



October 13, 2023

New Mexico Oil Conservation Division

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

**Re: Closure Request
MCA 95
Incident Number NAPP2306757137
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA 95 (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of crude oil at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2306757137.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit J, Section 20, Township 17 South, Range 32 East, in Lea County, New Mexico (32.817529° N, -103.787126° W) and is associated with oil and gas exploration and production operations on Federal Land managed by Bureau of Land Management (BLM).

On February 21, 2023, corrosion of a flow line resulted in the release of approximately 5.6 barrels (bbls) of crude oil into the surrounding pasture. A vacuum was immediately dispatched to the site and recovered 2.5 bbls of free-standing fluid. The saturated surface soil was scraped up during initial spill response activities. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on February 27, 2023. The release was assigned Incident Number NAPP2306757137.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest groundwater well/soil boring with depth to groundwater data is soil boring DTW 01 located approximately 470 feet southwest of the Site. The soil boring was drilled during August 2023 to a depth of 106 feet bgs. A field geologist logged and described soils continuously.

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The borehole lithologic log is included in Appendix A. No groundwater was encountered in the borehole to a depth of 106 feet bgs. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater is greater than 106 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. All wells used for depth to groundwater determination are presented on Figure 1.

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

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On February 22, 2023, site assessment activities were conducted at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Two assessment soil samples (SS01 and SS02) were collected within the release extent at a depth of 0.5 feet bgs to assess surficial soil within the release. Four assessment soil samples (SS03 through SS06) were collected around the visible release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. 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 B.

The assessment 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 at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Cardinal Laboratories for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 4500.

Laboratory analytical results for assessment soil samples SS01 and SS02, collected within the release extent, indicated that TPH concentrations exceeded the Site Closure Criteria and/or reclamation requirements. Laboratory analytical results for assessment soil samples SS03 through SS06, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and confirmed the lateral extent of the release. Based on visible staining in the



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release area and laboratory analytical results for assessment soil samples SS01 and SS02, excavation activities were warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between September 14, 2023 and September 21, 2023, Ensolum personnel were at the Site to oversee excavation of impacted soil as indicated by visible staining in the release area and laboratory analytical results for the assessment soil samples. To direct excavation activities, soil was field screened for VOCs and chloride. Excavation activities were performed using hand shovels, track-mounted backhoe, and transport vehicles. The excavation was completed to depths ranging from 4 feet to 6 feet bgs.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS14 were collected from the floor of the excavation at depths ranging from 4 feet to 6 feet bgs. Composite soil samples SW01 through SW09 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 6 feet bgs. The excavation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3.

Laboratory analytical results for excavation floor samples FS01 through FS14 and excavation sidewall samples SW01 through SW09, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 2,500 square feet in areal extent. A total of approximately 600 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the February 21, 2023, release of crude oil. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Based on the laboratory analytical results, no further remediation is required. Maverick will backfill the excavation with material purchased locally and recontour the Site to match pre-existing conditions.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs within 0.5 miles of the Site and no sensitive receptors were identified near the release extent. Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident NAPP2306757137. NMOCD notifications are included in Appendix D and the final Form C-141 is included in Appendix E.

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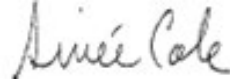
Page 4

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely,
Ensolum, LLC



Julianna Falcomata
Staff Geologist



Aimee Cole
Senior Managing Scientist

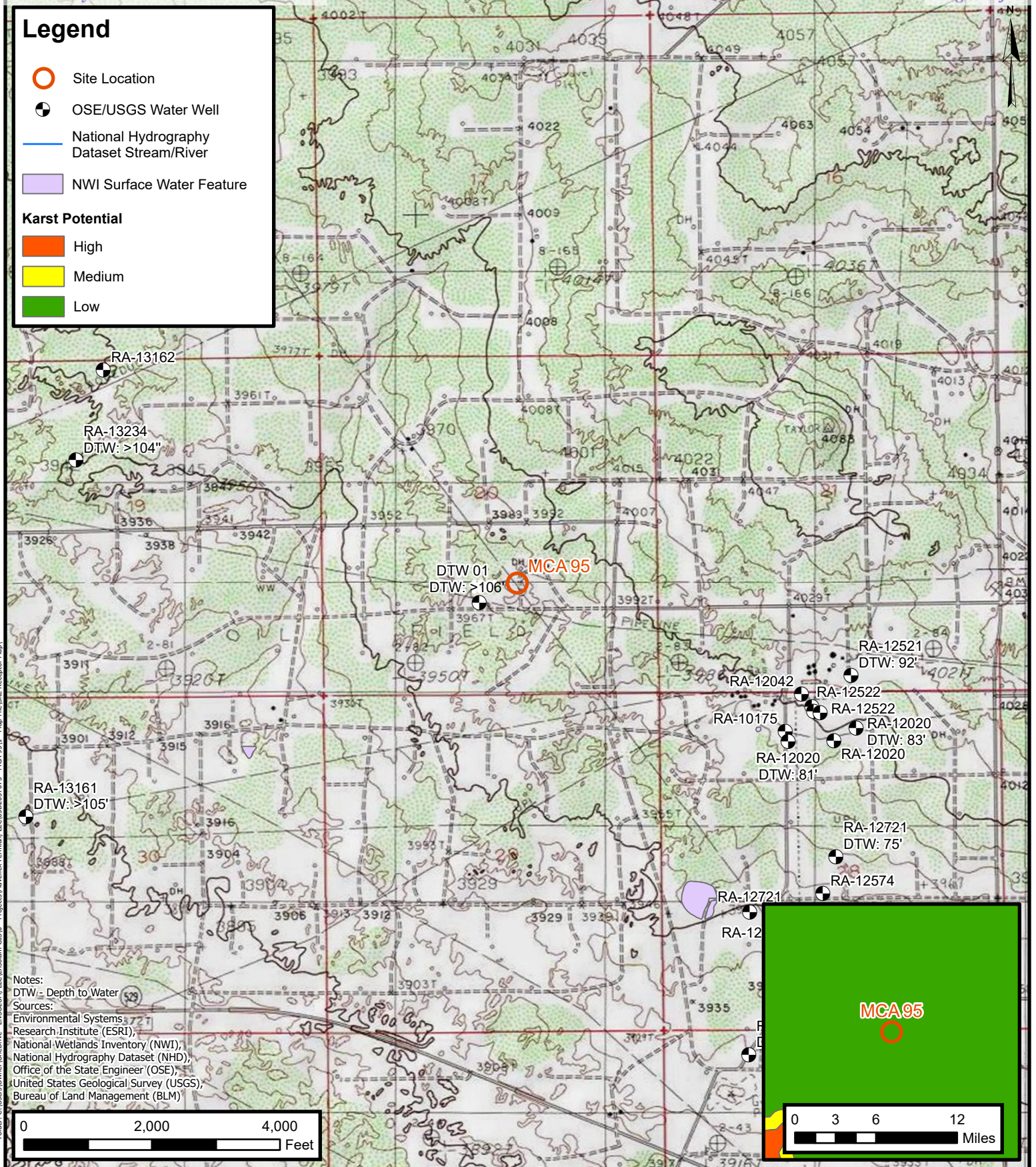
cc: Bryce Wagoner, Maverick Natural Resources
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Assessment Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain of Custody Documentation
Appendix D	NMOCD Notifications
Appendix E	Final Form C-141



FIGURES



Site Receptor Map

Maverick Permian, LLC
MCA 95

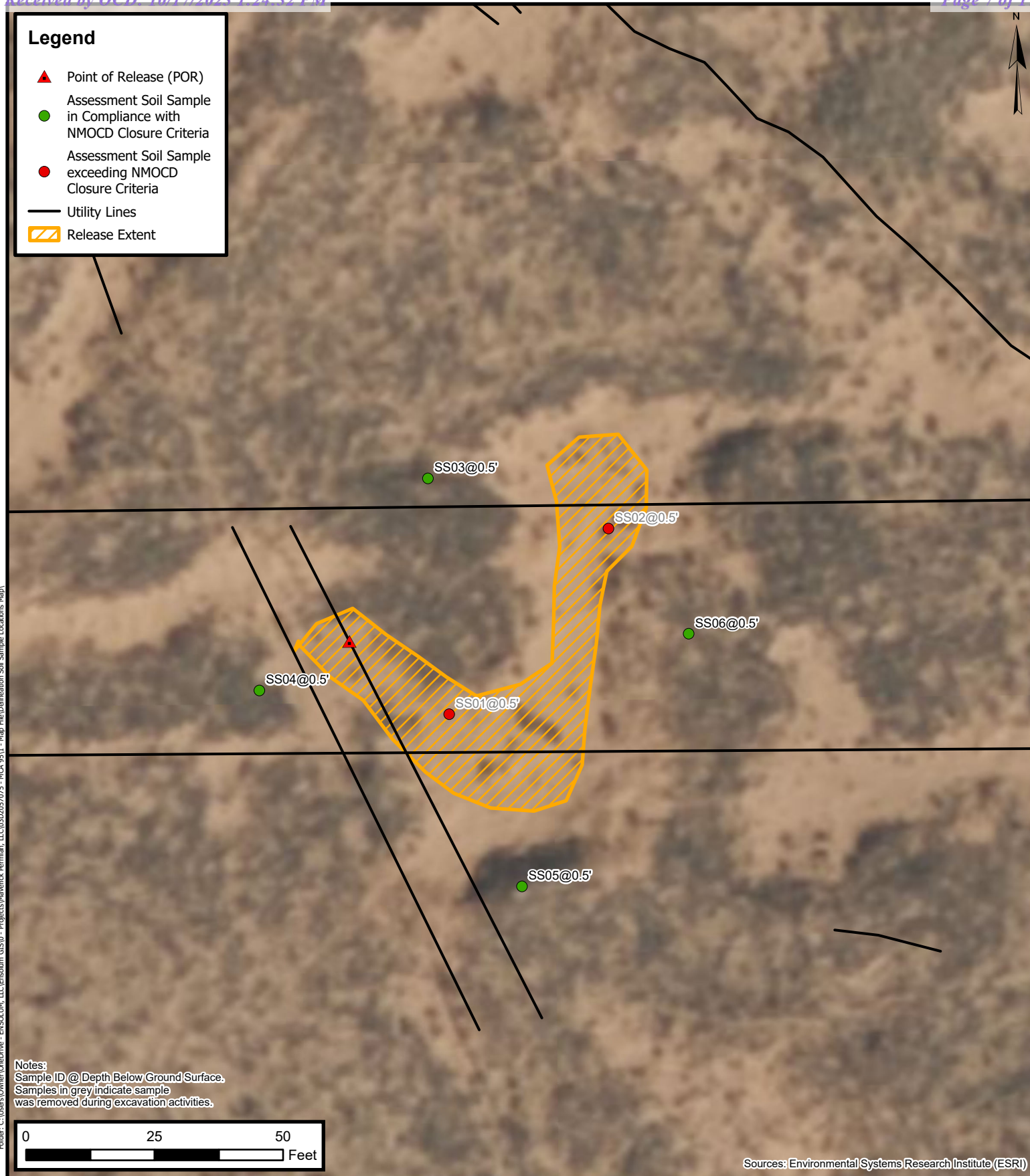
Incident Number: NAPP2306757137
Unit J, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE

1

Legend

- ▲ Point of Release (POR)
- Assessment Soil Sample in Compliance with NMOCD Closure Criteria
- Assessment Soil Sample exceeding NMOCD Closure Criteria
- Utility Lines
- Release Extent



