ENSOLUM

October 25, 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: Revised Remediation Work Plan
Cabo Wabo Federal Com 704H, 705H & 706H
Incident Number NAPP2301334575
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared the following *Revised Remediation Work Plan* (Revised Work Plan) for the Cabo Wabo Federal Com 704H, 705H, & 706H (Site). This *Revised Work Plan* documents assessment and soil sampling activities completed to date and proposes additional remediation activities in response to the denial of the original *Remediation Work* Plan (Work Plan) submitted to the New Mexico Oil Conservation Division (NMOCD) on April 4, 2023. NMOCD denied the original Work Plan on August 18, 2023, for the following reasons:

- The Remediation Plan is Denied. Limited soil removal around subsurface pipelines is denied. Contaminated soil should be removed safely with alternative methods. Due to the sensitive nature of the release location, the variance for 500 ft^2 confirmation samples is denied. Please collect confirmation samples, representing no more than 200 ft^2. Off-pad, all horizontal delineation samples must come from the sidewalls of the excavation. All samples must be analyzed for constituents listed in Table I of 19.15.29.13 NMAC. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the work plan has been reviewed.

BACKGROUND

The Site is located in Unit O, Section 26, Township 25 South, Range 29 East, in Eddy County, New Mexico (32.0963°, -103.9541°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On December 30, 2022, a pump housing leak resulted in the release of approximately 14.8 barrels (bbls) of treated produced water onto a right-of-way (ROW) adjacent to an access road. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 14 bbls of treated produced water were recovered. COG reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on January 13, 2023. The release was assigned Incident Number NAPP2301334575.

The April 4, 2023, *Work Plan* detailed site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative

Released to Imaging: 2/26/2024 3:08:02 PM

Code (NMAC). Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1. Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On January 27, 2023, Ensolum personnel conducted a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Nine assessment soil samples (SS01 through SS09) were collected within and around the observed release extent at a depth of approximately 0.5 feet bgs. Assessment soil samples SS01 through SS05 were collected within the release extent to assess the surficial soil within the release. Assessment soil samples SS06 through SS09 were collected around release extent to confirm the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix A.

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

Laboratory analytical results for assessment samples SS01 through SS05, collected within the release extent, indicated chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for assessment soil samples SS06 through SS09, collected around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and confirmed the lateral extent of the release. Based on the laboratory analytical results, additional assessment activities were warranted to delineate the vertical extent of impacted soil within the release extent.

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On February 15, 2023, Ensolum personnel returned to the Site to assess the vertical extent of impacted soil within the release extent. Boreholes were advanced via hand auger to depths ranging from 2 feet to 4 feet bgs at the location of assessment samples SS01 through SS05. Soil from the boreholes was field screened at 1-foot intervals for VOCs and chloride. Final depth of the boreholes was determined by field screening results indicating compliance with the Site Closure Criteria or hand auger refusal (SS02). Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix B. Based on field screening results, two delineation soil samples were collected from each borehole; the sample with the highest field screening result and the sample from the final borehole depth.

The delineation soil samples were collected, handled and analyzed following the same procedures previously described. The delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and is included in Appendix A.

Laboratory analytical results for the delineation soil samples collected from boreholes SS01 through SS05 indicated chloride impacted soil was present within the release extent to depths ranging from 1-foot to 4 feet bgs. The laboratory analytical results area summarized in Table 1 and the complete laboratory analytical reports are included in Appendix C.

Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the delineation soil samples, additional remediation activities were warranted.

PROPOSED REMEDIATION WORK PLAN

Laboratory analytical results for the delineation soil samples indicate soil containing elevated chloride concentrations is present across the 8,929 square foot release area to depths ranging from 1-foot to 4 feet bgs. As such, COG proposes to complete the following remediation activities:

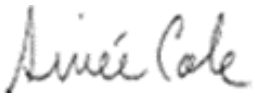
- Vertical delineation to below the Site Closure Criteria at the location of assessment sample SS02. Soil will be field screened at 1-foot intervals for VOCs and chloride. Soil samples with the highest field screening result and deepest depth will be submitted for laboratory analysis of BTEX, TPH, and chloride.
- Impacted soil will be excavated from the release area based on laboratory analytical results from the delineation activities. Excavation will proceed laterally and vertically until sidewall and floor samples are compliant with the Site Closure Criteria.
- Following excavation of impacted soil, 5-point composite confirmation samples will be collected at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples will be submitted for laboratory analysis of BTEX, TPH, and chloride.
- The impacted soil will be transferred to a New Mexico approved landfill facility for disposal. The excavation will be backfilled and recontoured to match pre-existing conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.
- Following the delineation and excavation activities, COG will provide NMOCD with a final report detailing the remediation activities and requesting closure.

COG will complete the delineation and excavation activities within 90 days of the date of approval of this *Revised Work Plan* by the NMOCD. COG believes the scope of work described above meets the requirements set forth in 19.15.29.13 NMAC and is protective of human health, the environment, and groundwater. As such, COG respectfully requests approval of this *Revised Work Plan* from NMOCD. The Final C-141 is included as Appendix E.

If you have any questions or comments, please contact Ms. Hadlie Green at (432) 557-8895 or hgreen@ensolum.com.

Sincerely,
Ensolum, LLC

Hadlie Green
Project Geologist



Aimee Cole
Senior Managing Scientist

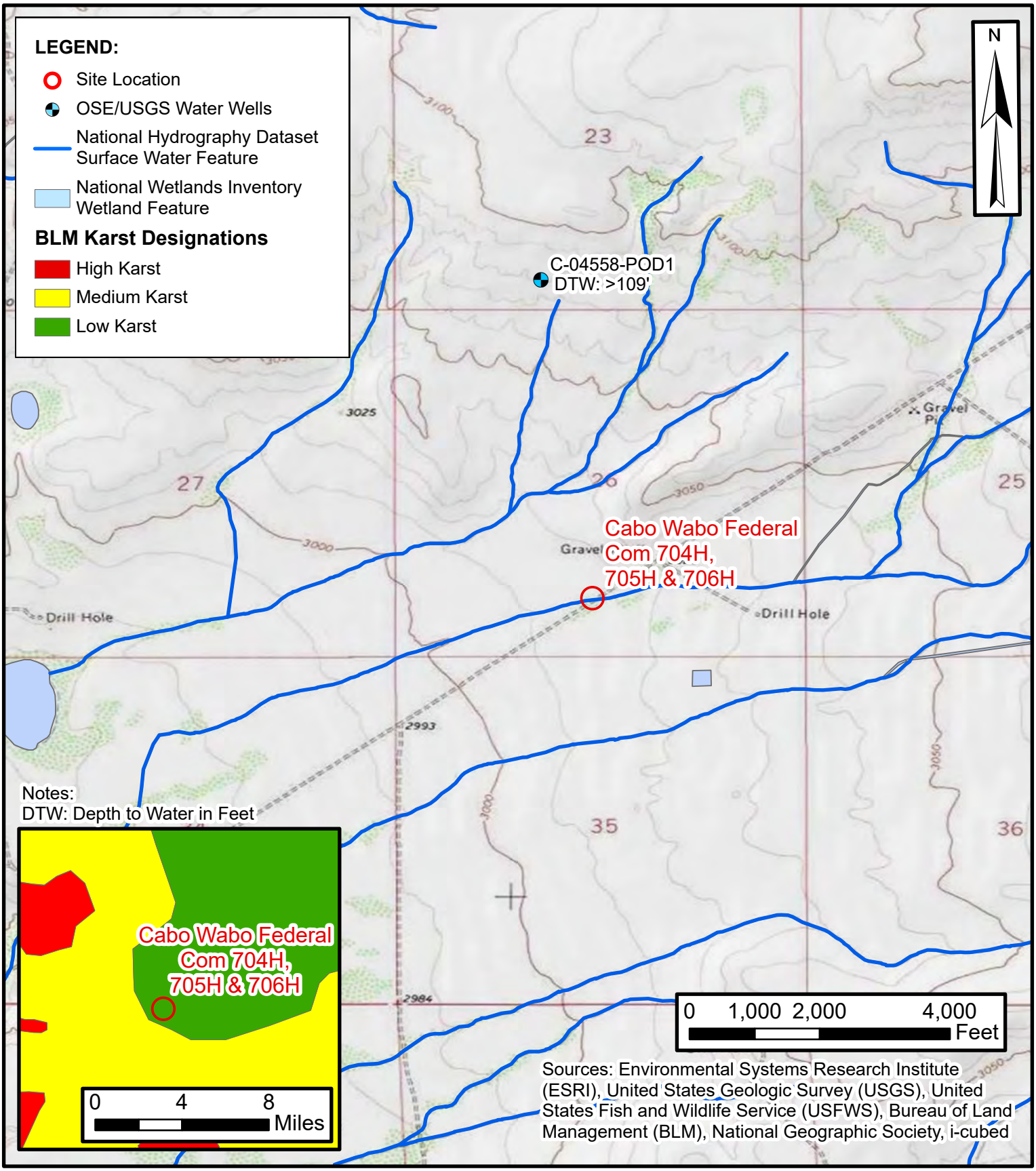
cc: Justin Carlile, COG Operating, LLC
New Mexico Bureau of Land Management

Appendices:

