	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: LCSD 880-91010/3-A
Matrix: Solid
Analysis Batch: 91142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	877.7		mg/Kg		88	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	731.9		mg/Kg		73	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-91004/1-A
Matrix: Solid
Analysis Batch: 91009

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			09/17/24 14:58	1

Lab Sample ID: LCS 880-91004/2-A
Matrix: Solid
Analysis Batch: 91009

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	230.2		mg/Kg		92	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-91004/3-A
Matrix: Solid
Analysis Batch: 91009

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	231.3		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

GC VOA

Prep Batch: 91227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-91227/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 91311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-2	CS02	Total/NA	Solid	5035	
880-48521-3	CS03	Total/NA	Solid	5035	
880-48521-4	CS04	Total/NA	Solid	5035	
880-48521-5	SW01	Total/NA	Solid	5035	
880-48521-6	SW02	Total/NA	Solid	5035	
MB 880-91311/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-91311/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-91311/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-48521-1 MS	CS01	Total/NA	Solid	5035	
880-48521-1 MSD	CS01	Total/NA	Solid	5035	

Prep Batch: 91369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	5035	
MB 880-91369/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-91369/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-91369/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 91420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-2	CS02	Total/NA	Solid	8021B	91311
880-48521-3	CS03	Total/NA	Solid	8021B	91311
880-48521-4	CS04	Total/NA	Solid	8021B	91311
880-48521-5	SW01	Total/NA	Solid	8021B	91311
880-48521-6	SW02	Total/NA	Solid	8021B	91311
MB 880-91227/5-A	Method Blank	Total/NA	Solid	8021B	91227
MB 880-91311/5-A	Method Blank	Total/NA	Solid	8021B	91311
LCS 880-91311/1-A	Lab Control Sample	Total/NA	Solid	8021B	91311
LCSD 880-91311/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	91311
880-48521-1 MS	CS01	Total/NA	Solid	8021B	91311
880-48521-1 MSD	CS01	Total/NA	Solid	8021B	91311

Analysis Batch: 91431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	8021B	91369
MB 880-91369/5-A	Method Blank	Total/NA	Solid	8021B	91369
LCS 880-91369/1-A	Lab Control Sample	Total/NA	Solid	8021B	91369
LCSD 880-91369/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	91369

Analysis Batch: 91473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	Total BTEX	
880-48521-2	CS02	Total/NA	Solid	Total BTEX	
880-48521-3	CS03	Total/NA	Solid	Total BTEX	
880-48521-4	CS04	Total/NA	Solid	Total BTEX	
880-48521-5	SW01	Total/NA	Solid	Total BTEX	
880-48521-6	SW02	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

GC Semi VOA

Prep Batch: 91010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	8015NM Prep	
880-48521-2	CS02	Total/NA	Solid	8015NM Prep	
880-48521-3	CS03	Total/NA	Solid	8015NM Prep	
880-48521-4	CS04	Total/NA	Solid	8015NM Prep	
880-48521-5	SW01	Total/NA	Solid	8015NM Prep	
880-48521-6	SW02	Total/NA	Solid	8015NM Prep	
MB 880-91010/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-91010/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-91010/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 91142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	8015B NM	91010
880-48521-2	CS02	Total/NA	Solid	8015B NM	91010
880-48521-3	CS03	Total/NA	Solid	8015B NM	91010
880-48521-4	CS04	Total/NA	Solid	8015B NM	91010
880-48521-5	SW01	Total/NA	Solid	8015B NM	91010
880-48521-6	SW02	Total/NA	Solid	8015B NM	91010
MB 880-91010/1-A	Method Blank	Total/NA	Solid	8015B NM	91010
LCS 880-91010/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	91010
LCSD 880-91010/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	91010