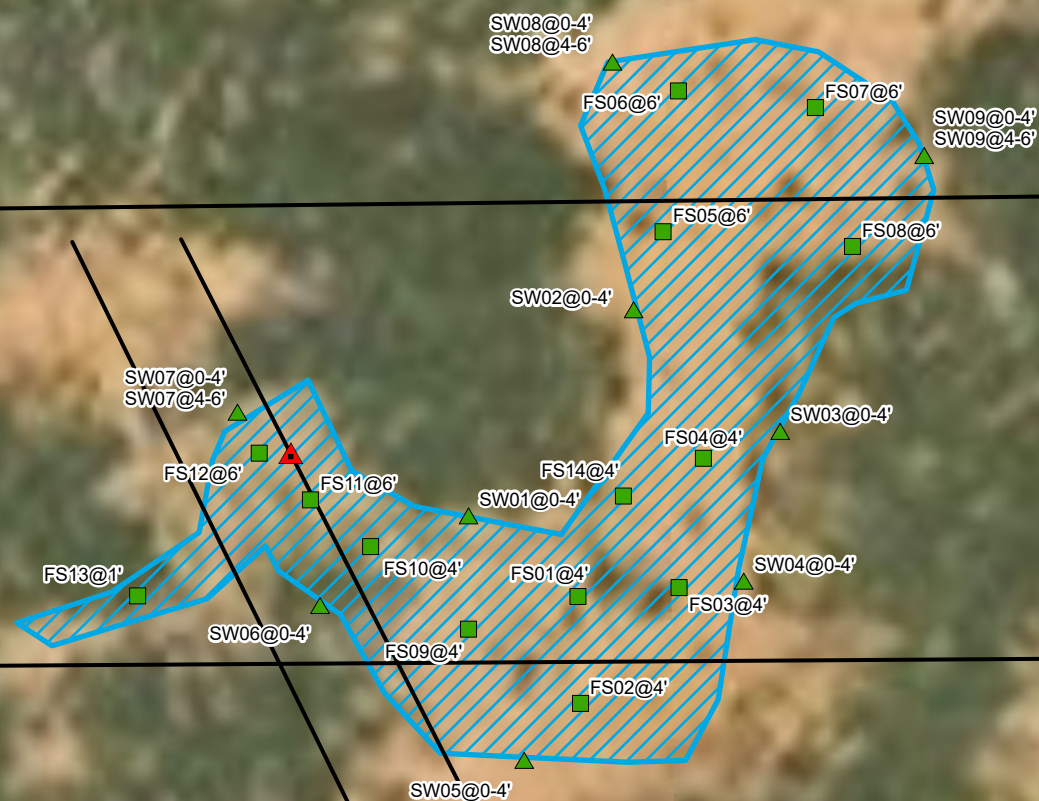
Assessment Soil Sample Locations

Maverick Permian, LLC
MCA 95
Incident Number: NAPP2306757137
Unit J, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE
2

Legend

- Excavation Floor Sample in Compliance with NMOCD Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with NMOCD Closure Criteria
- ▲ Point of Release (POR)
- Surface Utilities
- ▨ Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 25 50
Feet

Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

Maverick Permian, LLC
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Incident Number: NAPP2306757137
Unit J, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE

3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 95
Maverick Permian, LLC
Lea County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01*	2/22/2023	0.5	0.277	0.519	<49.9	253	<49.9	253	253	63.0
SS02*	2/22/2023	0.5	2.80	367	4,270	9,200	<500	13,470	13,500	98.2
SS03	2/22/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	<5.05
SS04	2/22/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<5.00
SS05	2/22/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<4.98
SS06	2/22/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	<5.00
Excavation Floor Soil Samples										
FS01	9/15/2023	4	<0.050	<0.300	18.7	520	80.9	538.7	619.6	64.4
FS02	9/18/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS03	9/18/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS04	9/18/2023	4	<0.050	<0.300	<10.0	16.5	<10.0	16.5	16.5	<16.0
FS05	9/19/2023	6	<0.050	<0.300	<10.0	14.3	<10.0	14.3	14.3	16.0
FS06	9/19/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS07	9/19/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS08	9/19/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS09	9/19/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS10	9/19/2023	4	<0.050	<0.300	<10.0	15.3	<10.0	15.3	15.3	<16.0
FS11	9/19/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS12	9/19/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS13*	9/19/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS14	9/19/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
Excavation Sidewall Soil Samples										
SW01*	9/15/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW03*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW04*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA 95 Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
SW05*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW06*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW07*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW07	9/21/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW08*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW08	9/21/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW09*	9/21/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW09	9/21/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

Notes:


bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
NMAC: New Mexico Administrative Code
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Grey text represents samples that have been excavated
* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.



APPENDIX A

Referenced Well Records

 ENSOLUM								Sample Name: DTW 01		Date: 08/28/2023	
								Site Name: MCA 266			
								Incident Number: NAPP2213642290			
								Job Number: 03D2057011			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Julianna Falcomata		Method: Hollow Stem	
32.816600, -103.789057								Hole Diameter: 5"		Total Depth: 106'	
Comments: Soil boring was advanced to a total depth of 106' bgs. No water was observed within the soil boring after at least 72 hours. On 09/08/2023 the soil boring was plugged and abandoned using hydrated bentonite chips.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	-	-	N	-	-	10	SP-SM	(10') SAND: fine grained silty sand, poorly graded, tan to medium brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	20	SP-SM	(20') SAND: fine grained silty sand, trace amounts small gravel, poorly graded, tan to reddish brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	30	SP-SM	(30') SAND: fine grained silty sand, moderate amounts small to medium gravel, poorly graded, reddish brown, non plastic, non cohesive, no			
Dry	-	-	N	-	-	40	SP-SM	(40') SAND: SAA with trace amounts of CHT like material			
Dry	-	-	N	-	-	50	SP-SM	(50') SAND: fine grained silty sand, trace amounts small gravel, poorly graded, reddish brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	60	SP-SM	(60') SAND: fine grained silty sand, trace amounts small gravel, poorly graded, medium brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	70	SP-SM	(70') SAND: fine grained silty sand, trace amounts small gravel, poorly graded, medium brown to dark grey, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	80	GP-GM	(80') GRAVEL: medium grained, trace amount silty sand, poorly graded, dark grey to light grey, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	90	GP-GM	(90') GRAVEL: medium grained, trace amount silty sand, poorly graded, light grey to medium brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	100	SP-SM	(100') SAND: fine grained, trace amount small to medium gravel, poorly graded, medium brown, non plastic, non cohesive, no odor.			
Dry	-	-	N	-	-	106	SP-SM	(106') SAND: fine grained, trace amount small to medium gravel, poorly graded, dark brown, non plastic, non cohesive, no odor.			
Total Depth @ 106 feet bgs											



APPENDIX B

Photographic Log



Photographic Log

Maverick Natural Resources, LLC

MCA 95

NAPP2306757137



Photograph 1 Date: 02/22/23

Description: Impacted soil before remediation

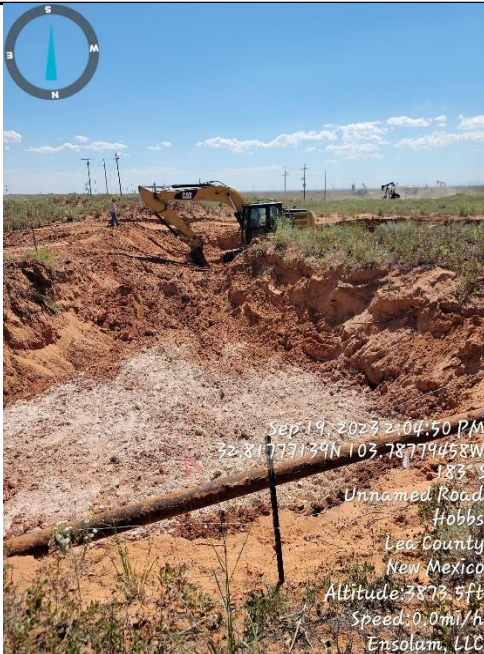
View: North



Photograph 2 Date: 02/22/23

Description: Impacted soil before remediation

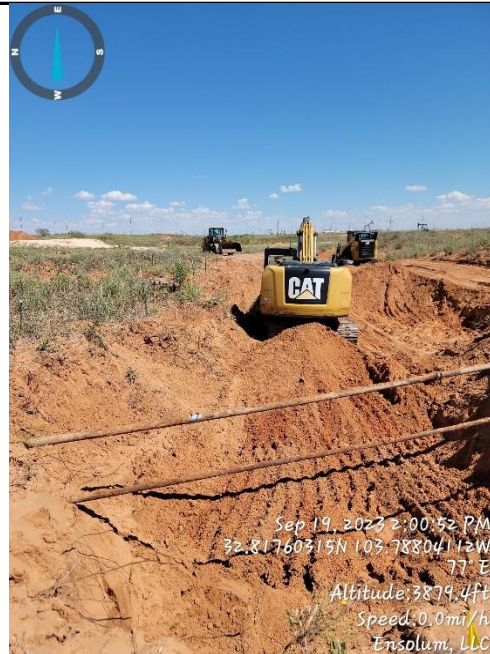
View: West



Photograph 3 Date: 09/19/23

Description: Excavation in progress

View: South



Photograph 4 Date: 09/19/23

Description: Excavation in progress

View: East

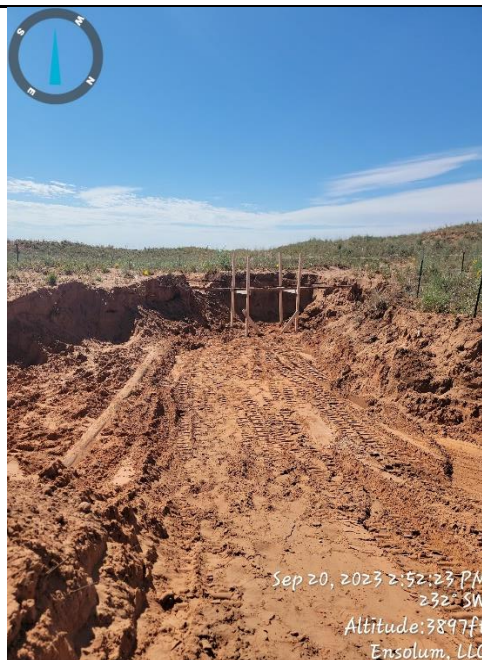


Photographic Log
Maverick Permian, LLC
MCA 95
NAPP2306757137



Photograph 1
Description: Completed excavation
View: Northeast

Date: 9/19/2023



Photograph 2
Description: Completed excavation
View: West

Date: 9/20/2023



Photograph 3
Description: Completed excavation
View: North

Date: 9/20/2023



Photograph 4
Description: Completed excavation
View: Southeast

Date: 9/20/2023



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 20, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 95

Enclosed are the results of analyses for samples received by the laboratory on 09/15/23 14:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/15/2023	Sampling Date:	09/15/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 95	Sampling Condition:	Cool & Intact
Project Number:	03D2057075	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK (32.817529-103.787126)		

Sample ID: FS 01 4' (H235010-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00	
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83	
Ethylbenzene*	0.083	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40	
Total BTX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 129 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/18/2023	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	18.7	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	520	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	80.9	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/15/2023
 Reported: 09/20/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/15/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 01 0-4' (H235010-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00	
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40	
Total BTX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 73.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