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

ENSOLUM

FIGURES

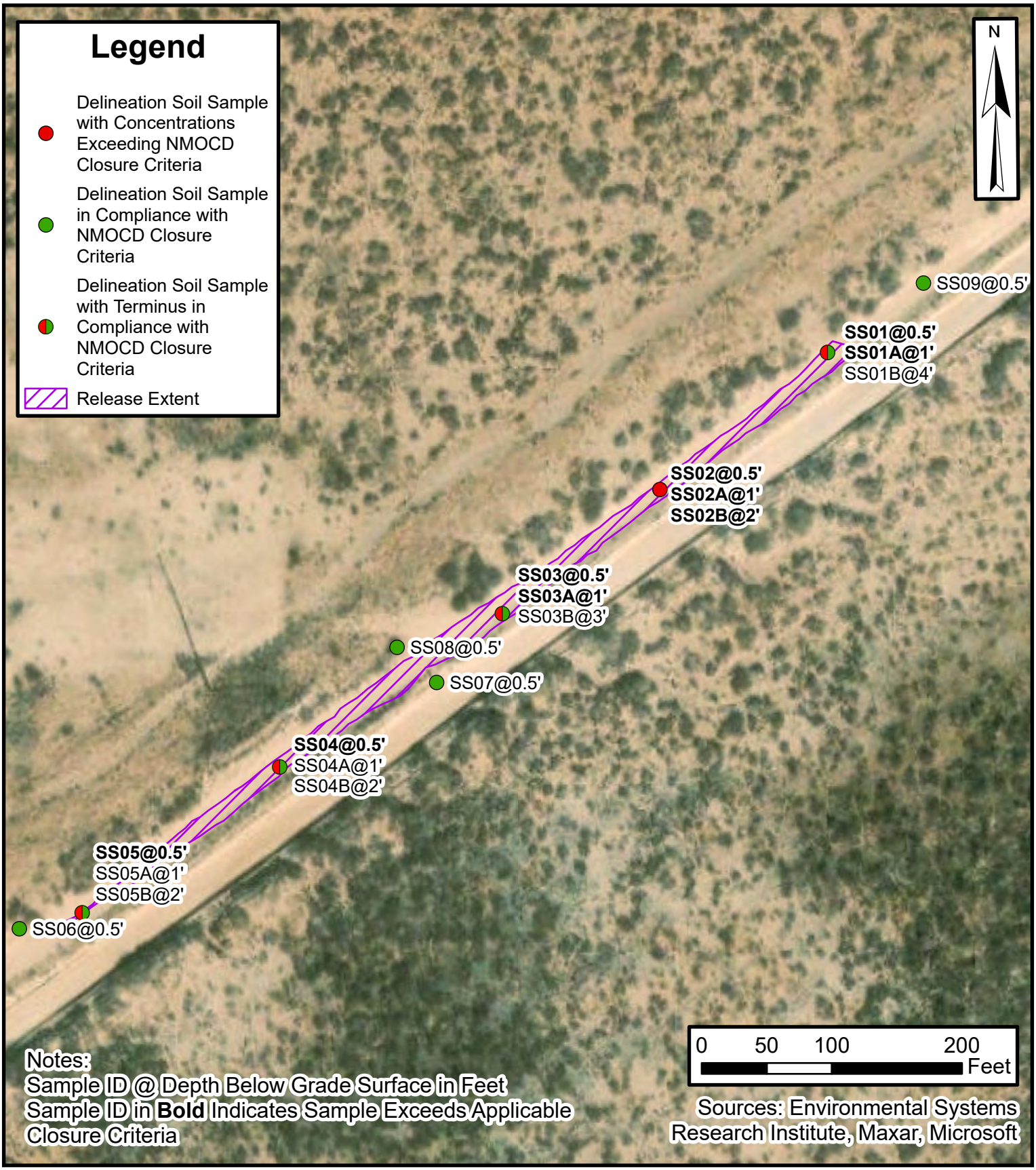


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Location Map

COG Operating, LLC
Cabo Wabo Federal Com 704H, 705H & 706H
Unit O, Sec 26, T25S, R29E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

COG Operating, LLC
Cabo Wabo Federal Com 704H, 705H & 706H
Unit O, Sec 26, T25S, R29E
Eddy County, New Mexico

FIGURE
2

ENSOLUM

TABLE

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Cabo Wabo Federal Com 704H, 705H & 706H
COG Operating, LLC
Eddy 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	NE	100	600
Delineation Soil Samples										
SS01	01/27/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	**2,350**
SS01A	02/15/2023	1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	**797**
SS01B	02/15/2023	4	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	599
SS02	01/27/2023	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	**2,620**
SS02A	02/15/2023	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	**2,630**
SS02B	02/15/2023	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	**1,230**
SS03	01/27/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	**2,100**
SS03A	02/15/2023	1	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	**717**
SS03B	02/15/2023	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	374
SS04	01/27/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	**3,640**
SS04A	02/15/2023	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	15.4
SS04B	02/15/2023	2	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	240
SS05	01/27/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	**6,410**
SS05A	02/15/2023	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	45.7
SS05B	02/15/2023	2	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	108
SS06	01/27/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	79.4
SS07	01/27/2023	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	16.7
SS08	01/27/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	11.1
SS09	01/27/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<4.98

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
*Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.*

ENSOLUM

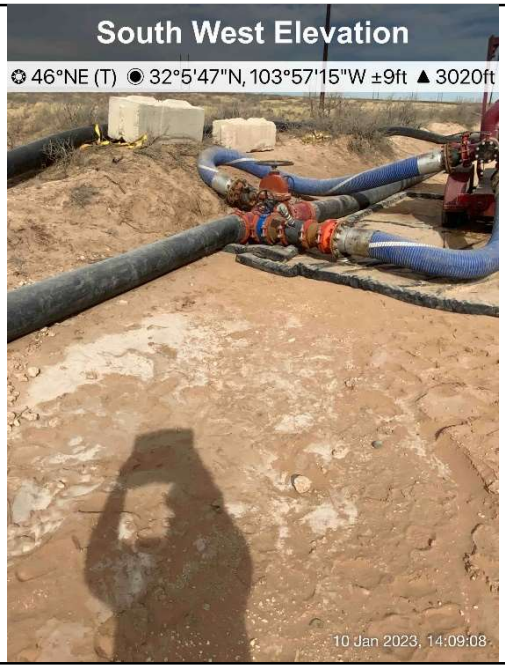
APPENDIX A

Photographic Log

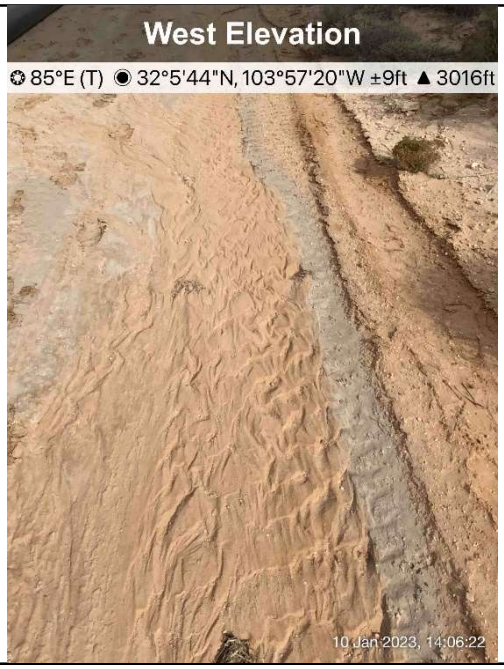
ENSOLUM

Photographic Log
COG Operating, LLC
Cabo Wabo Federal Com 704H, 705H & 706H
Incident Number NAPP2301334575

Photograph 1 Date: 12/30/2022
Description: Initial release discovery
View: East



Photograph 2 Date: 12/30/2022
Description: Initial release discovery
View: Southwest



Photograph 3 Date: 12/30/2022
Description: Initial release discovery
View: West

Photograph 4 Date: 2/15/2023
Description: Sampling in southern release area
View: Northeast

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: SS01	Date: 2/15/2023
	Site Name: Cabo Wabo Federal Com 704H, 705H & 706H	
	Incident Number: NAPP2301334575	
	Job Number: 03D2024145	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hand Auger
Coordinates: 32.0966,-103.9544	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 factor is included in the reported chloride concentrations.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
No	8,534	0.8	No	SS01	0.5		SP-SM	SAND with silt and gravel: light brown to dark tan, poorly graded, medium to fine grained, trace small subrounded gravel, no stain, no odor
No	1,181	1.7	No	SS01A	1	1	SP-SM	Same as above (SAA)
No	1,590	1.8	No					
No	1,377	1.2	No			2	SP-SM	SAA
No	1,181	1.5	No			3	SP-SM	SAA
No	845	1.8	No	SS01B	4	4	SP-SM	SAA
							TD	Total depth (TD) at 4-feet below ground surface
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: SS02	Date: 2/15/2023
	Site Name: Cabo Wabo Federal Com 704H, 705H & 706H	
	Incident Number: NAPP2301334575	
	Job Number: 03D2024145	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hand Auger
Coordinates: 32.0963,-103.9548	Hole Diameter: 4"	Total Depth: 2'

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 factor is included in the reported chloride concentrations.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
No	2,402	0.7	No	SS02	0.5		SP-SM	SAND with silt and gravel: light brown to dark tan, poorly graded, medium to fine grained, trace small subrounded gravel, no stain, no odor
No	3,421	1.3	No	SS02A	1	1	SP-SM	Same as above (SAA)
No	1,960	1.4	No					
No	1,708	1.2	No	SS02B	2	2	SP-SM	SAA, hand auger refusal
							TD	Total depth (TD) at 2-feet below ground surface
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: SS03	Date: 2/15/2023
	Site Name: Cabo Wabo Federal Com 704H, 705H & 706H	
	Incident Number: NAPP2301334575	
	Job Number: 03D2024145	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hand Auger
Coordinates: 32.0961,-103.9552	Hole Diameter: 4"	Total Depth: 3'

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 factor is included in the reported chloride concentrations.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
No	2,755	0.7	No	SS03	0.5		SP-SM	SAND with silt and gravel: light brown to dark tan, poorly graded, medium to fine grained, trace small subrounded gravel, no stain, no odor
No	1,092	0.6	No	SS03A	1	1	SP-SM	Same as above (SAA)
No	515	0.5	No			2	SP-SM	SAA
No	459	1.3	No	SS03B	3	3	SP-SM	SAA
							TD	Total depth (TD) at 3-feet below ground surface
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: SS04	Date: 2/15/2023
	Site Name: Cabo Wabo Federal Com 704H, 705H & 706H	
	Incident Number: NAPP2301334575	
	Job Number: 03D2024145	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hand Auger
Coordinates: 32.0958,-103.9558	Hole Diameter: 4"	Total Depth: 2'

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 factor is included in the reported chloride concentrations.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
No	7,291	0.7	No	SS04	0.5	0	SP-SM	SAND with silt and gravel: light brown to dark tan, poorly graded, medium to fine grained, trace small subrounded gravel, no stain, no odor
No	ND	1.3	No	SS04A	1	1	SP-SM	Same as above (SAA), ND = Non Detect, <173ppm
No	364	1.6	No	SS04B	2	2	SP-SM	SAA
							TD	Total depth (TD) at 2-feet below ground surface
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

	Sample Name: SS05	Date: 2/15/2023
	Site Name: Cabo Wabo Federal Com 704H, 705H & 706H	
	Incident Number: NAPP2301334575	
	Job Number: 03D2024145	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hand Auger
Coordinates: 32.0955,-103.9563	Hole Diameter: 4"	Total Depth: 2'

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 factor is included in the reported chloride concentrations.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
No	5,728	1.4	No	SS05	0.5	0	SP-SM	SAND with silt and gravel: light brown to dark tan, poorly graded, medium to fine grained, trace small subrounded gravel, no stain, no odor
No	ND	1.3	No	SS05A	1	1	SP-SM	Same as above (SAA), ND = Non Detect, <173ppm
No	173	1.3	No	SS05B	2	2	SP-SM	SAA
							TD	Total depth (TD) at 2-feet below ground surface
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

ENSOLUM

APPENDIX C

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

Generated 2/10/2023 12:03:50 PM

JOB DESCRIPTION

Sprayberry Booster Pump
SDG NUMBER 03D2024145

JOB NUMBER

890-3974-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

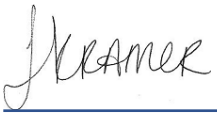
Released to Imaging: 2/20/2024 3:08:02 PM

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/10/2023 12:03:50 PM

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

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Laboratory Job ID: 890-3974-1
SDG: 03D2024145

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3974-1
Project/Site: Sprayberry Booster Pump SDG: 03D2024145

Qualifiers

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Job ID: 890-3974-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3974-1

Receipt
The samples were received on 1/27/2023 2:06 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 (890-3974-1), SS02 (890-3974-2), SS03 (890-3974-3), SS04 (890-3974-4) and SS05 (890-3974-5).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-45703 and analytical batch 880-45833 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-3967-A-1-D MS) and (890-3967-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45095 and analytical batch 880-45420 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.

