March 24, 2023

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

Re: Closure Request
Battle Axe CTB
Incident Number NAPP2300341479
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of ConocoPhillips Company (COP), has prepared this *Closure Request* to document assessment and soil sampling activities performed at the Battle Axe CTB (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil within a lined containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, COP is submitting this *Closure Request*, describing Site assessment and delineation activities that have occurred and requesting no further action and closure for Incident Number NAPP2300341479.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 27, Township 26 South, Range 32 East, in Lea County, New Mexico (32.0188°, -103.6561°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On December 25, 2022, a leak from the flare scrubber resulted in the release of approximately 7.9 barrels (bbls) of crude oil into the lined containment. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately all 7.9 bbls of crude oil were recovered. COP reported the release immediately via email to the New Mexico Oil Conservation Division (NMOCD) on December 25, 2022 and submitted a *Release Notification Form C-141* (Form C-141) on January 3, 2023. The release was assigned Incident Number NAPP2300341479.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized for applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. 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 closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-03595 POD 1, located approximately 1.6 miles west of the Site. The groundwater well has a reported depth to groundwater of

180 feet bgs and a total depth of 280 feet bgs. Ground surface elevation at the groundwater well location is 3,138 feet above mean sea level (amsl), which is approximately 18 feet higher in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is Red Hills Draw, located approximately 1.27 miles northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium 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)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

A 48-hour advance notice of the liner inspection was provided via email on January 16, 2023, to the NMOCD. A liner integrity inspection was conducted by Ensolum personnel on January 18, 2023. Upon inspection, the liner was determined to be insufficient. One Borehole (BH01) was advanced via hand auger near the location of the tear in the liner to assess the vertical extent of potentially impacted soil. Three discrete delineation soil samples were collected from the borehole (BH01/BH01A/BH01B) at depths ranging from 0.5 feet to 4 feet bgs.

Soil from the borehole delineation samples was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix B. The borehole was backfilled with the soil removed and COP repaired the tear in the liner.

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

On February 17, 2023, Ensolum personnel visited the Site to evaluate the release extent. Four delineation soil samples (SS01 through SS04) were collected around the lined containment at 0.5 feet bgs to confirm the lateral extent of the release. The delineation soil samples were handled and analyzed following the same procedures as described above. The delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted at the Site. A photographic log is included in Appendix C.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation soil samples, SS01 through SS04 and BH01, BH01A, and BH01B, collected at depths ranging from 0.5 feet to 4 feet bgs, indicated all COC concentrations were compliant with the Closure Criteria and successfully define the vertical extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

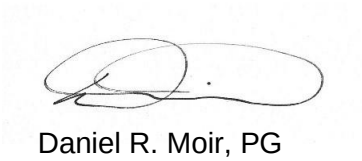
Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the December 25, 2022, crude oil release within the lined containment. Three delineation soil samples were collected from borehole BH01, at depths ranging from 0.5 feet to 4 feet bgs. Laboratory analytical results for the delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria and the most stringent Table I Closure Criteria. Additionally, laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the most stringent Table I Closure Criteria. The release was contained laterally within the lined containment. The tear in the liner was subsequently repaired.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria directly beneath the tear in the liner, COP respectfully requests closure for Incident Number NAPP2300341479.

If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

Hadlie Green
Staff Geologist



Daniel R. Moir, PG
Senior Managing Geologist

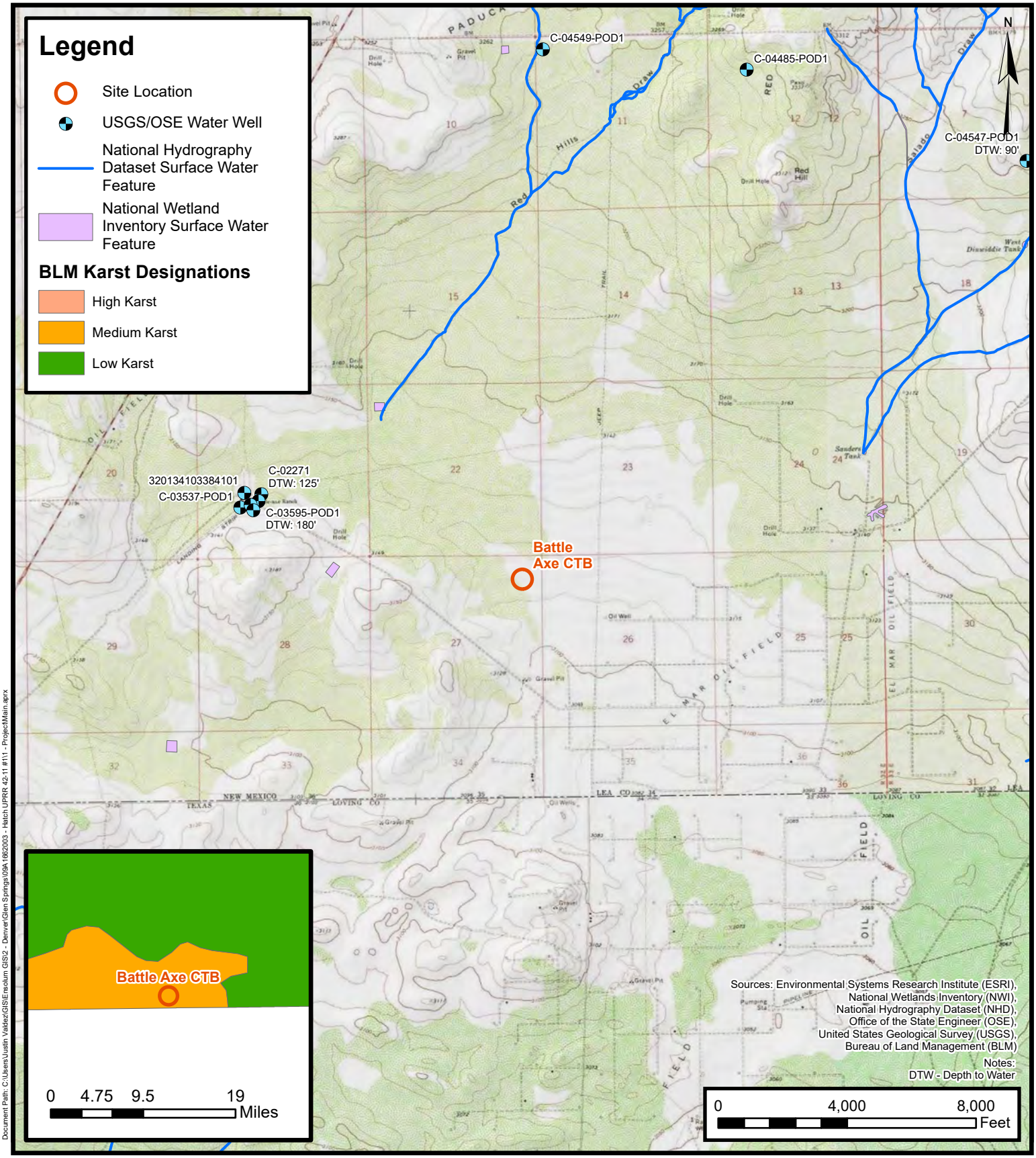
cc: Charles Beauvais, ConocoPhillips Company
Jacob Laird, ConocoPhillips Company
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Lithologic/Soil Sampling Log
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Final C-141