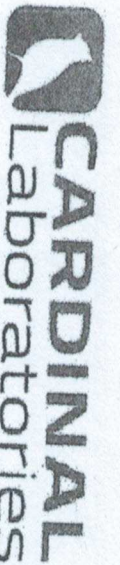
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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Project Manager: Aimee Cole Address: 3122 National Parks Hwy City: Carlsbad State: NM zip: 88220 Phone #: 720 384 7306 Fax #: Project #: 63D205 7075 Project Owner: Navarich Project Name: MCA 95 Project Location: 32.817524, -103.787126 Sampler Name: Ronn. Hughes		BILL TO P.O. #: Company: Attn: Aimee Cole Address: City: State: zip: Phone #: Fax #:	
FOR LAB USE ONLY Lab I.D. H235010 Sample I.D. ES01 Depth (feet) 4 (G)RAB OR (C)OMP. C # CONTAINERS 1 MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER: DATE 9/18/23 TIME 1225 TPH BTEX CI-		ANALYSIS REQUEST	
PLEASE NOTE: Liability and Damages. Cardinal's liability and clients exclude remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits, incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal. Regardless of whether such claim is based upon any of the above stated reasons or otherwise.		Relinquished By: [Signature] Date: 9/18/23 Received By: [Signature] Date: 9/18/23 Time: 14:32 Received By: [Signature]	
Relinquished By: [Signature] Date: 9/18/23 Time: 14:32 Received By: [Signature]		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #440 #1140 Corrosion Factor: 45°C Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 9.9°C Corrected Temp. °C Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	
REMARKS: aco@ensolum.com; j.falcone@ensolum.com Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address:			

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 26, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 95

Enclosed are the results of analyses for samples received by the laboratory on 09/20/23 11:57.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/18/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 02 @ 4' (H235095-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.11	106	2.00	1.17	
Toluene*	<0.050	0.050	09/21/2023	ND	2.16	108	2.00	1.48	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.12	106	2.00	1.56	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.44	107	6.00	1.98	
Total BTX	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/20/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	195	97.4	200	2.91	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	211	105	200	0.815	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/18/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 03 @ 4' (H235095-02)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/21/2023	ND	2.11	106	2.00	1.17		
Toluene*	<0.050	0.050	09/21/2023	ND	2.16	108	2.00	1.48		
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.12	106	2.00	1.56		
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.44	107	6.00	1.98		
Total BTEx	<0.300	0.300	09/21/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/20/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/21/2023	ND	195	97.4	200	2.91	
DRO >C10-C28*	<10.0	10.0	09/21/2023	ND	211	105	200	0.815	
EXT DRO >C28-C36	<10.0	10.0	09/21/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/18/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 04 @ 4' (H235095-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.11	106	2.00	1.17	
Toluene*	<0.050	0.050	09/21/2023	ND	2.16	108	2.00	1.48	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.12	106	2.00	1.56	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.44	107	6.00	1.98	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/21/2023	ND	195	97.4	200	2.91	
DRO >C10-C28*	16.5	10.0	09/21/2023	ND	211	105	200	0.815	
EXT DRO >C28-C36	<10.0	10.0	09/21/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 05 @ 6' (H235095-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.11	106	2.00	1.17	
Toluene*	<0.050	0.050	09/21/2023	ND	2.16	108	2.00	1.48	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.12	106	2.00	1.56	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.44	107	6.00	1.98	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/21/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/21/2023	ND	195	97.4	200	2.91	
DRO >C10-C28*	14.3	10.0	09/21/2023	ND	211	105	200	0.815	
EXT DRO >C28-C36	<10.0	10.0	09/21/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
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Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 06 @ 6' (H235095-05)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/21/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 07 @ 6' (H235095-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTX	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 86.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 08 @ 6' (H235095-07)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/21/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 09 @ 4' (H235095-08)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/21/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 10 @ 4' (H235095-09)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	15.3	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 11 @ 6' (H235095-10)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 12 @ 6' (H235095-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 13 @ 1' (H235095-12)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/20/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/20/2023	ND					

Surrogate: 1-Chlorooctane 92.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/20/2023
 Reported: 09/26/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/19/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: FS 14 @ 4' (H235095-13)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/21/2023	ND	2.06	103	2.00	0.135	
Toluene*	<0.050	0.050	09/21/2023	ND	2.10	105	2.00	0.217	
Ethylbenzene*	<0.050	0.050	09/21/2023	ND	2.07	103	2.00	0.772	
Total Xylenes*	<0.150	0.150	09/21/2023	ND	6.32	105	6.00	2.26	
Total BTEx	<0.300	0.300	09/21/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2023	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/21/2023	ND	233	116	200	5.18	
DRO >C10-C28*	<10.0	10.0	09/21/2023	ND	231	115	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	09/21/2023	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ARSOLUM, LLC Project Manager: Amy Bell Address: 6122 Nat Parks Hwy City: Lordsburg State: NM zip: 88020 Phone #: 720-844-7365 Fax #: - Project #: 08D2057075 Project Owner: Muenich Project Name: M09 95 Project Location: 32.817529 -108.75126 Sampler Name: J. Falconer Falconer		BILL TO P.O. #: A.A Company: Attn: Address: City: State: Zip: Phone #: Fax #:		ANALYSIS REQUEST	
FOR LAB USE ONLY Lab I.D. H235095 Sample I.D.		MATRIX (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		PRESERV. SAMPLING	
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or successors. "Ting out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based in, or any of the above stated reasons or otherwise.		DATE TIME		ANALYSIS REQUEST	
Relinquished By: [Signature] Relinquished By: [Signature] Date: 9/20/23 Time: 11:57 Received By: [Signature] Date: 9/19/23 Time: 11:30		DATE TIME		ANALYSIS REQUEST	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 3.32 Corrected Temp. °C		Sample Condition Cool/Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #140 Correction Factor 0°C		CHECKED BY: (Initials) [Signature]		Bacteria (only) Sample Condition Cool/Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	
REMARKS: All Results are emailed. Please provide Email address: arsolum.com, j.falconer@arsolum.com		BTEX TPH Chlorides			

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 27, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 95

Enclosed are the results of analyses for samples received by the laboratory on 09/22/23 12:57.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 02 @ 0-4' (H235172-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14	
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37	
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94	
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19	
Total BTEX	<0.300	0.300	09/25/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 76.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 03 @ 0-4' (H235172-02)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTEx	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 77.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/22/2023	Sampling Date:	09/21/2023
Reported:	09/27/2023	Sampling Type:	Soil
Project Name:	MCA 95	Sampling Condition:	Cool & Intact
Project Number:	03D2057075	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK (32.817529-103.787126)		

Sample ID: SW 04 @ 0-4' (H235172-03)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 77.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/22/2023	Sampling Date:	09/21/2023
Reported:	09/27/2023	Sampling Type:	Soil
Project Name:	MCA 95	Sampling Condition:	Cool & Intact
Project Number:	03D2057075	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK (32.817529-103.787126)		

Sample ID: SW 05 @ 0-4' (H235172-04)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 79.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 06 @ 0-4' (H235172-05)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14	
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37	
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94	
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19	
Total BTEx	<0.300	0.300	09/25/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 78.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 07 @ 0-4' (H235172-06)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTEx	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 79.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 07 @ 4-6' (H235172-07)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTEx	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 79.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 08 @ 0-4' (H235172-08)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 77.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 08 @ 4-6' (H235172-09)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 73.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 09 @ 0-4' (H235172-10)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 75.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received: 09/22/2023
 Reported: 09/27/2023
 Project Name: MCA 95
 Project Number: 03D2057075
 Project Location: MAVERICK (32.817529-103.787126)

Sampling Date: 09/21/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: SW 09 @ 4-6' (H235172-11)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2023	ND	1.95	97.5	2.00	4.14		
Toluene*	<0.050	0.050	09/25/2023	ND	2.05	102	2.00	5.37		
Ethylbenzene*	<0.050	0.050	09/25/2023	ND	2.20	110	2.00	4.94		
Total Xylenes*	<0.150	0.150	09/25/2023	ND	6.00	100	6.00	5.19		
Total BTX	<0.300	0.300	09/25/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/25/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2023	ND	189	94.3	200	3.12	
DRO >C10-C28*	<10.0	10.0	09/25/2023	ND	204	102	200	0.0900	
EXT DRO >C28-C36	<10.0	10.0	09/25/2023	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYST'S REQUEST

Company Name: Enselum LLC							P.O. #: 479		BILL TO		ANALYSIS REQUEST							
Project Manager: Amber Bell							Company:											
Address: 6122 Nat'l Parks Hwy							Attn:											
City: Durbin							Address:											
State: NM Zip: 88220							Phone #:											
Phone #: 720-344-7305							Fax #:											
Project #: 08DQ051075							Project Owner: Mueser											
Project Name: MEA 495							City:											
Project Location: 32.41529 -108.78126							State:											
Sample Name: JUANITA FALCONMATE							Phone #:											
FOR LAB USE ONLY							Fax #:											
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.	SAMPLING								
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME		
H235172		SUD02	QD-Q1	C1	1	X									9/21/12	1350	X	BTEX
		SUD02	QD-Q1												1355		X	TPH
		SUD04	QD-Q1												1400		X	Chlorides
		SUD05	QD-Q1												1405			
		SUD06	QD-Q1												1410			
		SUD07	QD-Q1												1415			
		SUD07	QD-Q1												1420			
		SUD08	QD-Q1												1420			
		SUD09	QD-Q1												1420			

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Relinquished By: [Signature]		Date: 9/21/12	Received By:	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By: [Signature]		Date: 12:57	Received By: [Signature]	All Results are emailed. Please provide Email address:	
REMARKS: Meola@enselum.com, falconmate@enselum.com					

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 8.4°C Corrected Temp. °C:	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: (Initials) [Signature]	Turnaround Time:	Standard Rush <input checked="" type="checkbox"/>	Bacteria (only) Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	Sample Condition Observed Temp. °C Corrected Temp. °C
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 3/3/2023 1:03:32 PM

JOB DESCRIPTION

MCA 95/Maverick
SDG NUMBER 03D2057075

JOB NUMBER

890-4183-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
3/3/2023 1:03:32 PM

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

Client: Ensolum
Project/Site: MCA 95/Maverick

Laboratory Job ID: 890-4183-1
SDG: 03D2057075

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Qualifiers

GC 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.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Job ID: 890-4183-1**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative
890-4183-1****Receipt**

The samples were received on 2/23/2023 2:52 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 2.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4183-1) and SS02 (890-4183-2).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-25235-A-61-J MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS01 (890-4183-1) and SS02 (890-4183-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-47512 and analytical batch 880-47507 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS02 (890-4183-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-47616/1-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4197-A-10-H). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-47312 and analytical batch 880-47268 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS02 (890-4183-2). 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 and precision for preparation batch 880-47312 and analytical batch 880-47268 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.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47518 and analytical batch 880-47637 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: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Client Sample ID: SS01

Lab Sample ID: 890-4183-1

Date Collected: 02/22/23 15:20

Matrix: Solid

Date Received: 02/23/23 14:52

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.277		0.0996	mg/Kg		03/01/23 09:04	03/01/23 18:56	50
Toluene	0.242		0.0996	mg/Kg		03/01/23 09:04	03/01/23 18:56	50
Ethylbenzene	<0.0996	U	0.0996	mg/Kg		03/01/23 09:04	03/01/23 18:56	50
m-Xylene & p-Xylene	<0.199	U	0.199	mg/Kg		03/01/23 09:04	03/01/23 18:56	50
o-Xylene	<0.0996	U	0.0996	mg/Kg		03/01/23 09:04	03/01/23 18:56	50
Xylenes, Total	<0.199	U	0.199	mg/Kg		03/01/23 09:04	03/01/23 18:56	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	03/01/23 09:04	03/01/23 18:56	50
1,4-Difluorobenzene (Surr)	88		70 - 130	03/01/23 09:04	03/01/23 18:56	50