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS01

Lab Sample ID: 890-3974-1
Matrix: Solid
Date Collected: 01/27/23 09:35
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 19:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 19:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 19:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/08/23 13:25	02/08/23 19:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 19:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/08/23 13:25	02/08/23 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:31*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:31*	*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			02/09/23 08:41	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			02/10/23 10:51	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		02/07/23 13:15	02/10/23 03:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 03:42	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*02/07/23 13:15*	*02/10/23 03:42*	*1*
o-Terphenyl	*105*		*70 - 130*	*02/07/23 13:15*	*02/10/23 03:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2350**	**F1**	25.1		mg/Kg			02/03/23 21:46	5

Client Sample ID: SS02

Lab Sample ID: 890-3974-2
Matrix: Solid
Date Collected: 01/27/23 09:40
Date Received: 01/27/23 14:06
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/08/23 13:25	02/08/23 19:57	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/08/23 13:25	02/08/23 19:57	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/08/23 13:25	02/08/23 19:57	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		02/08/23 13:25	02/08/23 19:57	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/08/23 13:25	02/08/23 19:57	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		02/08/23 13:25	02/08/23 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:57*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS02

Lab Sample ID: 890-3974-2
Matrix: Solid
Date Collected: 01/27/23 09:40
Date Received: 01/27/23 14:06
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/09/23 08:41	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			02/10/23 10:51	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		02/07/23 13:15	02/10/23 04:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/07/23 13:15	02/10/23 04:05	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/07/23 13:15	02/10/23 04:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:05*	*1*
o-Terphenyl	*100*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2620**		25.0	mg/Kg			02/03/23 22:00	5

Client Sample ID: SS03

Lab Sample ID: 890-3974-3
Matrix: Solid
Date Collected: 01/27/23 09:45
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 20:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/08/23 13:25	02/08/23 20:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/08/23 13:25	02/08/23 20:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/08/23 13:25	02/08/23 20:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/08/23 13:25	02/08/23 20:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/08/23 13:25	02/08/23 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*02/08/23 13:25*	*02/08/23 20:24*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*02/08/23 13:25*	*02/08/23 20:24*	*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			02/09/23 08:41	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			02/10/23 10:51	1

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS03

Lab Sample ID: 890-3974-3
Matrix: Solid
Date Collected: 01/27/23 09:45
Date Received: 01/27/23 14:06
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		02/07/23 13:15	02/10/23 04:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 04:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:27*	*1*
o-Terphenyl	*92*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**		25.3		mg/Kg			02/03/23 22:04	5

Client Sample ID: SS04

Lab Sample ID: 890-3974-4
Matrix: Solid
Date Collected: 01/27/23 09:50
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 20:50	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/08/23 13:25	02/08/23 20:50	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/08/23 13:25	02/08/23 20:50	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/08/23 13:25	02/08/23 20:50	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/08/23 13:25	02/08/23 20:50	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/08/23 13:25	02/08/23 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*02/08/23 13:25*	*02/08/23 20:50*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*02/08/23 13:25*	*02/08/23 20:50*	*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			02/09/23 08:41	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			02/10/23 10:51	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		02/07/23 13:15	02/10/23 04:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 04:49	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 04:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:49*	*1*
o-Terphenyl	*99*		*70 - 130*	*02/07/23 13:15*	*02/10/23 04:49*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS04

Lab Sample ID: 890-3974-4
Matrix: Solid
Date Collected: 01/27/23 09:50
Date Received: 01/27/23 14:06
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3640		25.2		mg/Kg			02/03/23 22:09	5

Client Sample ID: SS05

Lab Sample ID: 890-3974-5
Matrix: Solid
Date Collected: 01/27/23 09:55
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 21:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 21:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 21:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/08/23 13:25	02/08/23 21:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 21:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/08/23 13:25	02/08/23 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*02/08/23 13:25*	*02/08/23 21:17*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*02/08/23 13:25*	*02/08/23 21:17*	*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			02/09/23 08:41	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			02/10/23 10:51	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		02/07/23 13:15	02/10/23 05:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 05:11	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:15	02/10/23 05:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*02/07/23 13:15*	*02/10/23 05:11*	*1*
o-Terphenyl	*94*		*70 - 130*	*02/07/23 13:15*	*02/10/23 05:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6410		50.0		mg/Kg			02/03/23 22:14	10

Surrogate Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3974-1	SS01	108	93
890-3974-1 MS	SS01	112	106
890-3974-1 MSD	SS01	107	100
890-3974-2	SS02	117	100
890-3974-3	SS03	122	96
890-3974-4	SS04	126	87
890-3974-5	SS05	115	96
LCS 880-45803/1-A	Lab Control Sample	122	106
LCSD 880-45803/2-A	Lab Control Sample Dup	109	93
MB 880-45803/5-A	Method Blank	73	92

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)
890-3967-A-1-D MS	Matrix Spike	15 S1-	10 S1-
890-3967-A-1-E MSD	Matrix Spike Duplicate	17 S1-	11 S1-
890-3974-1	SS01	93	105
890-3974-2	SS02	89	100
890-3974-3	SS03	80	92
890-3974-4	SS04	86	99
890-3974-5	SS05	81	94
LCS 880-45703/2-A	Lab Control Sample	102	114
LCSD 880-45703/3-A	Lab Control Sample Dup	92	105
MB 880-45703/1-A	Method Blank	126	146 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45803/5-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45803

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/08/23 13:25	02/08/23 19:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:04*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:04*	*1*

Lab Sample ID: LCS 880-45803/1-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1101		mg/Kg		110	70 - 130		
Toluene			0.100	0.1179		mg/Kg		118	70 - 130		
Ethylbenzene			0.100	0.1227		mg/Kg		123	70 - 130		
m-Xylene & p-Xylene			0.200	0.2408		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1216		mg/Kg		122	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-45803/2-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09776		mg/Kg		98	70 - 130	12	35
Toluene			0.100	0.1031		mg/Kg		103	70 - 130	13	35
Ethylbenzene			0.100	0.1073		mg/Kg		107	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2100		mg/Kg		105	70 - 130	14	35
o-Xylene			0.100	0.1043		mg/Kg		104	70 - 130	15	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-3974-1 MS
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09603		mg/Kg		96	70 - 130		
Toluene	<0.00201	U	0.100	0.09650		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

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

Lab Sample ID: 890-3974-1 MS
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.09588		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1879		mg/Kg		94	70 - 130
o-Xylene	<0.00201	U	0.100	0.09333		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3974-1 MSD
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.09419		mg/Kg		95	70 - 130	2	35
Toluene	<0.00201	U	0.0990	0.09220		mg/Kg		93	70 - 130	5	35
Ethylbenzene	<0.00201	U	0.0990	0.09481		mg/Kg		96	70 - 130	1	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1872		mg/Kg		95	70 - 130	0	35
o-Xylene	<0.00201	U	0.0990	0.09527		mg/Kg		96	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

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

Lab Sample ID: MB 880-45703/1-A
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45703

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		02/07/23 13:15	02/09/23 20:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 13:15	02/09/23 20:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 13:15	02/09/23 20:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*02/07/23 13:15*	*02/09/23 20:17*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*02/07/23 13:15*	*02/09/23 20:17*	*1*

Lab Sample ID: LCS 880-45703/2-A
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45703

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	810.1		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)			1000	914.1		mg/Kg		91	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

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

Lab Sample ID: LCS 880-45703/2-A
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45703

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-45703/3-A
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45703

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	825.3		mg/Kg		83	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	880.0		mg/Kg		88	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-3967-A-1-D MS
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45703

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	900.3		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	962.8		mg/Kg		95	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	15	S1-	70 - 130
o-Terphenyl	10	S1-	70 - 130

Lab Sample ID: 890-3967-A-1-E MSD
Matrix: Solid
Analysis Batch: 45833

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45703

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	1066		mg/Kg		107	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1085		mg/Kg		107	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	17	S1-	70 - 130
o-Terphenyl	11	S1-	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45095/1-A
Matrix: Solid
Analysis Batch: 45420

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			02/03/23 21:32	1

Lab Sample ID: LCS 880-45095/2-A
Matrix: Solid
Analysis Batch: 45420

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-45095/3-A
Matrix: Solid
Analysis Batch: 45420

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	248.1		mg/Kg		99	90 - 110	4	20

Lab Sample ID: 890-3974-1 MS
Matrix: Solid
Analysis Batch: 45420

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2350	F1	1260	3823	F1	mg/Kg		117	90 - 110		

Lab Sample ID: 890-3974-1 MSD
Matrix: Solid
Analysis Batch: 45420

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2350	F1	1260	3702		mg/Kg		108	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

GC VOA

Prep Batch: 45803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	5035	
890-3974-2	SS02	Total/NA	Solid	5035	
890-3974-3	SS03	Total/NA	Solid	5035	
890-3974-4	SS04	Total/NA	Solid	5035	
890-3974-5	SS05	Total/NA	Solid	5035	
MB 880-45803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3974-1 MS	SS01	Total/NA	Solid	5035	
890-3974-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 45810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	8021B	45803
890-3974-2	SS02	Total/NA	Solid	8021B	45803
890-3974-3	SS03	Total/NA	Solid	8021B	45803
890-3974-4	SS04	Total/NA	Solid	8021B	45803
890-3974-5	SS05	Total/NA	Solid	8021B	45803
MB 880-45803/5-A	Method Blank	Total/NA	Solid	8021B	45803
LCS 880-45803/1-A	Lab Control Sample	Total/NA	Solid	8021B	45803
LCSD 880-45803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45803
890-3974-1 MS	SS01	Total/NA	Solid	8021B	45803
890-3974-1 MSD	SS01	Total/NA	Solid	8021B	45803

Analysis Batch: 45844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	Total BTEX	
890-3974-2	SS02	Total/NA	Solid	Total BTEX	
890-3974-3	SS03	Total/NA	Solid	Total BTEX	
890-3974-4	SS04	Total/NA	Solid	Total BTEX	
890-3974-5	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	8015NM Prep	
890-3974-2	SS02	Total/NA	Solid	8015NM Prep	
890-3974-3	SS03	Total/NA	Solid	8015NM Prep	
890-3974-4	SS04	Total/NA	Solid	8015NM Prep	
890-3974-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-45703/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45703/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3967-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3967-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	8015B NM	45703
890-3974-2	SS02	Total/NA	Solid	8015B NM	45703

QC Association Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

GC Semi VOA (Continued)