ENSOLUM

FIGURES



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Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Battle Axe CTB
ConocoPhillips Company
Incident Number: NAPP2300341479
Unit A, Section 27, T26S, R32E
Lea County, New Mexico

FIGURE

1

Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\2 - Denver\Glen Springs\09A1862003 - Hatch UPRR 42-11 #1\1 - Project\Main.aprx

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Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

Battle Axe CTB
ConocoPhillips Company
Incident Number: NAPP2300341479
Unit A, Section 27, T26S, R32E
Lea County, New Mexico

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Battle Axe CTB
ConocoPhillips Company
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**
Delineation Soil Samples										
SS01	02/17/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	55.1
SS02	02/17/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	99.0
SS03	02/17/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	60.1
SS04	02/17/2023	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	27.2
BH01	02/03/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	25.5
BH01A	02/03/2023	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	142
BH01B	02/03/2023	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	42.8

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

Grey text represents samples that have been excavated

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APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03595 POD1	4	2	3	21	26S	32E	624423	3544045

Driller License: 1654 **Driller Company:** NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC

Driller Name:

Drill Start Date: 09/30/2013 **Drill Finish Date:** 09/30/2013 **Plug Date:**

Log File Date: 10/29/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 6.00 **Depth Well:** 280 feet **Depth Water:** 180 feet

Water Bearing Stratifications:	Top	Bottom	Description
	160	200	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	200	240

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information | Geographic Area: United States | GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

USGS 320134103384101 26S.32E.21.32311

Available data for this site SUMMARY OF ALL AVAILABLE DATA | GO

Well Site

DESCRIPTION:
Latitude 32°01'35.2", Longitude 103°41'01.8" NAD83
Lea County, New Mexico , Hydrologic Unit 13070001
Well depth: 405. feet
Hole depth: 405. feet
Land surface altitude: 3,130 feet above NAVD88.
Well completed in "Pecos River Basin alluvial aquifer" (N100PCSRVR) national aquifer.
Well completed in "Dockum Group" (231DCKM) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1993-06-16	2013-01-16	2
Revisions	Unavailable (site:0) (timeseries:0)		

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APPENDIX B

Lithologic Soil Sampling Logs

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	Sample Name: BH01	Date: 2/3/2023
	Site Name: Battle Axe CTB	
	Incident Number: NAPP2300341479	
	Job Number: 03D2024137	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: DN	Method: Hand Auger
Coordinates: 32.0191465, -103.6562958	Hole Diameter: 4"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction facter was included. SAA: Same As Above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<170	1.4	N	BH01	0.5		SP-SM	SAND, light brown, fine grain, poorly graded with silt, no staining, no odor.
D	173	0.8	N	BH01A	1	1		
D	207	0.6	N			2		SAA, light brown to tan.
D	<170	0.2	N			3		SAA
D	<170	0.3	N	BH01B	4	4		SAA

TD @ 4 feet bgs

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APPENDIX C

Photographic Log

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Photographic Log
ConocoPhillips Company
Battle Axe CTB
Incident Number NAPP2300341479

Photograph: 1 Date: 1/24/2023
Description: Liner inspection
View: Northeast

Photograph: 2 Date: 1/24/2023
Description: Compromised liner
View: East

Photograph: 3 Date: 2/3/2023
Description: Delineation activities
View: Southeast

Photograph: 4 Date: 2/6/2023
Description: Patched Liner
View: East

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APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

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JOB DESCRIPTION

Battle Axe CTB
SDG NUMBER 03D2024137

JOB NUMBER

890-4034-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

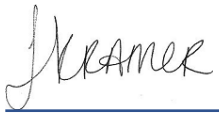
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Battle Axe CTB

Laboratory Job ID: 890-4034-1
SDG: 03D2024137

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high 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/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Job ID: 890-4034-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4034-1

Receipt
The samples were received on 2/6/2023 8:00 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 0.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-4034-1), BH01 (890-4034-2) and BH01 (890-4034-3).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-46010 and analytical batch 880-46086 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH01 (890-4034-1), BH01 (890-4034-2), BH01 (890-4034-3), (CCV 880-46086/33), (LCS 880-46012/1-A), (LCSD 880-46012/2-A), (890-4031-A-21-G MS) and (890-4031-A-21-H MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4031-A-21-I). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4037-A-1-H). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-45949/5) and (LCS 880-45900/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-24301-A-1-H) and (880-24301-A-1-I MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH01 (890-4034-1), BH01 (890-4034-2) and BH01 (890-4034-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-45900 and analytical batch 880-45949 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Client Sample ID: BH01