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.519		0.199	mg/Kg			03/02/23 09:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	253		49.9	mg/Kg			02/28/23 10:23	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		02/27/23 12:09	02/28/23 04:23	1
Diesel Range Organics (Over C10-C28)	253		49.9	mg/Kg		02/27/23 12:09	02/28/23 04:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/27/23 12:09	02/28/23 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	02/27/23 12:09	02/28/23 04:23	1
o-Terphenyl	95		70 - 130	02/27/23 12:09	02/28/23 04:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.0		4.96	mg/Kg			03/02/23 17:49	1

Client Sample ID: SS02

Lab Sample ID: 890-4183-2

Date Collected: 02/22/23 15:25

Matrix: Solid

Date Received: 02/23/23 14:52

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.80		0.101	mg/Kg		03/01/23 09:04	03/01/23 19:16	50
Toluene	83.4		0.990	mg/Kg		03/02/23 09:28	03/02/23 20:18	500
Ethylbenzene	119		0.990	mg/Kg		03/02/23 09:28	03/02/23 20:18	500
m-Xylene & p-Xylene	114		1.98	mg/Kg		03/02/23 09:28	03/02/23 20:18	500
o-Xylene	47.8		0.990	mg/Kg		03/02/23 09:28	03/02/23 20:18	500
Xylenes, Total	162		1.98	mg/Kg		03/02/23 09:28	03/02/23 20:18	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	423	S1+	70 - 130	03/01/23 09:04	03/01/23 19:16	50

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Client Sample ID: SS02

Lab Sample ID: 890-4183-2

Date Collected: 02/22/23 15:25

Matrix: Solid

Date Received: 02/23/23 14:52

Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	84		70 - 130	03/01/23 09:04	03/01/23 19:16	50

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	367		1.98	mg/Kg			03/02/23 09:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	13500		500	mg/Kg			02/28/23 10:23	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	4270		500	mg/Kg		02/27/23 12:09	02/28/23 04:02	10
Diesel Range Organics (Over C10-C28)	9200		500	mg/Kg		02/27/23 12:09	02/28/23 04:02	10
Oil Range Organics (Over C28-C36)	<500	U	500	mg/Kg		02/27/23 12:09	02/28/23 04:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	140	S1+	70 - 130	02/27/23 12:09	02/28/23 04:02	10
o-Terphenyl	210	S1+	70 - 130	02/27/23 12:09	02/28/23 04:02	10

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.2		5.05	mg/Kg			03/02/23 17:54	1

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Surrogate Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25235-A-61-J MS	Matrix Spike	131 S1+	105
880-25235-A-61-K MSD	Matrix Spike Duplicate	110	104
890-4183-1	SS01	139 S1+	88
890-4183-2	SS02	423 S1+	84
890-4197-A-10-F MS	Matrix Spike	102	106
890-4197-A-10-G MSD	Matrix Spike Duplicate	108	110
LCS 880-47512/1-A	Lab Control Sample	110	109
LCS 880-47616/1-A	Lab Control Sample	133 S1+	108
LCSD 880-47512/2-A	Lab Control Sample Dup	113	109
LCSD 880-47616/2-A	Lab Control Sample Dup	122	104
MB 880-47512/5-A	Method Blank	78	88
MB 880-47616/5-A	Method Blank	83	83
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-25190-A-1-E MS	Matrix Spike	107	95
880-25190-A-1-F MSD	Matrix Spike Duplicate	110	97
890-4183-1	SS01	100	95
890-4183-2	SS02	140 S1+	210 S1+
LCS 880-47312/2-A	Lab Control Sample	95	92
LCSD 880-47312/3-A	Lab Control Sample Dup	94	89
MB 880-47312/1-A	Method Blank	142 S1+	149 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47512/5-A

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47512

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/01/23 09:04	03/01/23 11:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/01/23 09:04	03/01/23 11:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/01/23 09:04	03/01/23 11:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/01/23 09:04	03/01/23 11:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/01/23 09:04	03/01/23 11:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/01/23 09:04	03/01/23 11:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	03/01/23 09:04	03/01/23 11:23	1
1,4-Difluorobenzene (Surr)	88		70 - 130	03/01/23 09:04	03/01/23 11:23	1

Lab Sample ID: LCS 880-47512/1-A

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1239		mg/Kg		124	70 - 130
Toluene	0.100	0.1148		mg/Kg		115	70 - 130
Ethylbenzene	0.100	0.1181		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	0.200	0.2467		mg/Kg		123	70 - 130
o-Xylene	0.100	0.1213		mg/Kg		121	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-47512/2-A

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1227		mg/Kg		123	70 - 130	1	35
Toluene	0.100	0.1126		mg/Kg		113	70 - 130	2	35
Ethylbenzene	0.100	0.1182		mg/Kg		118	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.2506		mg/Kg		125	70 - 130	2	35
o-Xylene	0.100	0.1236		mg/Kg		124	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-25235-A-61-J MS

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0990	0.09565		mg/Kg		97	70 - 130
Toluene	<0.00200	U	0.0990	0.1047		mg/Kg		106	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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

Lab Sample ID: 880-25235-A-61-J MS

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0990	0.1212		mg/Kg		122	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.198	0.2589	F1	mg/Kg		131	70 - 130
o-Xylene	<0.00200	U F1	0.0990	0.1302	F1	mg/Kg		132	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-25235-A-61-K MSD

Matrix: Solid

Analysis Batch: 47507

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47512

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1051		mg/Kg		105	70 - 130	9	35
Toluene	<0.00200	U	0.100	0.1030		mg/Kg		103	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.100	0.1087		mg/Kg		108	70 - 130	11	35
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.2271		mg/Kg		113	70 - 130	13	35
o-Xylene	<0.00200	U F1	0.100	0.1124		mg/Kg		112	70 - 130	15	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-47616/5-A

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47616

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/02/23 09:28	03/02/23 11:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/02/23 09:28	03/02/23 11:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/02/23 09:28	03/02/23 11:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/02/23 09:28	03/02/23 11:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/02/23 09:28	03/02/23 11:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/02/23 09:28	03/02/23 11:08	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	03/02/23 09:28	03/02/23 11:08	1
1,4-Difluorobenzene (Surr)	83		70 - 130	03/02/23 09:28	03/02/23 11:08	1

Lab Sample ID: LCS 880-47616/1-A

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08324		mg/Kg		83	70 - 130
Toluene	0.100	0.08248		mg/Kg		82	70 - 130
Ethylbenzene	0.100	0.09740		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.2063		mg/Kg		103	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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

Lab Sample ID: LCS 880-47616/1-A

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.1060		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-47616/2-A

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.08959		mg/Kg		90	70 - 130	7	35
Toluene	0.100	0.08981		mg/Kg		90	70 - 130	9	35
Ethylbenzene	0.100	0.1040		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2008		mg/Kg		100	70 - 130	3	35
o-Xylene	0.100	0.1017		mg/Kg		102	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-4197-A-10-F MS

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47616

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.100	0.1166		mg/Kg		114	70 - 130
Toluene	0.00371		0.100	0.1033		mg/Kg		99	70 - 130
Ethylbenzene	0.00518		0.100	0.1059		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.00916		0.201	0.2144		mg/Kg		102	70 - 130
o-Xylene	0.00634		0.100	0.1057		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-4197-A-10-G MSD

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47616

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00202	U	0.0990	0.1227		mg/Kg		122	70 - 130	5	35
Toluene	0.00371		0.0990	0.1085		mg/Kg		106	70 - 130	5	35
Ethylbenzene	0.00518		0.0990	0.1109		mg/Kg		107	70 - 130	5	35
m-Xylene & p-Xylene	0.00916		0.198	0.2277		mg/Kg		110	70 - 130	6	35
o-Xylene	0.00634		0.0990	0.1131		mg/Kg		108	70 - 130	7	35

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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

Lab Sample ID: 890-4197-A-10-G MSD

Matrix: Solid

Analysis Batch: 47603

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47616

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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

Lab Sample ID: MB 880-47312/1-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47312

Analyte	MB	MB							
	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil	Fac
1-Chlorooctane	142	S1+	70 - 130			02/27/23 12:09	02/27/23 19:55	1	
o-Terphenyl	149	S1+	70 - 130			02/27/23 12:09	02/27/23 19:55	1	

Lab Sample ID: LCS 880-47312/2-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike	LCS	LCS					%Rec	
	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	964.1		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	976.9		mg/Kg		98	70 - 130		
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	95		70 - 130						
o-Terphenyl	92		70 - 130						

Lab Sample ID: LCSD 880-47312/3-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike	LCSD	LCSD				%Rec		RPD
	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1033		mg/Kg		103	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1011		mg/Kg		101	70 - 130	3	20
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	94		70 - 130						
o-Terphenyl	89		70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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

Lab Sample ID: 880-25190-A-1-E MS

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	916.2		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	157	F1 F2	998	742.2	F1	mg/Kg		59	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	107		70 - 130						
o-Terphenyl	95		70 - 130						

Lab Sample ID: 880-25190-A-1-F MSD

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	952.3		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	157	F1 F2	999	1035	F2	mg/Kg		88	70 - 130	33	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	97		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47518/1-A

Matrix: Solid

Analysis Batch: 47637

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			03/02/23 15:29	1

Lab Sample ID: LCS 880-47518/2-A

Matrix: Solid

Analysis Batch: 47637

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.4		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-47518/3-A

Matrix: Solid

Analysis Batch: 47637

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	251.2		mg/Kg		100	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-25169-A-11-C MS										Client Sample ID: Matrix Spike			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 47637													
	Sample	Sample	Spike	MS	MS				%Rec				
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits				
Chloride	153	F1	249	340.0	F1	mg/Kg		75	90 - 110				

Lab Sample ID: 880-25169-A-11-D MSD										Client Sample ID: Matrix Spike Duplicate			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 47637													
	Sample	Sample	Spike	MSD	MSD				%Rec			RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD		Limit	
Chloride	153	F1	249	341.4	F1	mg/Kg		76	90 - 110	0		20	

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

GC VOA

Analysis Batch: 47507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	8021B	47512
890-4183-2	SS02	Total/NA	Solid	8021B	47512
MB 880-47512/5-A	Method Blank	Total/NA	Solid	8021B	47512
LCS 880-47512/1-A	Lab Control Sample	Total/NA	Solid	8021B	47512
LCSD 880-47512/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47512
880-25235-A-61-J MS	Matrix Spike	Total/NA	Solid	8021B	47512
880-25235-A-61-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47512

Prep Batch: 47512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	5035	
890-4183-2	SS02	Total/NA	Solid	5035	
MB 880-47512/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47512/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47512/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25235-A-61-J MS	Matrix Spike	Total/NA	Solid	5035	
880-25235-A-61-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-2	SS02	Total/NA	Solid	8021B	47616
MB 880-47616/5-A	Method Blank	Total/NA	Solid	8021B	47616
LCS 880-47616/1-A	Lab Control Sample	Total/NA	Solid	8021B	47616
LCSD 880-47616/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47616
890-4197-A-10-F MS	Matrix Spike	Total/NA	Solid	8021B	47616
890-4197-A-10-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47616

Prep Batch: 47616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-2	SS02	Total/NA	Solid	5035	
MB 880-47616/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47616/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47616/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4197-A-10-F MS	Matrix Spike	Total/NA	Solid	5035	
890-4197-A-10-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	Total BTEX	
890-4183-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	8015B NM	47312
890-4183-2	SS02	Total/NA	Solid	8015B NM	47312
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015B NM	47312
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47312
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47312
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	47312

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QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