Analysis Batch: 45833 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-3	SS03	Total/NA	Solid	8015B NM	45703
890-3974-4	SS04	Total/NA	Solid	8015B NM	45703
890-3974-5	SS05	Total/NA	Solid	8015B NM	45703
MB 880-45703/1-A	Method Blank	Total/NA	Solid	8015B NM	45703
LCS 880-45703/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45703
LCSD 880-45703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45703
890-3967-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45703
890-3967-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45703

Analysis Batch: 45981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Total/NA	Solid	8015 NM	
890-3974-2	SS02	Total/NA	Solid	8015 NM	
890-3974-3	SS03	Total/NA	Solid	8015 NM	
890-3974-4	SS04	Total/NA	Solid	8015 NM	
890-3974-5	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Soluble	Solid	DI Leach	
890-3974-2	SS02	Soluble	Solid	DI Leach	
890-3974-3	SS03	Soluble	Solid	DI Leach	
890-3974-4	SS04	Soluble	Solid	DI Leach	
890-3974-5	SS05	Soluble	Solid	DI Leach	
MB 880-45095/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45095/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45095/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3974-1 MS	SS01	Soluble	Solid	DI Leach	
890-3974-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 45420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3974-1	SS01	Soluble	Solid	300.0	45095
890-3974-2	SS02	Soluble	Solid	300.0	45095
890-3974-3	SS03	Soluble	Solid	300.0	45095
890-3974-4	SS04	Soluble	Solid	300.0	45095
890-3974-5	SS05	Soluble	Solid	300.0	45095
MB 880-45095/1-A	Method Blank	Soluble	Solid	300.0	45095
LCS 880-45095/2-A	Lab Control Sample	Soluble	Solid	300.0	45095
LCSD 880-45095/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45095
890-3974-1 MS	SS01	Soluble	Solid	300.0	45095
890-3974-1 MSD	SS01	Soluble	Solid	300.0	45095

Lab Chronicle

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS01

Lab Sample ID: 890-3974-1
Matrix: Solid
Date Collected: 01/27/23 09:35
Date Received: 01/27/23 14:06

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	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 19:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45844	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45981	02/10/23 10:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45703	02/07/23 13:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45833	02/10/23 03:42	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		5			45420	02/03/23 21:46	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-3974-2
Matrix: Solid
Date Collected: 01/27/23 09:40
Date Received: 01/27/23 14:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 19:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45844	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45981	02/10/23 10:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45703	02/07/23 13:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45833	02/10/23 04:05	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		5			45420	02/03/23 22:00	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-3974-3
Matrix: Solid
Date Collected: 01/27/23 09:45
Date Received: 01/27/23 14:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 20:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45844	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45981	02/10/23 10:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45703	02/07/23 13:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45833	02/10/23 04:27	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		5			45420	02/03/23 22:04	CH	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-3974-4
Matrix: Solid
Date Collected: 01/27/23 09:50
Date Received: 01/27/23 14:06

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	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 20:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45844	02/09/23 08:41	MNR	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Client Sample ID: SS04

Date Collected: 01/27/23 09:50
Date Received: 01/27/23 14:06

Lab Sample ID: 890-3974-4
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			45981	02/10/23 10:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45703	02/07/23 13:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45833	02/10/23 04:49	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		5			45420	02/03/23 22:09	CH	EET MID

Client Sample ID: SS05

Date Collected: 01/27/23 09:55
Date Received: 01/27/23 14:06

Lab Sample ID: 890-3974-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 21:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45844	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45981	02/10/23 10:51	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45703	02/07/23 13:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45833	02/10/23 05:11	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		10			45420	02/03/23 22:14	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: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

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: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

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: Sprayberry Booster Pump

Job ID: 890-3974-1
SDG: 03D2024145

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3974-1	SS01	Solid	01/27/23 09:35	01/27/23 14:06	0.5'
890-3974-2	SS02	Solid	01/27/23 09:40	01/27/23 14:06	0.5'
890-3974-3	SS03	Solid	01/27/23 09:45	01/27/23 14:06	0.5'
890-3974-4	SS04	Solid	01/27/23 09:50	01/27/23 14:06	0.5'
890-3974-5	SS05	Solid	01/27/23 09:55	01/27/23 14:06	0.5'

Page 40 of 111

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:	817.683.2503	Email:	kjennings@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:	Sprayberry Booster Pump	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024145	Due Date:	
Project Location:	Lea County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TMH-007	
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	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TPH (8015)	Chlorides	BTEX (8021)
SS01	S	1.27.23	935	0.5'	G	1		x	x	x
SS02	S	1.27.23	940	0.5'	G	1		x	x	x
SS03	S	1.27.23	945	0.5'	G	1		x	x	x
SS04	S	1.27.23	950	0.5'	G	1		x	x	x
SS05	S	1.27.23	955	0.5'	G	1		x	x	x

890-3974 Chain of Custody

Preservative Codes

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

Sample 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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		1-27-23 1406	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 11/6/2023 8:46:48 AM
Released to Imaging: 2/26/2024 3:08:02 PM
2/10/2023

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3974-1
SDG Number: 03D2024145

Login Number: 3974
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3974-1
SDG Number: 03D2024145

Login Number: 3974
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/03/23 01:00 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/9/2023 9:18:24 AM

JOB DESCRIPTION

Sprayberry Booster Pump
SDG NUMBER 03D2024145

JOB NUMBER

890-3975-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

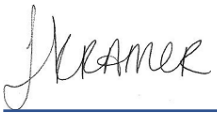
Released to Imaging: 2/20/2024 3:08:02 PM

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/9/2023 9:18:24 AM

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

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Laboratory Job ID: 890-3975-1
SDG: 03D2024145

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3975-1
Project/Site: Sprayberry Booster Pump SDG: 03D2024145

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Job ID: 890-3975-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3975-1

Receipt
The samples were received on 1/27/2023 2:06 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: SS06 (890-3975-1), SS07 (890-3975-2), SS08 (890-3975-3) and SS09 (890-3975-4).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-45704 and analytical batch 880-45735 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-3975-A-1-D MS) and (890-3975-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-45704 and analytical batch 880-45735 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS06

Lab Sample ID: 890-3975-1
Matrix: Solid
Date Collected: 01/27/23 10:00
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 21:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 21:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 21:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/08/23 13:25	02/08/23 21:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 21:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/08/23 13:25	02/08/23 21:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*02/08/23 13:25*	*02/08/23 21:43*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/08/23 13:25*	*02/08/23 21:43*	*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			02/09/23 08:41	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			02/09/23 09:48	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 F1	49.8		mg/Kg		02/07/23 13:19	02/08/23 21:44	1
Diesel Range Organics (Over C10-C28)	<49.8	U F1	49.8		mg/Kg		02/07/23 13:19	02/08/23 21:44	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/07/23 13:19	02/08/23 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*02/07/23 13:19*	*02/08/23 21:44*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/07/23 13:19*	*02/08/23 21:44*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.4**		5.00		mg/Kg			02/03/23 22:28	1

Client Sample ID: SS07

Lab Sample ID: 890-3975-2
Matrix: Solid
Date Collected: 01/27/23 10:05
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 22:10	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 22:10	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 22:10	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/08/23 13:25	02/08/23 22:10	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/08/23 13:25	02/08/23 22:10	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/08/23 13:25	02/08/23 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*02/08/23 13:25*	*02/08/23 22:10*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS07

Lab Sample ID: 890-3975-2
Matrix: Solid
Date Collected: 01/27/23 10:05
Date Received: 01/27/23 14:06
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/08/23 13:25*	*02/08/23 22:10*	*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			02/09/23 08:41	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			02/09/23 09:48	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		02/07/23 13:19	02/08/23 22:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		02/07/23 13:19	02/08/23 22:50	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/07/23 13:19	02/08/23 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*02/07/23 13:19*	*02/08/23 22:50*	*1*
o-Terphenyl	*105*		*70 - 130*	*02/07/23 13:19*	*02/08/23 22:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.7**		5.03	mg/Kg			02/03/23 22:32	1

Client Sample ID: SS08

Lab Sample ID: 890-3975-3
Matrix: Solid
Date Collected: 01/27/23 10:10
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 22:36	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/08/23 13:25	02/08/23 22:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/08/23 13:25	02/08/23 22:36	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/08/23 13:25	02/08/23 22:36	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/08/23 13:25	02/08/23 22:36	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/08/23 13:25	02/08/23 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*02/08/23 13:25*	*02/08/23 22:36*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/08/23 13:25*	*02/08/23 22:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/09/23 08:41	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			02/09/23 09:48	1

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS08

Lab Sample ID: 890-3975-3
Matrix: Solid
Date Collected: 01/27/23 10:10
Date Received: 01/27/23 14:06
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		02/07/23 13:19	02/08/23 23:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:19	02/08/23 23:13	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:19	02/08/23 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*02/07/23 13:19*	*02/08/23 23:13*	*1*
o-Terphenyl	*122*		*70 - 130*	*02/07/23 13:19*	*02/08/23 23:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.1**		5.02		mg/Kg			02/03/23 22:37	1

Client Sample ID: SS09

Lab Sample ID: 890-3975-4
Matrix: Solid
Date Collected: 01/27/23 10:15
Date Received: 01/27/23 14:06
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		02/08/23 13:25	02/08/23 23:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 23:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 23:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/08/23 13:25	02/08/23 23:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/08/23 13:25	02/08/23 23:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/08/23 13:25	02/08/23 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*02/08/23 13:25*	*02/08/23 23:03*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*02/08/23 13:25*	*02/08/23 23:03*	*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			02/09/23 10:09	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			02/09/23 09:48	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		02/07/23 13:19	02/08/23 23:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 13:19	02/08/23 23:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 13:19	02/08/23 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*02/07/23 13:19*	*02/08/23 23:35*	*1*
o-Terphenyl	*96*		*70 - 130*	*02/07/23 13:19*	*02/08/23 23:35*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS09
Date Collected: 01/27/23 10:15
Date Received: 01/27/23 14:06
Sample Depth: 0.5'

Lab Sample ID: 890-3975-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.98	U	4.98		mg/Kg			02/03/23 22:41	1

Surrogate Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3974-A-1-G MS	Matrix Spike	112	106
890-3974-A-1-H MSD	Matrix Spike Duplicate	107	100
890-3975-1	SS06	80	95
890-3975-2	SS07	122	100
890-3975-3	SS08	120	95
890-3975-4	SS09	120	96
LCS 880-45803/1-A	Lab Control Sample	122	106
LCSD 880-45803/2-A	Lab Control Sample Dup	109	93
MB 880-45803/5-A	Method Blank	73	92

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)
890-3975-1	SS06	100	110
890-3975-1 MS	SS06	191 S1+	194 S1+
890-3975-1 MSD	SS06	207 S1+	204 S1+
890-3975-2	SS07	95	105
890-3975-3	SS08	116	122
890-3975-4	SS09	89	96
LCS 880-45704/2-A	Lab Control Sample	104	114
LCSD 880-45704/3-A	Lab Control Sample Dup	100	110
MB 880-45704/1-A	Method Blank	116	132 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45803/5-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45803