Lab Sample ID: 890-4034-1
Matrix: Solid
Date Collected: 02/03/23 10:00
Date Received: 02/06/23 08:00
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		02/10/23 14:36	02/14/23 03:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 03:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 03:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/10/23 14:36	02/14/23 03:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 03:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/10/23 14:36	02/14/23 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*02/10/23 14:36*	*02/14/23 03:48*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*02/10/23 14:36*	*02/14/23 03:48*	*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			02/14/23 11:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/13/23 14:46	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 16:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 16:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*62*	*S1-*	*70 - 130*	*02/09/23 13:32*	*02/10/23 16:54*	*1*
o-Terphenyl	*71*		*70 - 130*	*02/09/23 13:32*	*02/10/23 16:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.5**		4.95		mg/Kg			02/08/23 03:50	1

Client Sample ID: BH01

Lab Sample ID: 890-4034-2
Matrix: Solid
Date Collected: 02/03/23 10:10
Date Received: 02/06/23 08:00
Sample Depth: 1

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		02/10/23 14:36	02/14/23 04:14	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:36	02/14/23 04:14	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:36	02/14/23 04:14	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/10/23 14:36	02/14/23 04:14	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:36	02/14/23 04:14	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/10/23 14:36	02/14/23 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*147*	*S1+*	*70 - 130*	*02/10/23 14:36*	*02/14/23 04:14*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Client Sample ID: BH01

Lab Sample ID: 890-4034-2
Matrix: Solid
Date Collected: 02/03/23 10:10
Date Received: 02/06/23 08:00
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*02/10/23 14:36*	*02/14/23 04:14*	*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			02/14/23 11:45	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			02/13/23 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/09/23 13:32	02/10/23 17:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/09/23 13:32	02/10/23 17:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/09/23 13:32	02/10/23 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*54*	*S1-*	*70 - 130*	*02/09/23 13:32*	*02/10/23 17:16*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*02/09/23 13:32*	*02/10/23 17:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**142**		4.97	mg/Kg			02/08/23 03:55	1

Client Sample ID: BH01

Lab Sample ID: 890-4034-3
Matrix: Solid
Date Collected: 02/03/23 10:40
Date Received: 02/06/23 08:00
Sample Depth: 4

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		02/10/23 14:36	02/14/23 04:41	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/10/23 14:36	02/14/23 04:41	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/10/23 14:36	02/14/23 04:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/10/23 14:36	02/14/23 04:41	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/10/23 14:36	02/14/23 04:41	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/10/23 14:36	02/14/23 04:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*	*S1+*	*70 - 130*	*02/10/23 14:36*	*02/14/23 04:41*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*02/10/23 14:36*	*02/14/23 04:41*	*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			02/14/23 11:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/13/23 14:46	1

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Client Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Client Sample ID: BH01

Date Collected: 02/03/23 10:40
Date Received: 02/06/23 08:00
Sample Depth: 4

Lab Sample ID: 890-4034-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 17:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 17:38	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/09/23 13:32	02/10/23 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*54*	*S1-*	*70 - 130*	*02/09/23 13:32*	*02/10/23 17:38*	*1*
o-Terphenyl	*63*	*S1-*	*70 - 130*	*02/09/23 13:32*	*02/10/23 17:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**42.8**		5.04		mg/Kg			02/08/23 03:59	1

Surrogate Summary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4031-A-21-H MSD	Matrix Spike Duplicate	144 S1+	95
890-4034-1	BH01	79	79
890-4034-2	BH01	147 S1+	90
890-4034-3	BH01	148 S1+	83
890-4037-A-1-F MS	Matrix Spike	116	81
LCS 880-46010/1-A	Lab Control Sample	130	100
LCS 880-46012/1-A	Lab Control Sample	134 S1+	87
LCSD 880-46010/2-A	Lab Control Sample Dup	128	86
LCSD 880-46012/2-A	Lab Control Sample Dup	140 S1+	85
MB 880-46010/5-A	Method Blank	89	85
MB 880-46012/5-A	Method Blank	93	82

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)
880-24301-A-1-I MS	Matrix Spike	68 S1-	72
880-24301-A-1-J MSD	Matrix Spike Duplicate	86	74
890-4034-1	BH01	62 S1-	71
890-4034-2	BH01	54 S1-	68 S1-
890-4034-3	BH01	54 S1-	63 S1-
LCS 880-45900/2-A	Lab Control Sample	132 S1+	138 S1+
LCSD 880-45900/3-A	Lab Control Sample Dup	106	130
MB 880-45900/1-A	Method Blank	74	93

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46010/5-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46010

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:32	02/13/23 12:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:32	02/13/23 12:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:32	02/13/23 12:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/10/23 14:32	02/13/23 12:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:32	02/13/23 12:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/10/23 14:32	02/13/23 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*02/10/23 14:32*	*02/13/23 12:26*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*02/10/23 14:32*	*02/13/23 12:26*	*1*

Lab Sample ID: LCS 880-46010/1-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46010

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1345	*+	mg/Kg		135	70 - 130		
Toluene			0.100	0.1363	*+	mg/Kg		136	70 - 130		
Ethylbenzene			0.100	0.1415	*+	mg/Kg		141	70 - 130		
m-Xylene & p-Xylene			0.200	0.2823	*+	mg/Kg		141	70 - 130		
o-Xylene			0.100	0.1415	*+	mg/Kg		141	70 - 130		

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

Lab Sample ID: LCSD 880-46010/2-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46010

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1219		mg/Kg		122	70 - 130	10	35
Toluene			0.100	0.1231		mg/Kg		123	70 - 130	10	35
Ethylbenzene			0.100	0.1286		mg/Kg		129	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2608		mg/Kg		130	70 - 130	8	35
o-Xylene			0.100	0.1290		mg/Kg		129	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-4031-A-21-H MSD
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46010