GC Semi VOA (Continued)

Analysis Batch: 47268 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47312

Prep Batch: 47312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	8015NM Prep	
890-4183-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Total/NA	Solid	8015 NM	
890-4183-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 47518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Soluble	Solid	DI Leach	
890-4183-2	SS02	Soluble	Solid	DI Leach	
MB 880-47518/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47518/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47518/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-25169-A-11-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25169-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4183-1	SS01	Soluble	Solid	300.0	47518
890-4183-2	SS02	Soluble	Solid	300.0	47518
MB 880-47518/1-A	Method Blank	Soluble	Solid	300.0	47518
LCS 880-47518/2-A	Lab Control Sample	Soluble	Solid	300.0	47518
LCSD 880-47518/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47518
880-25169-A-11-C MS	Matrix Spike	Soluble	Solid	300.0	47518
880-25169-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47518

Lab Chronicle

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Client Sample ID: SS01
Date Collected: 02/22/23 15:20
Date Received: 02/23/23 14:52

Lab Sample ID: 890-4183-1
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	47512	03/01/23 09:04	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	47507	03/01/23 18:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47623	03/02/23 09:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			47415	02/28/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47312	02/27/23 12:09	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47268	02/28/23 04:23	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	47518	03/01/23 10:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47637	03/02/23 17:49	CH	EET MID

Client Sample ID: SS02
Date Collected: 02/22/23 15:25
Date Received: 02/23/23 14:52

Lab Sample ID: 890-4183-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	47512	03/01/23 09:04	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	47507	03/01/23 19:16	MNR	EET MID
Total/NA	Prep	5035			5.05 g	5 mL	47616	03/02/23 09:28	MNR	EET MID
Total/NA	Analysis	8021B		500	5 mL	5 mL	47603	03/02/23 20:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47623	03/02/23 09:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			47415	02/28/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47312	02/27/23 12:09	AJ	EET MID
Total/NA	Analysis	8015B NM		10	1 uL	1 uL	47268	02/28/23 04:02	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	47518	03/01/23 10:40	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47637	03/02/23 17:54	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: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4183-1
SDG: 03D2057075

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4183-1	SS01	Solid	02/22/23 15:20	02/23/23 14:52	0.5'
890-4183-2	SS02	Solid	02/22/23 15:25	02/23/23 14:52	0.5'

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Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Josh Adams	Bill to: (if different)	a.a.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jadams@ensolum.com

Work Order Comments	
Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____	

Project Name:	MCA 95/Maverick	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	0302057075	Due Date:			
Project Location:	32.817529, -103.787126	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Juliana Falconata				
PO #:					
SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:			
Cooler Custody Seals:	Yes No	Correction Factor:			
Sample Custody Seals:	Yes No	Temperature Reading:			
Total Containers:		Corrected Temperature:			



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
5501	S	2-11-23	1520	0.5'	0	1	CHLORIDES (EPA: 300.0)		None: NO	DI Water: H ₂ O
5502	S	2-11-23	1525	0.5'	0	1	TPH (8015)		Cool: Cool	MeOH: Me
							BTEX (8021)		HCL: HC	HNO ₃ : HN
									H ₂ SO ₄ : H ₂	NaOH: Na
									H ₃ PO ₄ : HP	
									NaHSO ₄ : NABIS	
									Na ₂ S ₂ O ₃ : NaSO ₃	
									Zn Acetate+NaOH: Zn	
									NaOH+Ascorbic Acid: SACP	

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 SiO₂ Na Sr Ti 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 Ti U Hg: 1631 / 245, 1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2-23-23 1452			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4183-1

SDG Number: 03D2057075

Login Number: 4183

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: 890-4183-1

SDG Number: 03D2057075

Login Number: 4183

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/27/23 08:59 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 3/7/2023 1:12:54 PM

JOB DESCRIPTION

MCA 95/Maverick
SDG NUMBER 03D2057075

JOB NUMBER

890-4184-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
3/7/2023 1:12:54 PM

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

Client: Ensolum
Project/Site: MCA 95/Maverick

Laboratory Job ID: 890-4184-1
SDG: 03D2057075

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Job ID: 890-4184-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-4184-1

Receipt

The sample was received on 2/23/2023 2:52 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-4184-1).

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 880-47298 and analytical batch 880-47263 was outside the upper control 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.

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Client Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Client Sample ID: SS03

Lab Sample ID: 890-4184-1

Date Collected: 02/22/23 15:30

Matrix: Solid

Date Received: 02/23/23 14:52

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		02/28/23 10:10	03/01/23 18:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:10	03/01/23 18:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:10	03/01/23 18:20	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/28/23 10:10	03/01/23 18:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:10	03/01/23 18:20	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/28/23 10:10	03/01/23 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	02/28/23 10:10	03/01/23 18:20	1
1,4-Difluorobenzene (Surr)	99		70 - 130	02/28/23 10:10	03/01/23 18:20	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			03/07/23 13:34	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			02/28/23 11:34	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		02/27/23 10:15	02/28/23 04:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/27/23 10:15	02/28/23 04:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/27/23 10:15	02/28/23 04:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	02/27/23 10:15	02/28/23 04:58	1
o-Terphenyl	99		70 - 130	02/27/23 10:15	02/28/23 04:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.05	U	5.05	mg/Kg			02/28/23 15:53	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25235-A-57-A MS	Matrix Spike	101	92
880-25235-A-57-B MSD	Matrix Spike Duplicate	92	91
890-4184-1	SS03	130	99
LCS 880-47407/1-A	Lab Control Sample	116	113
LCSD 880-47407/2-A	Lab Control Sample Dup	115	94
MB 880-47406/5-A	Method Blank	71	98
MB 880-47407/5-A	Method Blank	77	87
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4174-A-1-B MS	Matrix Spike	90	94
890-4174-A-1-C MSD	Matrix Spike Duplicate	90	94
890-4184-1	SS03	89	99
LCS 880-47298/2-A	Lab Control Sample	79	94
LCSD 880-47298/3-A	Lab Control Sample Dup	78	96
MB 880-47298/1-A	Method Blank	145 S1+	166 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47406/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47406

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	02/28/23 10:00	02/28/23 18:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130	02/28/23 10:00	02/28/23 18:07	1

Lab Sample ID: MB 880-47407/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47407

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	02/28/23 09:06	03/01/23 08:16	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/28/23 09:06	03/01/23 08:16	1

Lab Sample ID: LCS 880-47407/1-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1299		mg/Kg		130	70 - 130
Toluene	0.100	0.1134		mg/Kg		113	70 - 130
Ethylbenzene	0.100	0.1103		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	0.200	0.2222		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1182		mg/Kg		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1307	*+	mg/Kg		131	70 - 130	1	35

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

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

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.1225		mg/Kg		123	70 - 130	8	35
Ethylbenzene	0.100	0.1184		mg/Kg		118	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2364		mg/Kg		118	70 - 130	6	35
o-Xylene	0.100	0.1265		mg/Kg		127	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-25235-A-57-A MS

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U *+ F1 F2	0.100	0.05538	F1	mg/Kg		55	70 - 130
Toluene	<0.00201	U F1 F2	0.100	0.05165	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00201	U F1 F2	0.100	0.04858	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1032	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F1 F2	0.100	0.05892	F1	mg/Kg		59	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 880-25235-A-57-B MSD

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U *+ F1 F2	0.0990	0.03508	F1 F2	mg/Kg		35	70 - 130	45	35
Toluene	<0.00201	U F1 F2	0.0990	0.03284	F1 F2	mg/Kg		33	70 - 130	45	35
Ethylbenzene	<0.00201	U F1 F2	0.0990	0.03140	F1 F2	mg/Kg		32	70 - 130	43	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.07209	F1	mg/Kg		36	70 - 130	35	35
o-Xylene	<0.00201	U F1 F2	0.0990	0.03917	F1 F2	mg/Kg		40	70 - 130	40	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

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

Lab Sample ID: MB 880-47298/1-A

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47298

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		02/27/23 10:15	02/27/23 20:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 10:15	02/27/23 20:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 10:15	02/27/23 20:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	145	S1+	70 - 130			02/27/23 10:15	02/27/23 20:00	1
o-Terphenyl	166	S1+	70 - 130			02/27/23 10:15	02/27/23 20:00	1

Lab Sample ID: LCS 880-47298/2-A

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47298

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	862.0		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	942.0		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	79		70 - 130				
o-Terphenyl	94		70 - 130				

Lab Sample ID: LCSD 880-47298/3-A

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47298

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	886.3		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1022		mg/Kg		102	70 - 130	8	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	78		70 - 130						
o-Terphenyl	96		70 - 130						

Lab Sample ID: 890-4174-A-1-B MS

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47298

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	842.5		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	968.5		mg/Kg		95	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

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

Lab Sample ID: 890-4174-A-1-B MS

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47298

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 890-4174-A-1-C MSD

Matrix: Solid

Analysis Batch: 47263

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47298

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	881.4		mg/Kg		86	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	966.4		mg/Kg		95	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	90		70 - 130								
o-Terphenyl	94		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47347/1-A

Matrix: Solid

Analysis Batch: 47423

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			02/28/23 13:50	1

Lab Sample ID: LCS 880-47347/2-A

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	225.2		mg/Kg		90	90 - 110

Lab Sample ID: LCSD 880-47347/3-A

Matrix: Solid

Analysis Batch: 47423

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	229.1		mg/Kg		92	90 - 110	2	20

Lab Sample ID: 890-4182-A-6-E MS

Matrix: Solid

Analysis Batch: 47423

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	14.4		249	250.2		mg/Kg		95	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4182-A-6-F MSD					Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 47423												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	14.4		249	249.2		mg/Kg		94	90 - 110	0	20	

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

GC VOA

Prep Batch: 47406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47406/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 47407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	5035	
MB 880-47407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	5035	
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	8021B	47407
MB 880-47406/5-A	Method Blank	Total/NA	Solid	8021B	47406
MB 880-47407/5-A	Method Blank	Total/NA	Solid	8021B	47407
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	8021B	47407
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47407
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	8021B	47407
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47407

Analysis Batch: 48040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	8015B NM	47298
MB 880-47298/1-A	Method Blank	Total/NA	Solid	8015B NM	47298
LCS 880-47298/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47298
LCSD 880-47298/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47298
890-4174-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	47298
890-4174-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47298

Prep Batch: 47298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-47298/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47298/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47298/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4174-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4174-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

HPLC/IC

Leach Batch: 47347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Soluble	Solid	DI Leach	
MB 880-47347/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4184-1	SS03	Soluble	Solid	300.0	47347
MB 880-47347/1-A	Method Blank	Soluble	Solid	300.0	47347
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	300.0	47347
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47347
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	47347
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47347

Lab Chronicle

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Client Sample ID: SS03
Date Collected: 02/22/23 15:30
Date Received: 02/23/23 14:52

Lab Sample ID: 890-4184-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	47407	02/28/23 10:10	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47466	03/01/23 18:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48040	03/07/23 13:34	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47428	02/28/23 11:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47298	02/27/23 10:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47263	02/28/23 04:58	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	47347	02/27/23 15:44	KS	EET MID
Soluble	Analysis	300.0		1			47423	02/28/23 15:53	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4184-1
SDG: 03D2057075

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4184-1	SS03	Solid	02/22/23 15:30	02/23/23 14:52	0.5'

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



Environment Test
Xenco

Houston, TX (261) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No:

Page 1 of 1
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Project Manager:	Josh Adams	Bill to: (if different)	a.a.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jadams@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

[illegible][illegible]

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

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 \$5.00 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
		2-23-23 11:56			
		4			
		6			

Revised Date 08/25/2020 Raw 2020

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4184-1

SDG Number: 03D2057075

Login Number: 4184

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: 890-4184-1

SDG Number: 03D2057075

Login Number: 4184

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/27/23 08:59 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 3/7/2023 1:12:54 PM

JOB DESCRIPTION

MCA 95/Maverick
SDG NUMBER 03D2057075

JOB NUMBER

890-4185-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
3/7/2023 1:12:54 PM

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

Client: Ensolum
Project/Site: MCA 95/Maverick

Laboratory Job ID: 890-4185-1
SDG: 03D2057075

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Job ID: 890-4185-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-4185-1

Receipt

The sample was received on 2/23/2023 2:52 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4185-1).