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/08/23 13:25	02/08/23 19:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/08/23 13:25	02/08/23 19:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:04*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*02/08/23 13:25*	*02/08/23 19:04*	*1*

Lab Sample ID: LCS 880-45803/1-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1101		mg/Kg		110	70 - 130		
Toluene			0.100	0.1179		mg/Kg		118	70 - 130		
Ethylbenzene			0.100	0.1227		mg/Kg		123	70 - 130		
m-Xylene & p-Xylene			0.200	0.2408		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1216		mg/Kg		122	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-45803/2-A
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09776		mg/Kg		98	70 - 130	12	35
Toluene			0.100	0.1031		mg/Kg		103	70 - 130	13	35
Ethylbenzene			0.100	0.1073		mg/Kg		107	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2100		mg/Kg		105	70 - 130	14	35
o-Xylene			0.100	0.1043		mg/Kg		104	70 - 130	15	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-3974-A-1-G MS
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09603		mg/Kg		96	70 - 130		
Toluene	<0.00201	U	0.100	0.09650		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

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

Lab Sample ID: 890-3974-A-1-G MS
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.09588		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1879		mg/Kg		94	70 - 130
o-Xylene	<0.00201	U	0.100	0.09333		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3974-A-1-H MSD
Matrix: Solid
Analysis Batch: 45810

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.09419		mg/Kg		95	70 - 130	2	35
Toluene	<0.00201	U	0.0990	0.09220		mg/Kg		93	70 - 130	5	35
Ethylbenzene	<0.00201	U	0.0990	0.09481		mg/Kg		96	70 - 130	1	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1872		mg/Kg		95	70 - 130	0	35
o-Xylene	<0.00201	U	0.0990	0.09527		mg/Kg		96	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

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

Lab Sample ID: MB 880-45704/1-A
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45704

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		02/07/23 13:19	02/08/23 20:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 13:19	02/08/23 20:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 13:19	02/08/23 20:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*02/07/23 13:19*	*02/08/23 20:37*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*02/07/23 13:19*	*02/08/23 20:37*	*1*

Lab Sample ID: LCS 880-45704/2-A
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45704

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	860.6		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)			1000	909.7		mg/Kg		91	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

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

Lab Sample ID: LCS 880-45704/2-A
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45704

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-45704/3-A
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45704

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	917.2		mg/Kg		92	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	932.0		mg/Kg		93	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: 890-3975-1 MS
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 45704

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 F1	995	1634	F1	mg/Kg		164	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U F1	995	1867	F1	mg/Kg		188	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	191	S1+	70 - 130
o-Terphenyl	194	S1+	70 - 130

Lab Sample ID: 890-3975-1 MSD
Matrix: Solid
Analysis Batch: 45735

Client Sample ID: SS06
Prep Type: Total/NA
Prep Batch: 45704

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 F1	999	1813	F1	mg/Kg		181	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	999	1990	F1	mg/Kg		199	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	207	S1+	70 - 130
o-Terphenyl	204	S1+	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45095/1-A
Matrix: Solid
Analysis Batch: 45420

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			02/03/23 21:32	1

Lab Sample ID: LCS 880-45095/2-A
Matrix: Solid
Analysis Batch: 45420

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-45095/3-A
Matrix: Solid
Analysis Batch: 45420

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	248.1		mg/Kg		99	90 - 110	4	20

Lab Sample ID: 890-3976-A-2-E MS
Matrix: Solid
Analysis Batch: 45420

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	49.9		248	302.6		mg/Kg		102	90 - 110		

QC Association Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

GC VOA

Prep Batch: 45803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	5035	
890-3975-2	SS07	Total/NA	Solid	5035	
890-3975-3	SS08	Total/NA	Solid	5035	
890-3975-4	SS09	Total/NA	Solid	5035	
MB 880-45803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3974-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-3974-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	8021B	45803
890-3975-2	SS07	Total/NA	Solid	8021B	45803
890-3975-3	SS08	Total/NA	Solid	8021B	45803
890-3975-4	SS09	Total/NA	Solid	8021B	45803
MB 880-45803/5-A	Method Blank	Total/NA	Solid	8021B	45803
LCS 880-45803/1-A	Lab Control Sample	Total/NA	Solid	8021B	45803
LCSD 880-45803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45803
890-3974-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	45803
890-3974-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45803

Analysis Batch: 45845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	Total BTEX	
890-3975-2	SS07	Total/NA	Solid	Total BTEX	
890-3975-3	SS08	Total/NA	Solid	Total BTEX	
890-3975-4	SS09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	8015NM Prep	
890-3975-2	SS07	Total/NA	Solid	8015NM Prep	
890-3975-3	SS08	Total/NA	Solid	8015NM Prep	
890-3975-4	SS09	Total/NA	Solid	8015NM Prep	
MB 880-45704/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45704/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45704/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3975-1 MS	SS06	Total/NA	Solid	8015NM Prep	
890-3975-1 MSD	SS06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	8015B NM	45704
890-3975-2	SS07	Total/NA	Solid	8015B NM	45704
890-3975-3	SS08	Total/NA	Solid	8015B NM	45704
890-3975-4	SS09	Total/NA	Solid	8015B NM	45704
MB 880-45704/1-A	Method Blank	Total/NA	Solid	8015B NM	45704
LCS 880-45704/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45704

QC Association Summary

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

GC Semi VOA (Continued)

Analysis Batch: 45735 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-45704/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45704
890-3975-1 MS	SS06	Total/NA	Solid	8015B NM	45704
890-3975-1 MSD	SS06	Total/NA	Solid	8015B NM	45704

Analysis Batch: 45872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Total/NA	Solid	8015 NM	
890-3975-2	SS07	Total/NA	Solid	8015 NM	
890-3975-3	SS08	Total/NA	Solid	8015 NM	
890-3975-4	SS09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Soluble	Solid	DI Leach	
890-3975-2	SS07	Soluble	Solid	DI Leach	
890-3975-3	SS08	Soluble	Solid	DI Leach	
890-3975-4	SS09	Soluble	Solid	DI Leach	
MB 880-45095/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45095/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45095/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3976-A-2-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3976-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3975-1	SS06	Soluble	Solid	300.0	45095
890-3975-2	SS07	Soluble	Solid	300.0	45095
890-3975-3	SS08	Soluble	Solid	300.0	45095
890-3975-4	SS09	Soluble	Solid	300.0	45095
MB 880-45095/1-A	Method Blank	Soluble	Solid	300.0	45095
LCS 880-45095/2-A	Lab Control Sample	Soluble	Solid	300.0	45095
LCSD 880-45095/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45095
890-3976-A-2-E MS	Matrix Spike	Soluble	Solid	300.0	45095
890-3976-A-2-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45095

Lab Chronicle

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS06

Lab Sample ID: 890-3975-1
Matrix: Solid
Date Collected: 01/27/23 10:00
Date Received: 01/27/23 14:06

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	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 21:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45845	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45872	02/09/23 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	45704	02/07/23 13:19	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45735	02/08/23 21:44	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		1			45420	02/03/23 22:28	CH	EET MID

Client Sample ID: SS07

Lab Sample ID: 890-3975-2
Matrix: Solid
Date Collected: 01/27/23 10:05
Date Received: 01/27/23 14:06

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	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 22:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45845	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45872	02/09/23 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	45704	02/07/23 13:19	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45735	02/08/23 22:50	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		1			45420	02/03/23 22:32	CH	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-3975-3
Matrix: Solid
Date Collected: 01/27/23 10:10
Date Received: 01/27/23 14:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 22:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45845	02/09/23 08:41	MNR	EET MID
Total/NA	Analysis	8015 NM		1			45872	02/09/23 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45704	02/07/23 13:19	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45735	02/08/23 23:13	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		1			45420	02/03/23 22:37	CH	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-3975-4
Matrix: Solid
Date Collected: 01/27/23 10:15
Date Received: 01/27/23 14:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45803	02/08/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45810	02/08/23 23:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45845	02/09/23 10:09	MNR	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Client Sample ID: SS09

Date Collected: 01/27/23 10:15
Date Received: 01/27/23 14:06

Lab Sample ID: 890-3975-4

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			45872	02/09/23 09:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45704	02/07/23 13:19	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45735	02/08/23 23:35	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	45095	01/30/23 16:15	KS	EET MID
Soluble	Analysis	300.0		1			45420	02/03/23 22:41	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: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

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: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

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: Sprayberry Booster Pump

Job ID: 890-3975-1
SDG: 03D2024145

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3975-1	SS06	Solid	01/27/23 10:00	01/27/23 14:06	0.5'
890-3975-2	SS07	Solid	01/27/23 10:05	01/27/23 14:06	0.5'
890-3975-3	SS08	Solid	01/27/23 10:10	01/27/23 14:06	0.5'
890-3975-4	SS09	Solid	01/27/23 10:15	01/27/23 14:06	0.5'

Page 64 of 111

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

www.xenco.com Page 1 of 1

Work Order No: _____

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:	817.683.2503	Email:	kjennings@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:	Sprayberry Booster Pump	Turn Around	
Project Number:	03D2024145	☑ Routine ☐ Rush	
Project Location:	Lea County, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	TAM-007	
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	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TPH (8015)	Chlorides	BTEX (8021)
SS06	S	1.27.23	1000	0.5'	G	1		x	x	x
SS07	S	1.27.23	1005	0.5'	G	1		x	x	x
SS08	S	1.27.23	1010	0.5'	G	1		x	x	x
SS09	S	1.27.23	1015	0.5'	G	1		x	x	x

ANALYSIS REQUEST — Parameters

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

1.27.23

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Miranda Stutz	1-27-23 1406			
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020 2

Received by OCD: 11/6/2023 8:46:48 AM
Released to Imaging: 2/26/2024 3:08:02 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3975-1
SDG Number: 03D2024145

Login Number: 3975
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3975-1
SDG Number: 03D2024145

Login Number: 3975
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/03/23 01:00 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/22/2023 1:23:16 PM

JOB DESCRIPTION

Cabo Wabo Sprayberry Booster
SDG NUMBER 03D2024145

JOB NUMBER

890-4115-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 2/28/2024 3:08:02 PM

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

Generated
2/22/2023 1:23:16 PM

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

Table of Contents

Released to Imaging: 2/26/2024 3:08:02 PM

Definitions/Glossary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Job ID: 890-4115-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4115-1

Receipt
The samples were received on 2/15/2023 4:45 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 5.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01A (890-4115-1), SS02A (890-4115-2), SS03A (890-4115-3), SS04A (890-4115-4), SS05A (890-4115-5), SS01B (890-4115-6), SS02B (890-4115-7), SS03B (890-4115-8), SS04B (890-4115-9) and SS05B (890-4115-10).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-46605 and analytical batch 880-46568 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.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-46595 and analytical batch 880-46617 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS01A

Lab Sample ID: 890-4115-1
Matrix: Solid
Date Collected: 02/15/23 10:45
Date Received: 02/15/23 16:45
Sample Depth: 1