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U *+	0.0996	0.1080		mg/Kg		108	70 - 130	2	35
Toluene	<0.00202	U *+	0.0996	0.1113		mg/Kg		112	70 - 130	1	35

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QC Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

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

Lab Sample ID: 890-4031-A-21-H MSD
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46010

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene	<0.00202	U *+	0.0996	0.1137		mg/Kg		114	70 - 130	2	35
m-Xylene & p-Xylene	<0.00404	U *+	0.199	0.2295		mg/Kg		115	70 - 130	2	35
o-Xylene	<0.00202	U *+	0.0996	0.1137		mg/Kg		114	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: MB 880-46012/5-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46012

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 01:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 01:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 01:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/10/23 14:36	02/14/23 01:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:36	02/14/23 01:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/10/23 14:36	02/14/23 01:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*02/10/23 14:36*	*02/14/23 01:37*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*02/10/23 14:36*	*02/14/23 01:37*	*1*

Lab Sample ID: LCS 880-46012/1-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46012

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1059		mg/Kg		106	70 - 130		
Toluene			0.100	0.1130		mg/Kg		113	70 - 130		
Ethylbenzene			0.100	0.1122		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.200	0.2259		mg/Kg		113	70 - 130		
o-Xylene			0.100	0.1169		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: LCSD 880-46012/2-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46012

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1142		mg/Kg		114	70 - 130	8	35
Toluene			0.100	0.1154		mg/Kg		115	70 - 130	2	35
Ethylbenzene			0.100	0.1117		mg/Kg		112	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2226		mg/Kg		111	70 - 130	1	35

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

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

Lab Sample ID: LCSD 880-46012/2-A
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46012

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			0.100	0.1105		mg/Kg		111	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-4037-A-1-F MS
Matrix: Solid
Analysis Batch: 46086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46012

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.08259		mg/Kg		82	70 - 130
Toluene	<0.00201	U	0.100	0.07765		mg/Kg		77	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.08149		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1603		mg/Kg		80	70 - 130
o-Xylene	<0.00201	U	0.100	0.07875		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

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

Lab Sample ID: MB 880-45900/1-A
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45900

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		02/09/23 13:32	02/10/23 08:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/09/23 13:32	02/10/23 08:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/09/23 13:32	02/10/23 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*02/09/23 13:32*	*02/10/23 08:07*	*1*
o-Terphenyl	*93*		*70 - 130*	*02/09/23 13:32*	*02/10/23 08:07*	*1*

Lab Sample ID: LCS 880-45900/2-A
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45900

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1020		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1138		mg/Kg		114	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

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

Lab Sample ID: LCS 880-45900/2-A
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45900

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	132	S1+	70 - 130
o-Terphenyl	138	S1+	70 - 130

Lab Sample ID: LCSD 880-45900/3-A
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45900

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.6		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1056		mg/Kg		106	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	130		70 - 130

Lab Sample ID: 880-24301-A-1-I MS
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1139		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1193		mg/Kg		116	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	68	S1-	70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 880-24301-A-1-J MSD
Matrix: Solid
Analysis Batch: 45949

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45900

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1192		mg/Kg		116	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1218		mg/Kg		119	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	74		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45706/1-A
Matrix: Solid
Analysis Batch: 45760

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			02/08/23 01:53	1

Lab Sample ID: LCS 880-45706/2-A
Matrix: Solid
Analysis Batch: 45760

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.4		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-45706/3-A
Matrix: Solid
Analysis Batch: 45760

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	256.7		mg/Kg		103	90 - 110	4	20

Lab Sample ID: 890-4031-A-31-B MS
Matrix: Solid
Analysis Batch: 45760

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	479		249	705.9		mg/Kg		91	90 - 110		

Lab Sample ID: 890-4031-A-31-C MSD
Matrix: Solid
Analysis Batch: 45760

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	479		249	722.0		mg/Kg		98	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

GC VOA

Prep Batch: 46010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46010/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46010/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46010/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4031-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 46012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	5035	
890-4034-2	BH01	Total/NA	Solid	5035	
890-4034-3	BH01	Total/NA	Solid	5035	
MB 880-46012/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46012/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46012/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4037-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 46086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	8021B	46012
890-4034-2	BH01	Total/NA	Solid	8021B	46012
890-4034-3	BH01	Total/NA	Solid	8021B	46012
MB 880-46010/5-A	Method Blank	Total/NA	Solid	8021B	46010
MB 880-46012/5-A	Method Blank	Total/NA	Solid	8021B	46012
LCS 880-46010/1-A	Lab Control Sample	Total/NA	Solid	8021B	46010
LCS 880-46012/1-A	Lab Control Sample	Total/NA	Solid	8021B	46012
LCSD 880-46010/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46010
LCSD 880-46012/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46012
890-4031-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46010
890-4037-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	46012

Analysis Batch: 46311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	Total BTEX	
890-4034-2	BH01	Total/NA	Solid	Total BTEX	
890-4034-3	BH01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	8015NM Prep	
890-4034-2	BH01	Total/NA	Solid	8015NM Prep	
890-4034-3	BH01	Total/NA	Solid	8015NM Prep	
MB 880-45900/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45900/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45900/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24301-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24301-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	8015B NM	45900

QC Association Summary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

GC Semi VOA (Continued)

Analysis Batch: 45949 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-2	BH01	Total/NA	Solid	8015B NM	45900
890-4034-3	BH01	Total/NA	Solid	8015B NM	45900
MB 880-45900/1-A	Method Blank	Total/NA	Solid	8015B NM	45900
LCS 880-45900/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45900
LCSD 880-45900/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45900
880-24301-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	45900
880-24301-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45900