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 880-47299 and analytical batch 880-47265 was outside the upper control 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.

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Client Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Client Sample ID: SS04

Lab Sample ID: 890-4185-1

Date Collected: 02/22/23 15:35

Matrix: Solid

Date Received: 02/23/23 14:52

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		02/28/23 10:10	03/01/23 18:45	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 18:45	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 18:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/28/23 10:10	03/01/23 18:45	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 18:45	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/28/23 10:10	03/01/23 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	02/28/23 10:10	03/01/23 18:45	1
1,4-Difluorobenzene (Surr)	88		70 - 130	02/28/23 10:10	03/01/23 18:45	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			03/07/23 13:34	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			02/28/23 12:06	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		02/27/23 10:18	02/28/23 04:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/27/23 10:18	02/28/23 04:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/27/23 10:18	02/28/23 04:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	02/27/23 10:18	02/28/23 04:58	1
o-Terphenyl	104		70 - 130	02/27/23 10:18	02/28/23 04:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/28/23 16:00	1

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Surrogate Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25235-A-57-A MS	Matrix Spike	101	92
880-25235-A-57-B MSD	Matrix Spike Duplicate	92	91
890-4185-1	SS04	130	88
LCS 880-47407/1-A	Lab Control Sample	116	113
LCSD 880-47407/2-A	Lab Control Sample Dup	115	94
MB 880-47406/5-A	Method Blank	71	98
MB 880-47407/5-A	Method Blank	77	87
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4185-1	SS04	84	104
890-4188-A-1-B MS	Matrix Spike	106	127
890-4188-A-1-C MSD	Matrix Spike Duplicate	108	125
LCS 880-47299/2-A	Lab Control Sample	107	129
LCSD 880-47299/3-A	Lab Control Sample Dup	93	117
MB 880-47299/1-A	Method Blank	146 S1+	191 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47406/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47406

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	02/28/23 10:00	02/28/23 18:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130	02/28/23 10:00	02/28/23 18:07	1

Lab Sample ID: MB 880-47407/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47407

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	02/28/23 09:06	03/01/23 08:16	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/28/23 09:06	03/01/23 08:16	1

Lab Sample ID: LCS 880-47407/1-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1299		mg/Kg		130	70 - 130
Toluene	0.100	0.1134		mg/Kg		113	70 - 130
Ethylbenzene	0.100	0.1103		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	0.200	0.2222		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1182		mg/Kg		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1307	*+	mg/Kg		131	70 - 130	1	35

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

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

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.1225		mg/Kg		123	70 - 130	8	35
Ethylbenzene	0.100	0.1184		mg/Kg		118	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2364		mg/Kg		118	70 - 130	6	35
o-Xylene	0.100	0.1265		mg/Kg		127	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-25235-A-57-A MS

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U *+ F1 F2	0.100	0.05538	F1	mg/Kg		55	70 - 130
Toluene	<0.00201	U F1 F2	0.100	0.05165	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00201	U F1 F2	0.100	0.04858	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1032	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F1 F2	0.100	0.05892	F1	mg/Kg		59	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 880-25235-A-57-B MSD

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U *+ F1 F2	0.0990	0.03508	F1 F2	mg/Kg		35	70 - 130	45	35
Toluene	<0.00201	U F1 F2	0.0990	0.03284	F1 F2	mg/Kg		33	70 - 130	45	35
Ethylbenzene	<0.00201	U F1 F2	0.0990	0.03140	F1 F2	mg/Kg		32	70 - 130	43	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.07209	F1	mg/Kg		36	70 - 130	35	35
o-Xylene	<0.00201	U F1 F2	0.0990	0.03917	F1 F2	mg/Kg		40	70 - 130	40	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

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

Lab Sample ID: MB 880-47299/1-A

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47299

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		02/27/23 10:18	02/27/23 20:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 10:18	02/27/23 20:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 10:18	02/27/23 20:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	146	S1+	70 - 130			02/27/23 10:18	02/27/23 20:00	1
o-Terphenyl	191	S1+	70 - 130			02/27/23 10:18	02/27/23 20:00	1

Lab Sample ID: LCS 880-47299/2-A

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47299

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1170		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1119		mg/Kg		112	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	107		70 - 130				
o-Terphenyl	129		70 - 130				

Lab Sample ID: LCSD 880-47299/3-A

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47299

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1164		mg/Kg		116	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	961.4		mg/Kg		96	70 - 130	15	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	93		70 - 130						
o-Terphenyl	117		70 - 130						

Lab Sample ID: 890-4188-A-1-B MS

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47299

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	907.4		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1075		mg/Kg		108	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

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

Lab Sample ID: 890-4188-A-1-B MS

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47299

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	127		70 - 130

Lab Sample ID: 890-4188-A-1-C MSD

Matrix: Solid

Analysis Batch: 47265

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47299

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	916.4		mg/Kg		90	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1071		mg/Kg		107	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	125		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47347/1-A

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00	mg/Kg			02/28/23 13:50	1		

Lab Sample ID: LCS 880-47347/2-A

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	250	225.2		mg/Kg		90	90 - 110		

Lab Sample ID: LCSD 880-47347/3-A

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	229.1		mg/Kg		92	90 - 110	2	20

Lab Sample ID: 890-4182-A-6-E MS

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Matrix Spike

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	14.4		249	250.2		mg/Kg		95	90 - 110	

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4182-A-6-F MSD					Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 47423												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	14.4		249	249.2		mg/Kg		94	90 - 110	0	20	

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

GC VOA

Prep Batch: 47406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47406/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 47407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	5035	
MB 880-47407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	5035	
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	8021B	47407
MB 880-47406/5-A	Method Blank	Total/NA	Solid	8021B	47406
MB 880-47407/5-A	Method Blank	Total/NA	Solid	8021B	47407
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	8021B	47407
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47407
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	8021B	47407
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47407

Analysis Batch: 48041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	8015B NM	47299
MB 880-47299/1-A	Method Blank	Total/NA	Solid	8015B NM	47299
LCS 880-47299/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47299
LCSD 880-47299/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47299
890-4188-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	47299
890-4188-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47299

Prep Batch: 47299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-47299/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47299/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47299/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4188-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4188-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

HPLC/IC

Leach Batch: 47347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Soluble	Solid	DI Leach	
MB 880-47347/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4185-1	SS04	Soluble	Solid	300.0	47347
MB 880-47347/1-A	Method Blank	Soluble	Solid	300.0	47347
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	300.0	47347
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47347
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	47347
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47347

Lab Chronicle

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Client Sample ID: SS04
Date Collected: 02/22/23 15:35
Date Received: 02/23/23 14:52

Lab Sample ID: 890-4185-1
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	47407	02/28/23 10:10	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47466	03/01/23 18:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48041	03/07/23 13:34	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47451	02/28/23 12:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47299	02/27/23 10:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47265	02/28/23 04:58	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	47347	02/27/23 15:44	KS	EET MID
Soluble	Analysis	300.0		1			47423	02/28/23 16:00	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: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4185-1
SDG: 03D2057075

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4185-1	SS04	Solid	02/22/23 15:35	02/23/23 14:52	0.5'

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Environment Testing
Xenoco

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) 986-3199


Chain of Custody

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	a.a.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jadams@ensolum.com



Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:	MCA 95/Maverick	Turn Around			
Project Number:	03D2057075	<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush		
Project Location:	32.817529, -103.787126	Due Date:			
Sampler's Name:	Juliana Falcomata	TAT starts the day received by the lab, if received by 4:30pm			
PO #:					
SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Samples Received Intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Thermometer ID:	11N-2007
	Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Correction Factor:	-0.03
	Sample Custody Seals:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Temperature Reading:	22
	Total Containers:			Corrected Temperature:	20
Parameters				Pres. Code	
RIDES (EPA: 300.0)					
015)					
8021					
 890-4185 Chain of Custody					
ANALYSIS REQUEST					
Preservative Codes					
None: NO		DI Water: H ₂ O			
Cool: Cool		MeOH: Me			
HCL: HC		HNO ₃ : HN			
H ₂ SO ₄ : H ₂		NaOH: Na			
H ₃ PO ₄ : HP					
NaHSO ₄ : NABIS					
Na ₂ S ₂ O ₅ : NaSO ₃					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SACP					

[illegible]

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2.23.23 14:33			

Printed Date: 08/05/2023 Row: 2020

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4185-1

SDG Number: 03D2057075

Login Number: 4185

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: 890-4185-1

SDG Number: 03D2057075

Login Number: 4185

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/27/23 08:59 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 3/7/2023 1:13:51 PM

JOB DESCRIPTION

MCA 95/Maverick
SDG NUMBER 03D2057075

JOB NUMBER

890-4186-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/7/2023 1:13:51 PM

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

Client: Ensolum
Project/Site: MCA 95/Maverick

Laboratory Job ID: 890-4186-1
SDG: 03D2057075

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Job ID: 890-4186-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-4186-1

Receipt

The sample was received on 2/23/2023 2:52 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-4186-1).

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 880-47312 and analytical batch 880-47268 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47312 and analytical batch 880-47268 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.

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Client Sample ID: SS05

Lab Sample ID: 890-4186-1

Date Collected: 02/22/23 15:40

Matrix: Solid

Date Received: 02/23/23 14:52

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		02/28/23 10:10	03/01/23 19:11	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 19:11	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 19:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/28/23 10:10	03/01/23 19:11	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/28/23 10:10	03/01/23 19:11	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/28/23 10:10	03/01/23 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	02/28/23 10:10	03/01/23 19:11	1
1,4-Difluorobenzene (Surr)	89		70 - 130	02/28/23 10:10	03/01/23 19:11	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			03/07/23 13:34	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			02/28/23 10:23	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		02/27/23 12:09	02/28/23 03:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/28/23 03:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/28/23 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	02/27/23 12:09	02/28/23 03:22	1
o-Terphenyl	90		70 - 130	02/27/23 12:09	02/28/23 03:22	1

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			02/28/23 16:18	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25235-A-57-A MS	Matrix Spike	101	92
880-25235-A-57-B MSD	Matrix Spike Duplicate	92	91
890-4186-1	SS05	119	89
LCS 880-47407/1-A	Lab Control Sample	116	113
LCSD 880-47407/2-A	Lab Control Sample Dup	115	94
MB 880-47406/5-A	Method Blank	71	98
MB 880-47407/5-A	Method Blank	77	87
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-25190-A-1-E MS	Matrix Spike	107	95
880-25190-A-1-F MSD	Matrix Spike Duplicate	110	97
890-4186-1	SS05	90	90
LCS 880-47312/2-A	Lab Control Sample	95	92
LCSD 880-47312/3-A	Lab Control Sample Dup	94	89
MB 880-47312/1-A	Method Blank	142 S1+	149 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47406/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47406

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 10:00	02/28/23 18:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 10:00	02/28/23 18:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	02/28/23 10:00	02/28/23 18:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130	02/28/23 10:00	02/28/23 18:07	1