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		02/17/23 14:29	02/18/23 05:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/17/23 14:29	02/18/23 05:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/17/23 14:29	02/18/23 05:59	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		02/17/23 14:29	02/18/23 05:59	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		02/17/23 14:29	02/18/23 05:59	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		02/17/23 14:29	02/18/23 05:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*02/17/23 14:29*	*02/18/23 05:59*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*02/17/23 14:29*	*02/18/23 05:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 15:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 15:56	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*02/17/23 10:54*	*02/18/23 15:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/17/23 10:54*	*02/18/23 15:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**797**		25.2		mg/Kg			02/21/23 09:19	5

Client Sample ID: SS02A

Lab Sample ID: 890-4115-2
Matrix: Solid
Date Collected: 02/15/23 10:55
Date Received: 02/15/23 16:45
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		02/17/23 14:29	02/18/23 06:19	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/17/23 14:29	02/18/23 06:19	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/17/23 14:29	02/18/23 06:19	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		02/17/23 14:29	02/18/23 06:19	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		02/17/23 14:29	02/18/23 06:19	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		02/17/23 14:29	02/18/23 06:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*02/17/23 14:29*	*02/18/23 06:19*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS02A

Lab Sample ID: 890-4115-2
Matrix: Solid
Date Collected: 02/15/23 10:55
Date Received: 02/15/23 16:45
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*02/17/23 14:29*	*02/18/23 06:19*	*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			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 16:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/17/23 10:54	02/18/23 16:18	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/17/23 10:54	02/18/23 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*02/17/23 10:54*	*02/18/23 16:18*	*1*
o-Terphenyl	*109*		*70 - 130*	*02/17/23 10:54*	*02/18/23 16:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2630**		25.0	mg/Kg			02/21/23 09:38	5

Client Sample ID: SS03A

Lab Sample ID: 890-4115-3
Matrix: Solid
Date Collected: 02/15/23 12:15
Date Received: 02/15/23 16:45
Sample Depth: 1

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		02/17/23 14:29	02/18/23 06:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/23 14:29	02/18/23 06:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/23 14:29	02/18/23 06:40	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401	mg/Kg		02/17/23 14:29	02/18/23 06:40	1
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		02/17/23 14:29	02/18/23 06:40	1
Xylenes, Total	<0.00401	U *+	0.00401	mg/Kg		02/17/23 14:29	02/18/23 06:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*02/17/23 14:29*	*02/18/23 06:40*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*02/17/23 14:29*	*02/18/23 06:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/20/23 14:15	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			02/20/23 15:20	1

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS03A

Lab Sample ID: 890-4115-3
Matrix: Solid
Date Collected: 02/15/23 12:15
Date Received: 02/15/23 16:45
Sample Depth: 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		02/17/23 10:54	02/18/23 16:40	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 16:40	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*02/17/23 10:54*	*02/18/23 16:40*	*1*
o-Terphenyl	*106*		*70 - 130*	*02/17/23 10:54*	*02/18/23 16:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**717**		5.00		mg/Kg			02/21/23 09:44	1

Client Sample ID: SS04A

Lab Sample ID: 890-4115-4
Matrix: Solid
Date Collected: 02/15/23 12:50
Date Received: 02/15/23 16:45
Sample Depth: 1

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		02/17/23 14:29	02/18/23 07:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 07:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 07:00	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		02/17/23 14:29	02/18/23 07:00	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		02/17/23 14:29	02/18/23 07:00	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		02/17/23 14:29	02/18/23 07:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:00*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:00*	*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			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 17:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 17:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:02*	*1*
o-Terphenyl	*106*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:02*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS04A

Lab Sample ID: 890-4115-4
Matrix: Solid
Date Collected: 02/15/23 12:50
Date Received: 02/15/23 16:45
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.4		5.03		mg/Kg			02/21/23 09:50	1

Client Sample ID: SS05A

Lab Sample ID: 890-4115-5
Matrix: Solid
Date Collected: 02/15/23 13:00
Date Received: 02/15/23 16:45
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		02/17/23 14:29	02/18/23 07:21	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/17/23 14:29	02/18/23 07:21	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/17/23 14:29	02/18/23 07:21	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		02/17/23 14:29	02/18/23 07:21	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		02/17/23 14:29	02/18/23 07:21	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		02/17/23 14:29	02/18/23 07:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:21*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:21*	*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			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 17:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 17:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:24*	*1*
o-Terphenyl	*116*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.7		5.02		mg/Kg			02/21/23 09:56	1

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS01B

Date Collected: 02/15/23 12:10
Date Received: 02/15/23 16:45
Sample Depth: 4

Lab Sample ID: 890-4115-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:29	02/18/23 07:41	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:29	02/18/23 07:41	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/17/23 14:29	02/18/23 07:41	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403		mg/Kg		02/17/23 14:29	02/18/23 07:41	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		02/17/23 14:29	02/18/23 07:41	1
Xylenes, Total	<0.00403	U *+	0.00403		mg/Kg		02/17/23 14:29	02/18/23 07:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:41*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*02/17/23 14:29*	*02/18/23 07:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 17:47	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 17:47	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/17/23 10:54	02/18/23 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:47*	*1*
o-Terphenyl	*89*		*70 - 130*	*02/17/23 10:54*	*02/18/23 17:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**599**		4.98		mg/Kg			02/21/23 10:02	1

Client Sample ID: SS02B

Date Collected: 02/15/23 11:45
Date Received: 02/15/23 16:45
Sample Depth: 2

Lab Sample ID: 890-4115-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/17/23 14:29	02/18/23 08:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/17/23 14:29	02/18/23 08:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/17/23 14:29	02/18/23 08:02	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		02/17/23 14:29	02/18/23 08:02	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		02/17/23 14:29	02/18/23 08:02	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		02/17/23 14:29	02/18/23 08:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:02*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS02B

Lab Sample ID: 890-4115-7
Matrix: Solid
Date Collected: 02/15/23 11:45
Date Received: 02/15/23 16:45
Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:02*	*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			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 18:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/17/23 10:54	02/18/23 18:08	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/17/23 10:54	02/18/23 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*95*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:08*	*1*
o-Terphenyl	*106*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1230**		24.8	mg/Kg			02/21/23 10:09	5

Client Sample ID: SS03B

Lab Sample ID: 890-4115-8
Matrix: Solid
Date Collected: 02/15/23 12:25
Date Received: 02/15/23 16:45
Sample Depth: 3

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		02/17/23 14:29	02/18/23 08:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/23 14:29	02/18/23 08:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/23 14:29	02/18/23 08:23	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399	mg/Kg		02/17/23 14:29	02/18/23 08:23	1
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		02/17/23 14:29	02/18/23 08:23	1
Xylenes, Total	<0.00399	U *+	0.00399	mg/Kg		02/17/23 14:29	02/18/23 08:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:23*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/20/23 14:15	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			02/20/23 15:20	1

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS03B

Lab Sample ID: 890-4115-8
Matrix: Solid
Date Collected: 02/15/23 12:25
Date Received: 02/15/23 16:45
Sample Depth: 3

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		02/17/23 10:54	02/18/23 18:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 18:31	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:31*	*1*
o-Terphenyl	*102*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**374**		4.96		mg/Kg			02/21/23 10:27	1

Client Sample ID: SS04B

Lab Sample ID: 890-4115-9
Matrix: Solid
Date Collected: 02/15/23 12:55
Date Received: 02/15/23 16:45
Sample Depth: 2

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		02/17/23 14:29	02/18/23 08:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/17/23 14:29	02/18/23 08:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/17/23 14:29	02/18/23 08:43	1
m-Xylene & p-Xylene	<0.00397	U *+	0.00397		mg/Kg		02/17/23 14:29	02/18/23 08:43	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		02/17/23 14:29	02/18/23 08:43	1
Xylenes, Total	<0.00397	U *+	0.00397		mg/Kg		02/17/23 14:29	02/18/23 08:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:43*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*02/17/23 14:29*	*02/18/23 08:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 18:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/17/23 10:54	02/18/23 18:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/17/23 10:54	02/18/23 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:54*	*1*
o-Terphenyl	*112*		*70 - 130*	*02/17/23 10:54*	*02/18/23 18:54*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS04B

Lab Sample ID: 890-4115-9
Matrix: Solid
Date Collected: 02/15/23 12:55
Date Received: 02/15/23 16:45
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	240		4.97		mg/Kg			02/21/23 10:33	1

Client Sample ID: SS05B

Lab Sample ID: 890-4115-10
Matrix: Solid
Date Collected: 02/15/23 13:05
Date Received: 02/15/23 16:45
Sample Depth: 2

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		02/17/23 14:29	02/18/23 09:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 09:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 09:04	1
m-Xylene & p-Xylene	<0.00400	U *+	0.00400		mg/Kg		02/17/23 14:29	02/18/23 09:04	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		02/17/23 14:29	02/18/23 09:04	1
Xylenes, Total	<0.00400	U *+	0.00400		mg/Kg		02/17/23 14:29	02/18/23 09:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*02/17/23 14:29*	*02/18/23 09:04*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*02/17/23 14:29*	*02/18/23 09:04*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			02/20/23 14:15	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			02/20/23 15:20	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		02/17/23 10:54	02/18/23 19:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/17/23 10:54	02/18/23 19:16	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/17/23 10:54	02/18/23 19:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/17/23 10:54*	*02/18/23 19:16*	*1*
o-Terphenyl	*107*		*70 - 130*	*02/17/23 10:54*	*02/18/23 19:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	108		5.03		mg/Kg			02/21/23 10:52	1

Surrogate Summary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

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)
880-24885-A-1-D MS	Matrix Spike	110	106
880-24885-A-1-E MSD	Matrix Spike Duplicate	104	103
890-4115-1	SS01A	105	89
890-4115-2	SS02A	113	80
890-4115-3	SS03A	115	77
890-4115-4	SS04A	108	83
890-4115-5	SS05A	116	77
890-4115-6	SS01B	115	88
890-4115-7	SS02B	117	87
890-4115-8	SS03B	118	83
890-4115-9	SS04B	95	93
890-4115-10	SS05B	92	88
LCS 880-46605/1-A	Lab Control Sample	114	108
LCSD 880-46605/2-A	Lab Control Sample Dup	120	96
MB 880-46605/5-A	Method Blank	76	91

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-24875-A-37-B MS	Matrix Spike	100	93
880-24875-A-37-C MSD	Matrix Spike Duplicate	97	92
890-4115-1	SS01A	102	110
890-4115-2	SS02A	102	109
890-4115-3	SS03A	102	106
890-4115-4	SS04A	100	106
890-4115-5	SS05A	109	116
890-4115-6	SS01B	79	89
890-4115-7	SS02B	95	106
890-4115-8	SS03B	97	102
890-4115-9	SS04B	104	112
890-4115-10	SS05B	97	107
LCS 880-46595/2-A	Lab Control Sample	108	118
LCSD 880-46595/3-A	Lab Control Sample Dup	106	117
MB 880-46595/1-A	Method Blank	97	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46605/5-A
Matrix: Solid
Analysis Batch: 46568