Analysis Batch: 46171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Total/NA	Solid	8015 NM	
890-4034-2	BH01	Total/NA	Solid	8015 NM	
890-4034-3	BH01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Soluble	Solid	DI Leach	
890-4034-2	BH01	Soluble	Solid	DI Leach	
890-4034-3	BH01	Soluble	Solid	DI Leach	
MB 880-45706/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45706/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45706/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4031-A-31-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4031-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4034-1	BH01	Soluble	Solid	300.0	45706
890-4034-2	BH01	Soluble	Solid	300.0	45706
890-4034-3	BH01	Soluble	Solid	300.0	45706
MB 880-45706/1-A	Method Blank	Soluble	Solid	300.0	45706
LCS 880-45706/2-A	Lab Control Sample	Soluble	Solid	300.0	45706
LCSD 880-45706/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45706
890-4031-A-31-B MS	Matrix Spike	Soluble	Solid	300.0	45706
890-4031-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45706

Lab Chronicle

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Client Sample ID: BH01
Date Collected: 02/03/23 10:00
Date Received: 02/06/23 08:00

Lab Sample ID: 890-4034-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46012	02/10/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46086	02/14/23 03:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46311	02/14/23 11:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			46171	02/13/23 14:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45900	02/09/23 13:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45949	02/10/23 16:54	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45706	02/07/23 15:02	KS	EET MID
Soluble	Analysis	300.0		1			45760	02/08/23 03:50	CH	EET MID

Client Sample ID: BH01
Date Collected: 02/03/23 10:10
Date Received: 02/06/23 08:00

Lab Sample ID: 890-4034-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	46012	02/10/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46086	02/14/23 04:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46311	02/14/23 11:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			46171	02/13/23 14:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45900	02/09/23 13:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45949	02/10/23 17:16	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	45706	02/07/23 15:02	KS	EET MID
Soluble	Analysis	300.0		1			45760	02/08/23 03:55	CH	EET MID

Client Sample ID: BH01
Date Collected: 02/03/23 10:40
Date Received: 02/06/23 08:00

Lab Sample ID: 890-4034-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	46012	02/10/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46086	02/14/23 04:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46311	02/14/23 11:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			46171	02/13/23 14:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45900	02/09/23 13:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45949	02/10/23 17:38	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	45706	02/07/23 15:02	KS	EET MID
Soluble	Analysis	300.0		1			45760	02/08/23 03:59	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

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: Battle Axe CTB

Job ID: 890-4034-1
SDG: 03D2024137

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4034-1	BH01	Solid	02/03/23 10:00	02/06/23 08:00	0.5
890-4034-2	BH01	Solid	02/03/23 10:10	02/06/23 08:00	1
890-4034-3	BH01	Solid	02/03/23 10:40	02/06/23 08:00	4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@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:	Battle Axe CTB	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024137	Due Date:	
Project Location:	Lea County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Dmitry Nikanorov		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAM-EF7
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	.2
Total Containers:		Corrected Temperature:	.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
BH01	S	2/3/2023	10:00	0.5'	Grab	1		x	x	x
BH01	S	2/3/2023	10:10	1'	Grab	1		x	x	x
BH01	S	2/3/2023	10:40	4'	Grab	1		x	x	x

Preservative Codes

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

Sample Comments

Incident Number

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			4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4034-1
SDG Number: 03D2024137

Login Number: 4034
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4034-1
SDG Number: 03D2024137

Login Number: 4034
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/07/23 01:54 PM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/28/2023 3:59:34 PM

JOB DESCRIPTION

Battle Axe Liner
SDG NUMBER 03D2024137

JOB NUMBER

890-4137-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

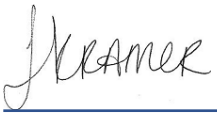
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Battle Axe Liner

Laboratory Job ID: 890-4137-1
SDG: 03D2024137

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4137-1
Project/Site: Battle Axe Liner SDG: 03D2024137

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Job ID: 890-4137-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4137-1

Receipt
The samples were received on 2/17/2023 3:26 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4137-1), SS02 (890-4137-2), SS03 (890-4137-3) and SS04 (890-4137-4).

GC VOA
Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-47012 and analytical batch 880-47064 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47012 and analytical batch 880-47064 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
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: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS01

Lab Sample ID: 890-4137-1

Date Collected: 02/17/23 09:05
Matrix: Solid
Date Received: 02/17/23 15:26
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		02/23/23 11:00	02/23/23 22:39	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		02/23/23 11:00	02/23/23 22:39	1
Ethylbenzene	<0.00200	U *+	0.00200		mg/Kg		02/23/23 11:00	02/23/23 22:39	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		02/23/23 11:00	02/23/23 22:39	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		02/23/23 11:00	02/23/23 22:39	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		02/23/23 11:00	02/23/23 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*223*	*S1+*	*70 - 130*	*02/23/23 11:00*	*02/23/23 22:39*	*1*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*02/23/23 11:00*	*02/23/23 22:39*	*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			02/28/23 16:48	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			02/24/23 13:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 21:37	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 21:37	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*02/23/23 17:02*	*02/23/23 21:37*	*1*
o-Terphenyl	*104*		*70 - 130*	*02/23/23 17:02*	*02/23/23 21:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.1**		5.05		mg/Kg			02/22/23 23:10	1

Client Sample ID: SS02

Lab Sample ID: 890-4137-2

Date Collected: 02/17/23 09:00
Matrix: Solid
Date Received: 02/17/23 15:26
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		02/23/23 11:00	02/23/23 23:06	1
Toluene	<0.00201	U *+	0.00201		mg/Kg		02/23/23 11:00	02/23/23 23:06	1
Ethylbenzene	<0.00201	U *+	0.00201		mg/Kg		02/23/23 11:00	02/23/23 23:06	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		02/23/23 11:00	02/23/23 23:06	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		02/23/23 11:00	02/23/23 23:06	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		02/23/23 11:00	02/23/23 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*204*	*S1+*	*70 - 130*	*02/23/23 11:00*	*02/23/23 23:06*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS02