Lab Sample ID: MB 880-47407/5-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47407

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/28/23 09:06	03/01/23 08:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/28/23 09:06	03/01/23 08:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	02/28/23 09:06	03/01/23 08:16	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/28/23 09:06	03/01/23 08:16	1

Lab Sample ID: LCS 880-47407/1-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1299		mg/Kg		130	70 - 130
Toluene	0.100	0.1134		mg/Kg		113	70 - 130
Ethylbenzene	0.100	0.1103		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	0.200	0.2222		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1182		mg/Kg		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1307	*+	mg/Kg		131	70 - 130	1	35

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

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

Lab Sample ID: LCSD 880-47407/2-A

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.1225		mg/Kg		123	70 - 130	8	35
Ethylbenzene	0.100	0.1184		mg/Kg		118	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2364		mg/Kg		118	70 - 130	6	35
o-Xylene	0.100	0.1265		mg/Kg		127	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-25235-A-57-A MS

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U *+ F1 F2	0.100	0.05538	F1	mg/Kg		55	70 - 130
Toluene	<0.00201	U F1 F2	0.100	0.05165	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00201	U F1 F2	0.100	0.04858	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1032	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F1 F2	0.100	0.05892	F1	mg/Kg		59	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 880-25235-A-57-B MSD

Matrix: Solid

Analysis Batch: 47466

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U *+ F1 F2	0.0990	0.03508	F1 F2	mg/Kg		35	70 - 130	45	35
Toluene	<0.00201	U F1 F2	0.0990	0.03284	F1 F2	mg/Kg		33	70 - 130	45	35
Ethylbenzene	<0.00201	U F1 F2	0.0990	0.03140	F1 F2	mg/Kg		32	70 - 130	43	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.07209	F1	mg/Kg		36	70 - 130	35	35
o-Xylene	<0.00201	U F1 F2	0.0990	0.03917	F1 F2	mg/Kg		40	70 - 130	40	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

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

Lab Sample ID: MB 880-47312/1-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47312

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		02/27/23 12:09	02/27/23 19:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130			02/27/23 12:09	02/27/23 19:55	1
o-Terphenyl	149	S1+	70 - 130			02/27/23 12:09	02/27/23 19:55	1

Lab Sample ID: LCS 880-47312/2-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	964.1		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	976.9		mg/Kg		98	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	95		70 - 130				
o-Terphenyl	92		70 - 130				

Lab Sample ID: LCSD 880-47312/3-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1033		mg/Kg		103	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1011		mg/Kg		101	70 - 130	3	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	94		70 - 130						
o-Terphenyl	89		70 - 130						

Lab Sample ID: 880-25190-A-1-E MS

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	916.2		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	157	F1 F2	998	742.2	F1	mg/Kg		59	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

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

Lab Sample ID: 880-25190-A-1-E MS

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47312

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-25190-A-1-F MSD

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	952.3		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	157	F1 F2	999	1035	F2	mg/Kg		88	70 - 130	33	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	97		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47347/1-A

Matrix: Solid

Analysis Batch: 47423

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			02/28/23 13:50	1

Lab Sample ID: LCS 880-47347/2-A

Matrix: Solid

Analysis Batch: 47423

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	225.2		mg/Kg		90	90 - 110

Lab Sample ID: LCSD 880-47347/3-A

Matrix: Solid

Analysis Batch: 47423

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	229.1		mg/Kg		92	90 - 110	2	20

Lab Sample ID: 890-4182-A-6-E MS

Matrix: Solid

Analysis Batch: 47423

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	14.4		249	250.2		mg/Kg		95	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4182-A-6-F MSD					Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 47423												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	14.4		249	249.2		mg/Kg		94	90 - 110	0	20	

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

GC VOA

Prep Batch: 47406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47406/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 47407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	5035	
MB 880-47407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	5035	
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	8021B	47407
MB 880-47406/5-A	Method Blank	Total/NA	Solid	8021B	47406
MB 880-47407/5-A	Method Blank	Total/NA	Solid	8021B	47407
LCS 880-47407/1-A	Lab Control Sample	Total/NA	Solid	8021B	47407
LCSD 880-47407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47407
880-25235-A-57-A MS	Matrix Spike	Total/NA	Solid	8021B	47407
880-25235-A-57-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47407

Analysis Batch: 48042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	8015B NM	47312
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015B NM	47312
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47312
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47312
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	47312
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47312

Prep Batch: 47312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

HPLC/IC

Leach Batch: 47347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Soluble	Solid	DI Leach	
MB 880-47347/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4186-1	SS05	Soluble	Solid	300.0	47347
MB 880-47347/1-A	Method Blank	Soluble	Solid	300.0	47347
LCS 880-47347/2-A	Lab Control Sample	Soluble	Solid	300.0	47347
LCSD 880-47347/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47347
890-4182-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	47347
890-4182-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47347

Lab Chronicle

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Client Sample ID: SS05

Lab Sample ID: 890-4186-1

Date Collected: 02/22/23 15:40

Matrix: Solid

Date Received: 02/23/23 14:52

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	47407	02/28/23 10:10	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47466	03/01/23 19:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48042	03/07/23 13:34	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47413	02/28/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47312	02/27/23 12:09	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47268	02/28/23 03:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47347	02/27/23 15:44	KS	EET MID
Soluble	Analysis	300.0		1			47423	02/28/23 16:18	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: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4186-1
SDG: 03D2057075

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4186-1	SS05	Solid	02/22/23 15:40	02/23/23 14:52	0.5

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



Environment Testing
Xenoco

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


Chain of Custody

Work Order No:

Page 1 of 1
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Project Manager:	Josh Adams	Bill to: (if different)	a.a.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jadams@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:		MCA 95/Maverick		Turn Around			
Project Number:		03D057075		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush			
Project Location:		32.817529, -103.787126		Due Date:			
Sampler's Name:		Julianna Falcomata		TAT starts the day received by the lab, if received by 4:30pm			
PO #:				Wet Ice:		Yes No	
Temp Blank:		Yes No		Thermometer ID:		Yes No	
Samples Received Intact:		Yes No		Correction Factor:		-0.02	
Cooder Custody Seals:		Yes No N/A		Temperature Reading:		3.2	
Sample Custody Seals:		Yes No N/A		Corrected Temperature:		2.0	
Total Containers:							
Parameters				Pres. Code			
RIDES (EPA: 300.0)							
015)							
8021							
ANALYSIS REQUEST							
 890-4186 Chain of Custody							
None: NO				DI Water: H ₂ O			
Cool: Cool				MeOH: Me			
HCL: HC				HNO ₃ : HN			
H ₂ SO ₄ : H ₂				NaOH: Na			
H ₃ PO ₄ : HP							
NaHSO ₄ : NABIS							
Na ₂ S ₂ O ₃ : NASO ₃							
Zn Acetate+NaOH: Zn							
NaOH+Ascorbic Acid: SACP							

[illegible][illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xencio 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 service. A minimum charge of \$65.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xencio, 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
		8.23.23 1452			

Revised Date: 08/25/2020 Rev: 2020

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4186-1

SDG Number: 03D2057075

Login Number: 4186

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: 890-4186-1

SDG Number: 03D2057075

Login Number: 4186

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/27/23 08:59 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 3/6/2023 2:10:31 PM

JOB DESCRIPTION

MCA 95/Maverick
SDG NUMBER 03D2057075


JOB NUMBER

890-4187-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
3/6/2023 2:10:31 PM

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

Client: Ensolum
Project/Site: MCA 95/Maverick

Laboratory Job ID: 890-4187-1
SDG: 03D2057075

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

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.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Job ID: 890-4187-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-4187-1

Receipt

The sample was received on 2/23/2023 2:52 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-4187-1).

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 880-47312 and analytical batch 880-47268 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47312 and analytical batch 880-47268 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.

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Client Sample ID: SS06

Lab Sample ID: 890-4187-1

Date Collected: 02/22/23 15:45

Matrix: Solid

Date Received: 02/23/23 14:52

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		02/27/23 16:02	03/04/23 10:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/04/23 10:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/04/23 10:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/27/23 16:02	03/04/23 10:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/04/23 10:05	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/27/23 16:02	03/04/23 10:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			02/27/23 16:02	03/04/23 10:05	1
1,4-Difluorobenzene (Surr)	82		70 - 130			02/27/23 16:02	03/04/23 10:05	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			03/06/23 14:44	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			02/28/23 10:23	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		02/27/23 12:09	02/28/23 03:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/27/23 12:09	02/28/23 03:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/27/23 12:09	02/28/23 03:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			02/27/23 12:09	02/28/23 03:42	1
o-Terphenyl	90		70 - 130			02/27/23 12:09	02/28/23 03:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/01/23 04:03	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4172-A-1-E MS	Matrix Spike	95	100
890-4172-A-1-F MSD	Matrix Spike Duplicate	95	96
890-4187-1	SS06	105	82
LCS 880-47350/1-A	Lab Control Sample	96	95
LCSD 880-47350/2-A	Lab Control Sample Dup	99	103
MB 880-47350/5-A	Method Blank	88	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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-25190-A-1-E MS	Matrix Spike	107	95
880-25190-A-1-F MSD	Matrix Spike Duplicate	110	97
890-4187-1	SS06	91	90
LCS 880-47312/2-A	Lab Control Sample	95	92
LCSD 880-47312/3-A	Lab Control Sample Dup	94	89
MB 880-47312/1-A	Method Blank	142 S1+	149 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47350/5-A

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47350

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/03/23 13:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/03/23 13:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/03/23 13:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/27/23 16:02	03/03/23 13:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/27/23 16:02	03/03/23 13:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/27/23 16:02	03/03/23 13:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	02/27/23 16:02	03/03/23 13:34	1
1,4-Difluorobenzene (Surr)	92		70 - 130	02/27/23 16:02	03/03/23 13:34	1

Lab Sample ID: LCS 880-47350/1-A

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47350

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07188		mg/Kg		72	70 - 130
Toluene	0.100	0.07279		mg/Kg		73	70 - 130
Ethylbenzene	0.100	0.07111		mg/Kg		71	70 - 130
m-Xylene & p-Xylene	0.200	0.1463		mg/Kg		73	70 - 130
o-Xylene	0.100	0.07656		mg/Kg		77	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-47350/2-A

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47350

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1027		mg/Kg		103	70 - 130	35	35
Toluene	0.100	0.09741		mg/Kg		97	70 - 130	29	35
Ethylbenzene	0.100	0.08979		mg/Kg		90	70 - 130	23	35
m-Xylene & p-Xylene	0.200	0.1789		mg/Kg		89	70 - 130	20	35
o-Xylene	0.100	0.09257		mg/Kg		93	70 - 130	19	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-4172-A-1-E MS

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47350

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.08951		mg/Kg		89	70 - 130
Toluene	<0.00200	U	0.0996	0.08481		mg/Kg		85	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

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

Lab Sample ID: 890-4172-A-1-E MS

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47350

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.07843		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1548		mg/Kg		78	70 - 130
o-Xylene	<0.00200	U	0.0996	0.07879		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-4172-A-1-F MSD

Matrix: Solid

Analysis Batch: 47690

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47350

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.08430		mg/Kg		85	70 - 130	6	35
Toluene	<0.00200	U	0.0990	0.08118		mg/Kg		82	70 - 130	4	35
Ethylbenzene	<0.00200	U	0.0990	0.07650		mg/Kg		77	70 - 130	3	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1531		mg/Kg		77	70 - 130	1	35
o-Xylene	<0.00200	U	0.0990	0.07807		mg/Kg		78	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-47312/1-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47312