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46605

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 01:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 01:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 01:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/17/23 14:29	02/18/23 01:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/17/23 14:29	02/18/23 01:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/17/23 14:29	02/18/23 01:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/17/23 14:29*	*02/18/23 01:10*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*02/17/23 14:29*	*02/18/23 01:10*	*1*

Lab Sample ID: LCS 880-46605/1-A
Matrix: Solid
Analysis Batch: 46568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46605

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1169		mg/Kg		117	70 - 130		
Toluene			0.100	0.1137		mg/Kg		114	70 - 130		
Ethylbenzene			0.100	0.1212		mg/Kg		121	70 - 130		
m-Xylene & p-Xylene			0.200	0.2622	*+	mg/Kg		131	70 - 130		
o-Xylene			0.100	0.1325	*+	mg/Kg		133	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-46605/2-A
Matrix: Solid
Analysis Batch: 46568

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46605

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1157		mg/Kg		116	70 - 130	1	35
Toluene			0.100	0.1144		mg/Kg		114	70 - 130	1	35
Ethylbenzene			0.100	0.1190		mg/Kg		119	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2570		mg/Kg		129	70 - 130	2	35
o-Xylene			0.100	0.1300		mg/Kg		130	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-24885-A-1-D MS
Matrix: Solid
Analysis Batch: 46568

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46605

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1040		mg/Kg		103	70 - 130		
Toluene	<0.00202	U	0.101	0.09838		mg/Kg		98	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

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

Lab Sample ID: 880-24885-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46568 — **Prep Batch: 46605**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1021		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00403	U *+	0.202	0.2157		mg/Kg		107	70 - 130
o-Xylene	<0.00202	U *+	0.101	0.1075		mg/Kg		107	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-24885-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46568 — **Prep Batch: 46605**

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	0.09782		mg/Kg		98	70 - 130	6	35
Toluene	<0.00202	U	0.0996	0.09762		mg/Kg		98	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.0996	0.09330		mg/Kg		94	70 - 130	9	35
m-Xylene & p-Xylene	<0.00403	U *+	0.199	0.1931		mg/Kg		97	70 - 130	11	35
o-Xylene	<0.00202	U *+	0.0996	0.09591		mg/Kg		96	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

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

Lab Sample ID: MB 880-46595/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46617 — **Prep Batch: 46595**

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		02/17/23 10:54	02/18/23 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 08:39	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/17/23 10:54	02/18/23 08:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/17/23 10:54*	*02/18/23 08:39*	*1*
o-Terphenyl	*118*		*70 - 130*	*02/17/23 10:54*	*02/18/23 08:39*	*1*

Lab Sample ID: LCS 880-46595/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46617 — **Prep Batch: 46595**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	907.8		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)			1000	937.0		mg/Kg		94	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

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

Lab Sample ID: LCS 880-46595/2-A
Matrix: Solid
Analysis Batch: 46617

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46595

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-46595/3-A
Matrix: Solid
Analysis Batch: 46617

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46595

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	935.8		mg/Kg		94	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	921.9		mg/Kg		92	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: 880-24875-A-37-B MS
Matrix: Solid
Analysis Batch: 46617

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	219		1000	1225		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	701	F1	1000	1326	F1	mg/Kg		63	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 880-24875-A-37-C MSD
Matrix: Solid
Analysis Batch: 46617

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46595

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	219		1000	1184		mg/Kg		97	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	701	F1	1000	1281	F1	mg/Kg		58	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	92		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46600/1-A
Matrix: Solid
Analysis Batch: 46816

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			02/21/23 08:24	1

Lab Sample ID: LCS 880-46600/2-A
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-46600/3-A
Matrix: Solid
Analysis Batch: 46816

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	235.4		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-4115-7 MS
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: SS02B
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1230		1240	2583		mg/Kg		109	90 - 110		

Lab Sample ID: 890-4115-7 MSD
Matrix: Solid
Analysis Batch: 46816

Client Sample ID: SS02B
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1230		1240	2583		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

GC VOA

Analysis Batch: 46568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	8021B	46605
890-4115-2	SS02A	Total/NA	Solid	8021B	46605
890-4115-3	SS03A	Total/NA	Solid	8021B	46605
890-4115-4	SS04A	Total/NA	Solid	8021B	46605
890-4115-5	SS05A	Total/NA	Solid	8021B	46605
890-4115-6	SS01B	Total/NA	Solid	8021B	46605
890-4115-7	SS02B	Total/NA	Solid	8021B	46605
890-4115-8	SS03B	Total/NA	Solid	8021B	46605
890-4115-9	SS04B	Total/NA	Solid	8021B	46605
890-4115-10	SS05B	Total/NA	Solid	8021B	46605
MB 880-46605/5-A	Method Blank	Total/NA	Solid	8021B	46605
LCS 880-46605/1-A	Lab Control Sample	Total/NA	Solid	8021B	46605
LCSD 880-46605/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46605
880-24885-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	46605
880-24885-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46605

Prep Batch: 46605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	5035	
890-4115-2	SS02A	Total/NA	Solid	5035	
890-4115-3	SS03A	Total/NA	Solid	5035	
890-4115-4	SS04A	Total/NA	Solid	5035	
890-4115-5	SS05A	Total/NA	Solid	5035	
890-4115-6	SS01B	Total/NA	Solid	5035	
890-4115-7	SS02B	Total/NA	Solid	5035	
890-4115-8	SS03B	Total/NA	Solid	5035	
890-4115-9	SS04B	Total/NA	Solid	5035	
890-4115-10	SS05B	Total/NA	Solid	5035	
MB 880-46605/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46605/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46605/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24885-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-24885-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 46749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	Total BTEX	
890-4115-2	SS02A	Total/NA	Solid	Total BTEX	
890-4115-3	SS03A	Total/NA	Solid	Total BTEX	
890-4115-4	SS04A	Total/NA	Solid	Total BTEX	
890-4115-5	SS05A	Total/NA	Solid	Total BTEX	
890-4115-6	SS01B	Total/NA	Solid	Total BTEX	
890-4115-7	SS02B	Total/NA	Solid	Total BTEX	
890-4115-8	SS03B	Total/NA	Solid	Total BTEX	
890-4115-9	SS04B	Total/NA	Solid	Total BTEX	
890-4115-10	SS05B	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

GC Semi VOA

Prep Batch: 46595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	8015NM Prep	
890-4115-2	SS02A	Total/NA	Solid	8015NM Prep	
890-4115-3	SS03A	Total/NA	Solid	8015NM Prep	
890-4115-4	SS04A	Total/NA	Solid	8015NM Prep	
890-4115-5	SS05A	Total/NA	Solid	8015NM Prep	
890-4115-6	SS01B	Total/NA	Solid	8015NM Prep	
890-4115-7	SS02B	Total/NA	Solid	8015NM Prep	
890-4115-8	SS03B	Total/NA	Solid	8015NM Prep	
890-4115-9	SS04B	Total/NA	Solid	8015NM Prep	
890-4115-10	SS05B	Total/NA	Solid	8015NM Prep	
MB 880-46595/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46595/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46595/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24875-A-37-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24875-A-37-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 46617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	8015B NM	46595
890-4115-2	SS02A	Total/NA	Solid	8015B NM	46595
890-4115-3	SS03A	Total/NA	Solid	8015B NM	46595
890-4115-4	SS04A	Total/NA	Solid	8015B NM	46595
890-4115-5	SS05A	Total/NA	Solid	8015B NM	46595
890-4115-6	SS01B	Total/NA	Solid	8015B NM	46595
890-4115-7	SS02B	Total/NA	Solid	8015B NM	46595
890-4115-8	SS03B	Total/NA	Solid	8015B NM	46595
890-4115-9	SS04B	Total/NA	Solid	8015B NM	46595
890-4115-10	SS05B	Total/NA	Solid	8015B NM	46595
MB 880-46595/1-A	Method Blank	Total/NA	Solid	8015B NM	46595
LCS 880-46595/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46595
LCSD 880-46595/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46595
880-24875-A-37-B MS	Matrix Spike	Total/NA	Solid	8015B NM	46595
880-24875-A-37-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	46595

Analysis Batch: 46795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Total/NA	Solid	8015 NM	
890-4115-2	SS02A	Total/NA	Solid	8015 NM	
890-4115-3	SS03A	Total/NA	Solid	8015 NM	
890-4115-4	SS04A	Total/NA	Solid	8015 NM	
890-4115-5	SS05A	Total/NA	Solid	8015 NM	
890-4115-6	SS01B	Total/NA	Solid	8015 NM	
890-4115-7	SS02B	Total/NA	Solid	8015 NM	
890-4115-8	SS03B	Total/NA	Solid	8015 NM	
890-4115-9	SS04B	Total/NA	Solid	8015 NM	
890-4115-10	SS05B	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

HPLC/IC

Leach Batch: 46600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Soluble	Solid	DI Leach	
890-4115-2	SS02A	Soluble	Solid	DI Leach	
890-4115-3	SS03A	Soluble	Solid	DI Leach	
890-4115-4	SS04A	Soluble	Solid	DI Leach	
890-4115-5	SS05A	Soluble	Solid	DI Leach	
890-4115-6	SS01B	Soluble	Solid	DI Leach	
890-4115-7	SS02B	Soluble	Solid	DI Leach	
890-4115-8	SS03B	Soluble	Solid	DI Leach	
890-4115-9	SS04B	Soluble	Solid	DI Leach	
890-4115-10	SS05B	Soluble	Solid	DI Leach	
MB 880-46600/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46600/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46600/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4115-7 MS	SS02B	Soluble	Solid	DI Leach	
890-4115-7 MSD	SS02B	Soluble	Solid	DI Leach	

Analysis Batch: 46816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4115-1	SS01A	Soluble	Solid	300.0	46600
890-4115-2	SS02A	Soluble	Solid	300.0	46600
890-4115-3	SS03A	Soluble	Solid	300.0	46600
890-4115-4	SS04A	Soluble	Solid	300.0	46600
890-4115-5	SS05A	Soluble	Solid	300.0	46600
890-4115-6	SS01B	Soluble	Solid	300.0	46600
890-4115-7	SS02B	Soluble	Solid	300.0	46600
890-4115-8	SS03B	Soluble	Solid	300.0	46600
890-4115-9	SS04B	Soluble	Solid	300.0	46600
890-4115-10	SS05B	Soluble	Solid	300.0	46600
MB 880-46600/1-A	Method Blank	Soluble	Solid	300.0	46600
LCS 880-46600/2-A	Lab Control Sample	Soluble	Solid	300.0	46600
LCSD 880-46600/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46600
890-4115-7 MS	SS02B	Soluble	Solid	300.0	46600
890-4115-7 MSD	SS02B	Soluble	Solid	300.0	46600

Lab Chronicle

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS01A
Date Collected: 02/15/23 10:45
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 05:59	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 15:56	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		5			46816	02/21/23 09:19	CH	EET MID