Lab Sample ID: 890-4137-2
Matrix: Solid
Date Collected: 02/17/23 09:00
Date Received: 02/17/23 15:26
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*02/23/23 11:00*	*02/23/23 23:06*	*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			02/28/23 16:48	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			02/24/23 13:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/23/23 17:02	02/23/23 22:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/23/23 17:02	02/23/23 22:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/23/23 17:02	02/23/23 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*02/23/23 17:02*	*02/23/23 22:43*	*1*
o-Terphenyl	*102*		*70 - 130*	*02/23/23 17:02*	*02/23/23 22:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**99.0**		5.04	mg/Kg			02/22/23 23:17	1

Client Sample ID: SS03

Lab Sample ID: 890-4137-3
Matrix: Solid
Date Collected: 02/17/23 08:55
Date Received: 02/17/23 15:26
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U *+	0.00198	mg/Kg		02/23/23 11:00	02/23/23 23:32	1
Toluene	<0.00198	U *+	0.00198	mg/Kg		02/23/23 11:00	02/23/23 23:32	1
Ethylbenzene	<0.00198	U *+	0.00198	mg/Kg		02/23/23 11:00	02/23/23 23:32	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396	mg/Kg		02/23/23 11:00	02/23/23 23:32	1
o-Xylene	<0.00198	U *+	0.00198	mg/Kg		02/23/23 11:00	02/23/23 23:32	1
Xylenes, Total	<0.00396	U *+	0.00396	mg/Kg		02/23/23 11:00	02/23/23 23:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*264*	*S1+*	*70 - 130*	*02/23/23 11:00*	*02/23/23 23:32*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*02/23/23 11:00*	*02/23/23 23:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/28/23 16:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/24/23 13:40	1

Client Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS03

Lab Sample ID: 890-4137-3
Matrix: Solid
Date Collected: 02/17/23 08:55
Date Received: 02/17/23 15:26
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	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/23/23 23:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/23/23 23:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/23/23 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*02/23/23 17:02*	*02/23/23 23:06*	*1*
o-Terphenyl	*89*		*70 - 130*	*02/23/23 17:02*	*02/23/23 23:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60.1**		5.00		mg/Kg			02/22/23 23:35	1

Client Sample ID: SS04

Lab Sample ID: 890-4137-4
Matrix: Solid
Date Collected: 02/17/23 08:50
Date Received: 02/17/23 15:26
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		02/23/23 11:00	02/23/23 23:58	1
Toluene	<0.00199	U *+	0.00199		mg/Kg		02/23/23 11:00	02/23/23 23:58	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		02/23/23 11:00	02/23/23 23:58	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		02/23/23 11:00	02/23/23 23:58	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		02/23/23 11:00	02/23/23 23:58	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		02/23/23 11:00	02/23/23 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*250*	*S1+*	*70 - 130*	*02/23/23 11:00*	*02/23/23 23:58*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*02/23/23 11:00*	*02/23/23 23:58*	*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			02/28/23 16:48	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			02/24/23 13:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 23:27	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 23:27	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/23/23 23:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*02/23/23 17:02*	*02/23/23 23:27*	*1*
o-Terphenyl	*90*		*70 - 130*	*02/23/23 17:02*	*02/23/23 23:27*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS04
Date Collected: 02/17/23 08:50
Date Received: 02/17/23 15:26
Sample Depth: 0.5

Lab Sample ID: 890-4137-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.2		5.00		mg/Kg			02/22/23 23:41	1

Surrogate Summary

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

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)
880-25104-A-2-B MS	Matrix Spike	215 S1+	82
880-25104-A-2-C MSD	Matrix Spike Duplicate	235 S1+	76
890-4137-1	SS01	223 S1+	64 S1-
890-4137-2	SS02	204 S1+	62 S1-
890-4137-3	SS03	264 S1+	73
890-4137-4	SS04	250 S1+	72
LCS 880-47012/1-A	Lab Control Sample	227 S1+	72
LCSD 880-47012/2-A	Lab Control Sample Dup	229 S1+	81
MB 880-47012/5-A	Method Blank	151 S1+	67 S1-

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4137-1	SS01	107	104
890-4137-1 MS	SS01	108	102
890-4137-1 MSD	SS01	102	97
890-4137-2	SS02	102	102
890-4137-3	SS03	83	89
890-4137-4	SS04	85	90
LCS 880-47116/2-A	Lab Control Sample	111	109
LCSD 880-47116/3-A	Lab Control Sample Dup	102	103
MB 880-47116/1-A	Method Blank	135 S1+	138 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47012/5-A
Matrix: Solid
Analysis Batch: 47064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47012

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/23/23 11:00	02/23/23 15:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*151*	*S1+*	*70 - 130*	*02/23/23 11:00*	*02/23/23 15:38*	*1*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*02/23/23 11:00*	*02/23/23 15:38*	*1*

Lab Sample ID: LCS 880-47012/1-A
Matrix: Solid
Analysis Batch: 47064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47012

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1735	*+	mg/Kg		174	70 - 130		
Toluene			0.100	0.1746	*+	mg/Kg		175	70 - 130		
Ethylbenzene			0.100	0.1732	*+	mg/Kg		173	70 - 130		
m-Xylene & p-Xylene			0.200	0.3532	*+	mg/Kg		177	70 - 130		
o-Xylene			0.100	0.1600	*+	mg/Kg		160	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*227*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*

Lab Sample ID: LCSD 880-47012/2-A
Matrix: Solid
Analysis Batch: 47064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47012

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1387	*+	mg/Kg		139	70 - 130	22	35
Toluene			0.100	0.1457	*+	mg/Kg		146	70 - 130	18	35
Ethylbenzene			0.100	0.1526	*+	mg/Kg		153	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.3120	*+	mg/Kg		156	70 - 130	12	35
o-Xylene			0.100	0.1487	*+	mg/Kg		149	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*229*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 880-25104-A-2-B MS
Matrix: Solid
Analysis Batch: 47064