Analysis Batch: 91208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Total/NA	Solid	8015 NM	
880-48521-2	CS02	Total/NA	Solid	8015 NM	
880-48521-3	CS03	Total/NA	Solid	8015 NM	
880-48521-4	CS04	Total/NA	Solid	8015 NM	
880-48521-5	SW01	Total/NA	Solid	8015 NM	
880-48521-6	SW02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 91004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Soluble	Solid	DI Leach	
880-48521-2	CS02	Soluble	Solid	DI Leach	
880-48521-3	CS03	Soluble	Solid	DI Leach	
880-48521-4	CS04	Soluble	Solid	DI Leach	
880-48521-5	SW01	Soluble	Solid	DI Leach	
880-48521-6	SW02	Soluble	Solid	DI Leach	
MB 880-91004/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-91004/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-91004/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 91009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-1	CS01	Soluble	Solid	300.0	91004
880-48521-2	CS02	Soluble	Solid	300.0	91004
880-48521-3	CS03	Soluble	Solid	300.0	91004
880-48521-4	CS04	Soluble	Solid	300.0	91004

QC Association Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

HPLC/IC (Continued)

Analysis Batch: 91009 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-48521-5	SW01	Soluble	Solid	300.0	91004
880-48521-6	SW02	Soluble	Solid	300.0	91004
MB 880-91004/1-A	Method Blank	Soluble	Solid	300.0	91004
LCS 880-91004/2-A	Lab Control Sample	Soluble	Solid	300.0	91004
LCSD 880-91004/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	91004

Lab Chronicle

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS01
Date Collected: 09/16/24 13:10
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91369	MNR	EET MID	09/23/24 09:50
Total/NA	Analysis	8021B		1	91431	MNR	EET MID	09/23/24 17:13
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 17:13
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 20:37
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 20:37
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 18:37

Client Sample ID: CS02
Date Collected: 09/16/24 13:12
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91311	MNR	EET MID	09/20/24 10:45
Total/NA	Analysis	8021B		1	91420	MNR	EET MID	09/23/24 04:29
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 04:29
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 20:53
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 20:53
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 18:46

Client Sample ID: CS03
Date Collected: 09/16/24 13:14
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91311	MNR	EET MID	09/20/24 10:45
Total/NA	Analysis	8021B		1	91420	MNR	EET MID	09/23/24 04:50
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 04:50
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 21:09
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 21:09
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 18:55

Client Sample ID: CS04
Date Collected: 09/16/24 13:16
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91311	MNR	EET MID	09/20/24 10:45
Total/NA	Analysis	8021B		1	91420	MNR	EET MID	09/23/24 05:10
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 05:10

Lab Chronicle

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Client Sample ID: CS04
Date Collected: 09/16/24 13:16
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 21:25
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 21:25
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 19:04

Client Sample ID: SW01
Date Collected: 09/16/24 13:18
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91311	MNR	EET MID	09/20/24 10:45
Total/NA	Analysis	8021B		1	91420	MNR	EET MID	09/23/24 05:30
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 05:30
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 21:41
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 21:41
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 19:12

Client Sample ID: SW02
Date Collected: 09/16/24 13:20
Date Received: 09/17/24 08:50

Lab Sample ID: 880-48521-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			91311	MNR	EET MID	09/20/24 10:45
Total/NA	Analysis	8021B		1	91420	MNR	EET MID	09/23/24 05:51
Total/NA	Analysis	Total BTEX		1	91473	SM	EET MID	09/23/24 05:51
Total/NA	Analysis	8015 NM		1	91208	SM	EET MID	09/18/24 21:57
Total/NA	Prep	8015NM Prep			91010	EL	EET MID	09/17/24 13:28
Total/NA	Analysis	8015B NM		1	91142	TKC	EET MID	09/18/24 21:57
Soluble	Leach	DI Leach			91004	SA	EET MID	09/17/24 11:47
Soluble	Analysis	300.0		1	91009	CH	EET MID	09/17/24 19:21

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 880-48521-1
Project/Site: Boone State 160 CTB
SDG: 32.473369, -103.5754411

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	06-30-25

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
8015B NM	8015NM Prep	Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Boone State 160 CTB