Client Sample ID: SS02A
Date Collected: 02/15/23 10:55
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-2
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			4.98 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 06:19	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 16:18	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		5			46816	02/21/23 09:38	CH	EET MID

Client Sample ID: SS03A
Date Collected: 02/15/23 12:15
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-3
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			4.99 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 06:40	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 16:40	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 09:44	CH	EET MID

Client Sample ID: SS04A
Date Collected: 02/15/23 12:50
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 07:00	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS04A
Date Collected: 02/15/23 12:50
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-4
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			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 17:02	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 09:50	CH	EET MID

Client Sample ID: SS05A
Date Collected: 02/15/23 13:00
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 07:21	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 17:24	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 09:56	CH	EET MID

Client Sample ID: SS01B
Date Collected: 02/15/23 12:10
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 07:41	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 17:47	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 10:02	CH	EET MID

Client Sample ID: SS02B
Date Collected: 02/15/23 11:45
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 08:02	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 18:08	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Client Sample ID: SS02B
Date Collected: 02/15/23 11:45
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		5			46816	02/21/23 10:09	CH	EET MID

Client Sample ID: SS03B
Date Collected: 02/15/23 12:25
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-8
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	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 08:23	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 18:31	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 10:27	CH	EET MID

Client Sample ID: SS04B
Date Collected: 02/15/23 12:55
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 08:43	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 18:54	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 10:33	CH	EET MID

Client Sample ID: SS05B
Date Collected: 02/15/23 13:05
Date Received: 02/15/23 16:45

Lab Sample ID: 890-4115-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	46605	02/17/23 14:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46568	02/18/23 09:04	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			46749	02/20/23 14:15	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46795	02/20/23 15:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46595	02/17/23 10:54	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46617	02/18/23 19:16	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	46600	02/17/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1			46816	02/21/23 10:52	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

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: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

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: Cabo Wabo Sprayberry Booster

Job ID: 890-4115-1
SDG: 03D2024145

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4115-1	SS01A	Solid	02/15/23 10:45	02/15/23 16:45	1
890-4115-2	SS02A	Solid	02/15/23 10:55	02/15/23 16:45	1
890-4115-3	SS03A	Solid	02/15/23 12:15	02/15/23 16:45	1
890-4115-4	SS04A	Solid	02/15/23 12:50	02/15/23 16:45	1
890-4115-5	SS05A	Solid	02/15/23 13:00	02/15/23 16:45	1
890-4115-6	SS01B	Solid	02/15/23 12:10	02/15/23 16:45	4
890-4115-7	SS02B	Solid	02/15/23 11:45	02/15/23 16:45	2
890-4115-8	SS03B	Solid	02/15/23 12:25	02/15/23 16:45	3
890-4115-9	SS04B	Solid	02/15/23 12:55	02/15/23 16:45	2
890-4115-10	SS05B	Solid	02/15/23 13:05	02/15/23 16:45	2

Page 95 of 111

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@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:	Cabo Wabo Sprayberry Booster	**Turn Around**	
Project Number:	03D2024145	☑ Routine ☐ Rush	
Project Location:	32.0963,-103.9541	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:	NM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.2
Total Containers:		Corrected Temperature:	5.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01A	Soil	2/15/2023	1045	1'	Comp	1		x	x	x
SS02A	Soil	2/15/2023	1055	1'	Comp	1		x	x	x
SS03A	Soil	2/15/2023	1215	1'	Comp	1		x	x	x
SS04A	Soil	2/15/2023	1250	1'	Comp	1		x	x	x
SS05A	Soil	2/15/2023	1300	1'	Comp	1		x	x	x
SS01B	Soil	2/15/2023	1210	4'	Comp	1		x	x	x
SS02B	Soil	2/15/2023	1145	2'	Comp	1		x	x	x
SS03B	Soil	2/15/2023	1225	3'	Comp	1		x	x	x
SS04B	Soil	2/15/2023	1255	2'	Comp	1		x	x	x
SS05B	Soil	2/15/2023	1305	2'	Comp	1		x	x	x

890-4115 Chain of Custody

Preservative Codes

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

Sample 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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Peter Van Patten	Ace Cyp	2-15-23 1645	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

Received by OCD: 11/6/2023 8:46:48 AM
Page 29 of 31
2/22/2023
Released to Imaging: 2/26/2024 3:08:02 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4115-1
SDG Number: 03D2024145

Login Number: 4115
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: 890-4115-1
SDG Number: 03D2024145

Login Number: 4115
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/17/23 11:14 AM

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

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Hadlie Green
To: Bratcher, Michael, EMNRD
Cc: Carlile, Justin
Subject: FW: COG - Denial - Remediation Work Plan - Cabo Wabo Federal Com 704H, 705H & 706H (Incident Number NAPP2301334575)
Date: Monday, September 11, 2023 8:24:00 AM
Attachments: image002.png
image003.png
image004.png
image005.png
image006.png

Good morning Mr. Bratcher,

I'm looking to have a conversation about a recent Remediation Work Plan denial. Below, you will find the corresponding email chain requesting reconsideration of approval of the Remediation Work Plan with Conditions of Approval (COAs).

I appreciate your help in advance and look forward to talking with you. Please feel free to call me directly at 432-557-8895 or if you would like to present a time to talk through Microsoft Teams, I would be happy to do that as well.

Thank you,

Hadlie Green
Project Geologist
432-557-8895
hgreen@ensolum.com
Ensolum, LLC

From: Hadlie Green
Sent: Wednesday, September 6, 2023 7:38 AM
To: Robert.Hamlet@state.nm.us
Cc: Carlile, Justin <Justin.Carlile@conocophillips.com>
Subject: RE: COG - Denial - Remediation Work Plan - Cabo Wabo Federal Com 704H, 705H & 706H (Incident Number NAPP2301334575)

Good afternoon Mr. Hamlet,

I just wanted to circle back on my email below regarding a recent denial. I look forward to hearing from you.

Thank you,

Hadlie Green
Project Geologist
432-557-8895
hgreen@ensolum.com

Ensolum, LLC

From: Hadlie Green
Sent: Thursday, August 24, 2023 2:31 PM
To: Robert.Hamlet@state.nm.us
Cc: Carlile, Justin <Justin.Carlile@conocophillips.com>
Subject: COG - Denial - Remediation Work Plan - Cabo Wabo Federal Com 704H, 705H & 706H (Incident Number NAPP2301334575)

Hello Mr. Hamlet,

COG Operating, LLC has given me permission to talk with you regarding their active Incident Number NAPP2301334575 – Cabo Wabo Federal Com 704H, 705H & 706H. COG submitted a Remediation Work Plan (attached) to NMOCD on April 4, 2023 detailing site assessment activities and proposing excavation of impacted soil to the site-specific Closure Criteria, which is the strictest based on flood potential. You reviewed the Remediation Work Plan and denied it on August 18, 2023 with the following reasons:

- **The Remediation Plan is Denied. Limited soil removal around subsurface pipelines is denied. Contaminated soil should be removed safely with alternative methods. Due to the sensitive nature of the release location, the variance for 500 ft2 confirmation samples is denied. Please collect confirmation samples, representing no more than 200 ft2. Off-pad, all horizontal delineation samples must come from the sidewalls of the excavation. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the work plan has been reviewed.**

The subsurface pipeline referred to in the Remediation Work Plan is a high-pressure gas line owned and operated by Kinder Morgan (see photo below). This pipeline is estimated to be 10-15 feet to the east of our release extent (orange) and we do not believe that this will be in conflict with excavation activities. The surface polylines in the photo below have been removed. We will spot this pipeline via hydrovac and remove all impacted soil within our release extent. Confirmation samples will be collected from the floor and sidewalls of the excavation every 200 square feet and all samples will meet the strictest Table I Closure Criteria.

I would like to talk through this with you if you have some time in the next few days and request that you reconsider approval of the Remediation Work Plan with Conditions of Approval (COAs).

I appreciate your help in advance and look forward to talking with you. Please feel free to call me directly at 432-557-8895 or if you would like to present a time to talk through Microsoft Teams, I would be happy to do that as well.

Thank you,

Hadlie Green
Project Geologist
432-557-8895
hgreen@ensolum.com
Ensolum, LLC

ENSOLUM

APPENDIX E

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	NAPP2301334575
District RP	
Facility ID	fAPP2203847910
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Justin Carlile	Contact Telephone	(432) 202-4112
Contact email	Justin.Carlile@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2301334575
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.0963 Longitude -103.9541
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Cabo Wabo Federal Com 704H, 705H & 706H	Site Type	Flowline
Date Release Discovered	December 30, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
O	26	25S	29E	Eddy

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)	Volume Recovered (bbls)
☐ 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) Treated Produced Water	Volume/Weight Released (provide units) 14.8 bbls	Volume/Weight Recovered (provide units) 14 bbls

Cause of Release

The release was caused by a leak in the pump housing.
The release was off the pad. A vacuum truck was dispatched to remove all freestanding fluids. Evaluation will be made of the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2301334575
District RP	
Facility ID	fAPP2203847910
Application ID	

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: 1/12/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 01/13/2023

Released to Imaging: 2/26/2024 3:08:02 PM
Received by OCD: 11/6/2023 8:46:48 AM
Received by OCD: 1/13/2023 9:43:26 AM

L48 Spill Volume Estimate Form

NAPP2301334575

Facility Name & Number:	cabo booser pump 2
Asset Area:	china draw
Release Discovery Date & Time:	12/29/2022
Release Type:	Produced Water
Provide any known details about the event:	valve break at booster

Spill Calculation - On Pad Surface Pool Spill

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated *Pool* Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	6.0	800.0	0.25	4	4800.000	0.005	4.450	0.000	4.451
Rectangle B	18.0	20.0	0.25	4	360.000	0.005	0.334	0.000	0.334
Rectangle C	18.0	600.0	0.25	4	10800.000	0.005	10.013	0.000	10.015
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle J					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
								Total Volume Release:	14.800

Released to Imaging: 1/13/2023 10:11:55 AM

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 175847

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 175847
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	1/13/2023

Incident ID	NAPP2301334575
District RP	
Facility ID	fAPP2203847910
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	NAPP2301334575
District RP	
Facility ID	fAPP2203847910
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: Justin Carlile Title: Sr. Environmental Engineer

Signature: Justin Carlile Date: 10/23/2023

email: Justin.Carlile@ConocoPhillips.com Telephone: (432) 202-4112

OCD Only

Received by: Shelly Wells Date: 11/6/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2301334575
District RP	
Facility ID	fAPP2203847910
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Justin Carlile Title: Sr. Environmental Engineer

Signature: Justin Carlile Date: 10/23/2023

email: Justin.Carlile@ConocoPhillips.com Telephone: (432) 202-4112

OCD Only

Received by: Shelly Wells Date: 11/6/2023

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Scott Rodgers Date: 02/26/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 282823

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 282823
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	The Remediation Plan is Conditionally Approved. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Sidewall/Edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. All off-pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the report has been reviewed.	2/26/2024