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47012

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U *+ F1	0.101	0.1519	F1	mg/Kg		151	70 - 130		
Toluene	<0.00199	U *+ F1	0.101	0.1448	F1	mg/Kg		144	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

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

Lab Sample ID: 880-25104-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47064 — **Prep Batch: 47012**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U *+ F1	0.101	0.1386	F1	mg/Kg		138	70 - 130
m-Xylene & p-Xylene	<0.00398	U *+ F1	0.201	0.2810	F1	mg/Kg		140	70 - 130
o-Xylene	<0.00199	U *+ F1	0.101	0.1275		mg/Kg		127	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*215*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: 880-25104-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47064 — **Prep Batch: 47012**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U *+ F1	0.0990	0.1597	F1	mg/Kg		161	70 - 130	5	35
Toluene	<0.00199	U *+ F1	0.0990	0.1509	F1	mg/Kg		152	70 - 130	4	35
Ethylbenzene	<0.00199	U *+ F1	0.0990	0.1499	F1	mg/Kg		151	70 - 130	8	35
m-Xylene & p-Xylene	<0.00398	U *+ F1	0.198	0.3011	F1	mg/Kg		152	70 - 130	7	35
o-Xylene	<0.00199	U *+ F1	0.0990	0.1474	F1	mg/Kg		149	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*235*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*

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

Lab Sample ID: MB 880-47116/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46992 — **Prep Batch: 47116**

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		02/23/23 17:02	02/23/23 20:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/23/23 17:02	02/23/23 20:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/23/23 17:02	02/23/23 20:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*02/23/23 17:02*	*02/23/23 20:30*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*02/23/23 17:02*	*02/23/23 20:30*	*1*

Lab Sample ID: LCS 880-47116/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46992 — **Prep Batch: 47116**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	935.8		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1034		mg/Kg		103	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

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

Lab Sample ID: LCS 880-47116/2-A
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47116

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-47116/3-A
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47116

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	849.0		mg/Kg		85	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	922.0		mg/Kg		92	70 - 130	11	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: 890-4137-1 MS
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 47116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1169		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	934.3		mg/Kg		93	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-4137-1 MSD
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 47116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1116		mg/Kg		108	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	897.5		mg/Kg		90	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46848/1-A
Matrix: Solid
Analysis Batch: 46984

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			02/22/23 22:21	1

Lab Sample ID: LCS 880-46848/2-A
Matrix: Solid
Analysis Batch: 46984

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	232.9		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-46848/3-A
Matrix: Solid
Analysis Batch: 46984

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	232.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 890-4135-A-1-B MS
Matrix: Solid
Analysis Batch: 46984

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<5.02	U	251	240.6		mg/Kg		95	90 - 110		

Lab Sample ID: 890-4135-A-1-C MSD
Matrix: Solid
Analysis Batch: 46984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.02	U	251	240.8		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

GC VOA

Prep Batch: 47012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	5035	
890-4137-2	SS02	Total/NA	Solid	5035	
890-4137-3	SS03	Total/NA	Solid	5035	
890-4137-4	SS04	Total/NA	Solid	5035	
MB 880-47012/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47012/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47012/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25104-A-2-B MS	Matrix Spike	Total/NA	Solid	5035	
880-25104-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	8021B	47012
890-4137-2	SS02	Total/NA	Solid	8021B	47012
890-4137-3	SS03	Total/NA	Solid	8021B	47012
890-4137-4	SS04	Total/NA	Solid	8021B	47012
MB 880-47012/5-A	Method Blank	Total/NA	Solid	8021B	47012
LCS 880-47012/1-A	Lab Control Sample	Total/NA	Solid	8021B	47012
LCSD 880-47012/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47012
880-25104-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	47012
880-25104-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47012

Analysis Batch: 47483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	Total BTEX	
890-4137-2	SS02	Total/NA	Solid	Total BTEX	
890-4137-3	SS03	Total/NA	Solid	Total BTEX	
890-4137-4	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 46992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	8015B NM	47116
890-4137-2	SS02	Total/NA	Solid	8015B NM	47116
890-4137-3	SS03	Total/NA	Solid	8015B NM	47116
890-4137-4	SS04	Total/NA	Solid	8015B NM	47116
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015B NM	47116
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47116
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47116
890-4137-1 MS	SS01	Total/NA	Solid	8015B NM	47116
890-4137-1 MSD	SS01	Total/NA	Solid	8015B NM	47116

Prep Batch: 47116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	8015NM Prep	
890-4137-2	SS02	Total/NA	Solid	8015NM Prep	
890-4137-3	SS03	Total/NA	Solid	8015NM Prep	
890-4137-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

GC Semi VOA (Continued)

Prep Batch: 47116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4137-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-4137-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Total/NA	Solid	8015 NM	
890-4137-2	SS02	Total/NA	Solid	8015 NM	
890-4137-3	SS03	Total/NA	Solid	8015 NM	
890-4137-4	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Soluble	Solid	DI Leach	
890-4137-2	SS02	Soluble	Solid	DI Leach	
890-4137-3	SS03	Soluble	Solid	DI Leach	
890-4137-4	SS04	Soluble	Solid	DI Leach	
MB 880-46848/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4135-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4135-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 46984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-1	SS01	Soluble	Solid	300.0	46848
890-4137-2	SS02	Soluble	Solid	300.0	46848
890-4137-3	SS03	Soluble	Solid	300.0	46848
890-4137-4	SS04	Soluble	Solid	300.0	46848
MB 880-46848/1-A	Method Blank	Soluble	Solid	300.0	46848
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	300.0	46848
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46848
890-4135-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	46848
890-4135-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46848

Lab Chronicle

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS01

Lab Sample ID: 890-4137-1

Date Collected: 02/17/23 09:05

Matrix: Solid

Date Received: 02/17/23 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	47012	02/23/23 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/23/23 22:39	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47483	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47180	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/23/23 21:37	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 23:10	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-4137-2