Job ID: 880-48521-1
SDG: 32.473369, -103.5754411

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-48521-1	CS01	Solid	09/16/24 13:10	09/17/24 08:50	1
880-48521-2	CS02	Solid	09/16/24 13:12	09/17/24 08:50	1
880-48521-3	CS03	Solid	09/16/24 13:14	09/17/24 08:50	1
880-48521-4	CS04	Solid	09/16/24 13:16	09/17/24 08:50	1
880-48521-5	SW01	Solid	09/16/24 13:18	09/17/24 08:50	0-1
880-48521-6	SW02	Solid	09/16/24 13:20	09/17/24 08:50	0-1

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Chain of Custody

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

Work Or

880-48521 Chain of Custody

www.xenco.com Page 1 of 1

Project Manager:	David McInnis	Bill to: (if different)	
Company Name:	Ensolum, LLC	Company Name:	
Address:	601 N. Marienfeld Street, Suite 400	Address:	
City, State ZIP:	Midland, TX 79701	City, State ZIP:	
Phone:	409-454-3009	Email:	dmcinnis@ensolum.com

Work Order Comments

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

State of Project:

Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Boone State 160 CTB	Turn Around	
Project Number:	03D2024296	☑ Routine ☐ Rush	
Project Location:	32.473368, -103.575411	Due Date:	
Sampler's Name:	D. McInnis	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR4
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-1
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.7
Total Containers:		Corrected Temperature:	3.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH (8015)	Parameters: Chloride	Sample Comments
CS01	S	9/16/24	1310	1	C	1		✓	✓	4 oz
CS02	S	"	1312	1	C	1		✓	✓	4 oz
CS03	S	"	1314	1	C	1		✓	✓	4 oz
CS04	S	"	1316	1	C	1		✓	✓	4 oz
SW01	S	"	1318	0-1	C	1		✓	✓	4 oz
SW02	S	"	1320	0-1	C	1		✓	✓	4 oz

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/17/24 1450	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-48521-1
SDG Number: 32.473369, -103.5754411

Login Number: 48521
List Number: 1
Creator: Vasquez, Julisa

List Source: Eurofins Midland

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

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QUESTIONS

Action 391534

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2422763744**
Incident Name	**NAPP2422763744 BOONE STATE 160 CTB @ 0**
Incident Type	**Oil Release**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fAPP2129337290] Boone St 160 CTB**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Boone State 160 CTB
Date Release Discovered	08/14/2024
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Repair and Maintenance | Other (Specify) | Crude Oil | Released: 1 BBL | Recovered: 0 BBL | Lost: 1 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(2) an unauthorized release of a volume that:** **(a) results in a fire or is the result of a fire.**
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	Emergency services were not notified The release was confined to the facility pad The facility has been cleared by safety personnel
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: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/19/2024

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (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	Between 500 and 1000 (ft.)
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	None
A 100-year floodplain	Between 500 and 1000 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

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)	0
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	09/12/2024
On what date will (or did) the final sampling or liner inspection occur	09/12/2024
On what date will (or was) the remediation complete(d)	09/12/2024
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	10762
What is the estimated volume (in cubic yards) that will be remediated	0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	Boone St 160 CTB [fAPP2129337290]
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	*Not answered.*
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)	No
(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: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 10/10/2024
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.	

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**391442**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**10/14/2024**
What was the (estimated) number of samples that were to be gathered	**2**
What was the sampling surface area in square feet	**400**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	797
What was the total volume (cubic yards) remediated	30
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	797
What was the total volume (in cubic yards) reclaimed	30
Summarize any additional remediation activities not included by answers (above)	Initial response efforts, excavation of impacted soil, and remediation activities have mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent.

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 10/10/2024

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 391534

CONDITIONS

Operator:	OGRID:
COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	229137
	Action Number: 391534
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2422763744 BOONE STATE 160 CTB, thank you. This Remediation Closure Report is approved.	11/7/2024