Date Collected: 02/17/23 09:00

Matrix: Solid

Date Received: 02/17/23 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	47012	02/23/23 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/23/23 23:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47483	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47180	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/23/23 22:43	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 23:17	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-4137-3

Date Collected: 02/17/23 08:55

Matrix: Solid

Date Received: 02/17/23 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	47012	02/23/23 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/23/23 23:32	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47483	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47180	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/23/23 23:06	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 23:35	CH	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-4137-4

Date Collected: 02/17/23 08:50

Matrix: Solid

Date Received: 02/17/23 15:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	47012	02/23/23 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/23/23 23:58	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47483	02/28/23 16:48	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Client Sample ID: SS04

Date Collected: 02/17/23 08:50
Date Received: 02/17/23 15:26

Lab Sample ID: 890-4137-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			47180	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/23/23 23:27	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 23:41	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

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: Battle Axe Liner

Job ID: 890-4137-1
SDG: 03D2024137

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4137-1	SS01	Solid	02/17/23 09:05	02/17/23 15:26	0.5
890-4137-2	SS02	Solid	02/17/23 09:00	02/17/23 15:26	0.5
890-4137-3	SS03	Solid	02/17/23 08:55	02/17/23 15:26	0.5
890-4137-4	SS04	Solid	02/17/23 08:50	02/17/23 15:26	0.5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N. Marienfeld St. Suite 400	Address:	601 N. Marienfeld St. Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	kjennings@ensolum.com, hgreen@ensdum.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:	Battle Axe Liner	Turn Around	
Project Number:	03D2024137	☑ Routine ☐ Rush	
Project Location:	Lea	Due Date:	
Sampler's Name:	Peter Van Patten	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.4
Total Containers:		Corrected Temperature:	1.2

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
SS01	Soil	2-17-23	905	0.5'	Comp	1		X	X	X
SS02	Soil	↓	900	↓	↓	1		X	X	X
SS03	Soil	↓	855	↓	↓	1		X	X	X
SS04	Soil	↓	850	↓	↓	1		X	X	X

890-4137 Chain of Custody

Sample Comments

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 Peter Van Patten	Clue Chip	2.17.23 1524	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4137-1
SDG Number: 03D2024137

Login Number: 4137
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4137-1
SDG Number: 03D2024137

Login Number: 4137
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 02/21/23 11:18 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] COP - Containment Inspection - Battle Axe CTB / NAPP2300341479
Date: Tuesday, January 17, 2023 9:20:18 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Monday, January 16, 2023 7:10 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Hadlie Green <hgreen@ensolum.com>
Subject: [EXTERNAL] COP - Containment Inspection - Battle Axe CTB / NAPP2300341479

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To Whom It May Concern,

Below is a 48-hour email notification for liner inspection at ConocoPhillips (COP) Battle Axe CTB / Spill Date 12/25/2022. This is a 48-hour notification that Ensolum is scheduled to inspect this lined containment on behalf of COP on Wednesday, January 18, 2023, at 1100 MST. Please call with any questions or concerns.

GPS: 32.0188, -103.6561

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 02/20/2023)
Date: Friday, February 17, 2023 9:14:34 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Thursday, February 16, 2023 11:01 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Hadlie Green <hgreen@ensolum.com>
Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 02/20/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of February 20, 2023.

- Wild Cobra 1 State 002H / NAPP2233946889
- Eider 35 Federal CTB / NAPP2236141484
- Battle Axe CTB / NAPP2300341479

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

ENSOLUM

APPENDIX F

Final C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2300341479
District RP	
Facility ID	fAPP2201330696
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	217817
Contact Name	Charles Beauvais	Contact Telephone	(575) 748-1570
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2300341479
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.0188 Longitude -103.6561
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Battle Axe CTB	Site Type	Tank Battery
Date Release Discovered	December 25, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
A	27	26S	32E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 7.9	Volume Recovered (bbls) 7.9
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a leak from the flare scrubber.
The release occurred within a lined facility. A vacuum truck was dispatched to remove all freestanding fluids. Evaluation will be made of the spill area for any possible impact from the release.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2300341479
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ■ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 01/03/2023

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Jocelyn Harimon Date: 01/03/2022

NAPP2300341479

Spill Calculation - On-Pad Surface Pool Spill

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	Estimated *Pool* Area (sq. ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	9.00	10.00	6.00	90.00	8.01	0.03	8.21
Rectangle B				0.00	0.00	0.00	0.00
Rectangle C				0.00	0.00	0.00	0.00
Rectangle D				0.00	0.00	0.00	0.00
Rectangle E				0.00	0.00	0.00	0.00
Rectangle F				0.00	0.00	0.00	0.00
Rectangle G				0.00	0.00	0.00	0.00
Rectangle H				0.00	0.00	0.00	0.00
Rectangle I				0.00	0.00	0.00	0.00
Rectangle J				0.00	0.00	0.00	0.00
						Total Volume Release, Soil not impacted:	7.80

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 171693
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	1/3/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2300341479
District RP	
Facility ID	fAPP2201330696
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2300341479
District RP	
Facility ID	fAPP2201330696
Application ID	

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

Printed Name: __Jacob Laird_____ Title: _Environmental Engineer_____

Signature: Jacob Laird Date: _____3/24/2023_____

email: __Jacob.Laird@conocophillips.com_____ Telephone: ___575-703-5482_____

OCD Only

Received by: ___Jocelyn Harimon_____ Date: 03/27/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2300341479
District RP	
Facility ID	fAPP2201330696
Application ID	

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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.

Printed Name: __Jacob Laird_____ Title: _Environmental Engineer_____

Signature: Jacob Laird Date: _____3/24/2023_____

email: __Jacob.Laird@conocophillips.com_____ Telephone: ___575-703-5482_____

OCD Only

Received by: Jocelyn Harimon Date: 03/27/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Jennifer Nobui Date: 04/27/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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Oil Conservation Division
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Santa Fe, NM 87505

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 200645
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	4/27/2023