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		02/27/23 12:09	02/27/23 19:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/27/23 12:09	02/27/23 19:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	02/27/23 12:09	02/27/23 19:55	1
o-Terphenyl	149	S1+	70 - 130	02/27/23 12:09	02/27/23 19:55	1

Lab Sample ID: LCS 880-47312/2-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	964.1		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	976.9		mg/Kg		98	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

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

Lab Sample ID: LCS 880-47312/2-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47312

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

Lab Sample ID: LCSD 880-47312/3-A

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1033		mg/Kg		103	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1011		mg/Kg		101	70 - 130	3	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: 880-25190-A-1-E MS

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	916.2		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	157	F1 F2	998	742.2	F1	mg/Kg		59	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-25190-A-1-F MSD

Matrix: Solid

Analysis Batch: 47268

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47312

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	952.3		mg/Kg		91	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	157	F1 F2	999	1035	F2	mg/Kg		88	70 - 130	33	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	97		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47348/1-A

Matrix: Solid

Analysis Batch: 47513

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			03/01/23 03:49	1

Lab Sample ID: LCS 880-47348/2-A

Matrix: Solid

Analysis Batch: 47513

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	250.5		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-47348/3-A

Matrix: Solid

Analysis Batch: 47513

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	245.1		mg/Kg		98	90 - 110	2	20

Lab Sample ID: 890-4187-1 MS

Matrix: Solid

Analysis Batch: 47513

Client Sample ID: SS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<5.00	U	250	252.6		mg/Kg		100	90 - 110

Lab Sample ID: 890-4187-1 MSD

Matrix: Solid

Analysis Batch: 47513

Client Sample ID: SS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.00	U	250	246.5		mg/Kg		98	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

GC VOA

Prep Batch: 47350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	5035	
MB 880-47350/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47350/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47350/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4172-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-4172-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	8021B	47350
MB 880-47350/5-A	Method Blank	Total/NA	Solid	8021B	47350
LCS 880-47350/1-A	Lab Control Sample	Total/NA	Solid	8021B	47350
LCSD 880-47350/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47350
890-4172-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	47350
890-4172-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47350

Analysis Batch: 47951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	8015B NM	47312
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015B NM	47312
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47312
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47312
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	47312
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47312

Prep Batch: 47312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-47312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25190-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25190-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 47348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Soluble	Solid	DI Leach	
MB 880-47348/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47348/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47348/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

HPLC/IC (Continued)

Leach Batch: 47348 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1 MS	SS06	Soluble	Solid	DI Leach	
890-4187-1 MSD	SS06	Soluble	Solid	DI Leach	

Analysis Batch: 47513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4187-1	SS06	Soluble	Solid	300.0	47348
MB 880-47348/1-A	Method Blank	Soluble	Solid	300.0	47348
LCS 880-47348/2-A	Lab Control Sample	Soluble	Solid	300.0	47348
LCSD 880-47348/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47348
890-4187-1 MS	SS06	Soluble	Solid	300.0	47348
890-4187-1 MSD	SS06	Soluble	Solid	300.0	47348

Lab Chronicle

Client: Ensolum
Project/Site: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Client Sample ID: SS06
Date Collected: 02/22/23 15:45
Date Received: 02/23/23 14:52

Lab Sample ID: 890-4187-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	47350	02/27/23 16:02	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47690	03/04/23 10:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47951	03/06/23 14:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47414	02/28/23 10:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47312	02/27/23 12:09	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47268	02/28/23 03:42	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	47348	02/27/23 15:45	KS	EET MID
Soluble	Analysis	300.0		1			47513	03/01/23 04:03	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: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

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: MCA 95/Maverick

Job ID: 890-4187-1
SDG: 03D2057075

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4187-1	SS06	Solid	02/22/23 15:45	02/23/23 14:52	0.5'

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



Environmental Testing
Xenoco

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


Chain of Custody

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	a.a.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	j.adams@ensolum.com



Work Order Comments
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:

Project Name:	MCA 95/Maverick	Turn Around		<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush	Pres. Code
Project Number:	ESD2057075					
Project Location:	32.817529, -103.787126	Due Date:				
Sampler's Name:	Juliana Falcomata	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:	12-1307	
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:	-0.32	
Sample Custody Seals:	Yes	No	N/A	Temperature Reading:	2.32	
Total Containers:				Corrected Temperature:	2.00	
Parameters						
RIDES (EPA: 300.0)						
(015)						
(8021)						
 890.4187 Chain of Custody						
ANALYSIS REQUEST						
Preservative Codes						
None: NO		DI Water: H ₂ O				
Cool: Cool		MeOH: Me				
HCL: HC		HNO ₃ : HN				
H ₂ SO ₄ : H ₂		NaOH: Na				
H ₃ PO ₄ : HP						
NaHSO ₄ : NABIS						
Na ₂ S ₂ O ₃ : NASO ₃						
Zn Acetate+NaOH: Zn						
NaOH+Ascorbic Acid: SACP						

[illegible]

Total	200.7 / 6010	200.8 / 6020:	
8RCRA	13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr II Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U			Hg: 1631 / 245.1 / 7470 / 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 \$5.00 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
		2.23.23 14:57			

Revised Date: 08/25/2020 Rev: 2020

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4187-1

SDG Number: 03D2057075

Login Number: 4187

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: 890-4187-1

SDG Number: 03D2057075

Login Number: 4187

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/27/23 08:59 AM

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



APPENDIX D

NMOCD Notifications

Julianna Falcomata

From: Aimee Cole
Sent: Wednesday, August 23, 2023 1:48 PM
To: 'ocd.enviro@state.nm.us'
Subject: Maverick - Sampling Notification (Week of 8/28/2023)

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of August 28, 2023.

- MCA 409 Flowline/ NAPP2318846991
 - o Sampling Dates: 8/28/2023 – 8/29/2023
- ABO 3 Battery / nAPP2314448299
 - o Sampling Dates: 8/28/2023 – 8/29/2023
- Grayburg Eumont Strawn Battery / NAPP2302036818
 - o Sampling Dates: 8/28/2023
- MCA 95 / NAPP2306757137
 - o Sampling Dates: 8/28/2023 – 9/1/2023
- MCA 301 / NAPP2307558601
 - o Sampling Dates: 8/31/2023 – 9/1/2023

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC



From: [Rodgers, Scott, EMNRD](#)
To: [Aimee Cole](#)
Cc: [Velez, Nelson, EMNRD](#); [Bratcher, Michael, EMNRD](#)
Subject: RE: [EXTERNAL] Maverick - Sampling Notification (Week of 9/18/2023)
Date: Wednesday, September 13, 2023 3:20:38 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

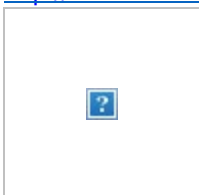
You don't often get email from scott.rodgers@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL**]

The OCD has received your notification. When reporting sampling at multiple locations it is required to provide a date and time for each location. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,
Scott

Scott Rodgers • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
8801 Horizon Blvd. NE, Suite 260 | Albuquerque, NM 87113
505.469.1830 | scott.rodgers@emnrd.nm.gov
<http://www.emnrd.nm.gov/oed>



From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, September 13, 2023 2:51 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 9/18/2023)

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

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of September 18, 2023.

- MCA 95 / NAPP2306757137
 - Sampling Dates: 9/18/2023 – 9/20/2023

- MCA 1 South Transfer Line / nAPP2314650185
 - Sampling Dates: 9/20/2023 – 9/22/2023
- EVGSAU Satellite 5 / NAPP2213957732
 - Sampling Dates: 9/21/2023 – 9/22/2023

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC



Julianna Falcomata

From: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Sent: Wednesday, September 6, 2023 4:53 PM
To: Aimee Cole; Enviro, OCD, EMNRD
Cc: Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD
Subject: RE: [EXTERNAL] Maverick - Sampling Notification (Week of 9/11/2023)

You don't often get email from michael.buchanan@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL**]

Hi Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, September 6, 2023 2:32 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 9/11/2023)

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

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of September 11, 2023.

- MCA 301 / NAPP2307558601
 - o Sampling Dates: 9/11/2023 – 9/12/2023
- MCA 95 / NAPP2306757137
 - o Sampling Dates: 9/12/2023 – 9/15/2023

Thank you,



Aimee Cole
Senior Managing Scientist
720-384-7365
Ensolum, LLC
in f 

Julianna Falcomata

From: OCDOnline@state.nm.us
Sent: Friday, September 15, 2023 8:56 AM
To: Kalei Jennings
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 228051

[**EXTERNAL EMAIL**]

To whom it may concern (c/o Kalei Jennings for Maverick Permian LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2306757137, with the following conditions:

- **Remediation plan is approved under the following conditions; 1. Soil samples must be collected outside of the release to confirm the lateral extent of the release. 2. All other proposal within this plan have been accepted. 3. Operator must include site characterization supporting documentation in its final closure report. 4. Maverick Permian has 90-days (December 14, 2023) to submit its appropriate or final closure report.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Nelson Velez
Environmental Specialist - Advanced
505-469-6146
Nelson.Velez@emnrd.nm.gov

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



APPENDIX E
Final Form 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	NAPP2306757137
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: Bryce.Wagoner@mavresources.com	Incident # (assigned by OCD)
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.817529 Longitude -103.787126
(NAD 83 in decimal degrees to 5 decimal places)

Site Name MCA 95	Site Type
Date Release Discovered February 21, 2023	API# (if applicable) 30-025-08065

Unit Letter	Section	Township	Range	County
J	20	17S	32E	Lea

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

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 5.6 bbls	Volume Recovered (bbls) 2.5 bbls
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

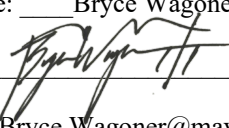
The release was caused by corrosion of a flowline. The release occurred on and off pad. A vacuum truck was dispatched to the location and recovered approximately 2.5 bbls of free-standing fluids. The source of the release has been stopped and the impacted area has been secured.

Incident ID	NAPP2306757137
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Bryce Wagoner</u>	Title: <u>Permian HSE Specialist II</u>
Signature: 	Date: <u>2/27/2023</u>
email: <u>Bryce.Wagoner@mavresources.com</u>	Telephone: <u>928-241-1862</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

NAPP2306757137

Pooled Fluids on the Surface										
	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries <i>*edges of pool where depth is 0 . don't count shared boundaries</i>	Oil-Water Ratio (%)	Pooled Area (ft²)	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	17.0	98.0	0.5	4.0	1.00	1666.0	0.0	3.1	3.09	0.00
Rectangle B						0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Volume (bbls):								3.09	3.09	0.00

Subsurface Fluids										
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) <i>*10% in consolidated sediments after rain to 50% in sand with no precipitation</i>	Oil-Water Ratio (%)	Area (ft²)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	17.0	98.0	1.0	0.1	1.00	1666.0	24.7	2.5	2.47	0.0
Rectangle B						0.0	0.0	0.0	0.00	0.0
Rectangle C						0.0	0.0	0.0	0.00	0.0
Rectangle D						0.0	0.0	0.0	0.00	0.0
Rectangle E						0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
Total Volume (bbls):								2.47	2.47	0.00

TOTAL RELEASE VOLUME (bbls):	5.6
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Incident ID	NAPP2306757137
District RP	
Facility ID	
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?	<u>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

Oil Conservation Division

Incident ID	NAPP2306757137
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Facility ID	
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: Bryce Wagoner Title: Permian HSE Specialist

Signature:  Date: 10-13-2023

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Shelly Wells Date: 10/17/2023

Incident ID	NAPP2306757137
District RP	
Facility ID	
Application ID	

Closure

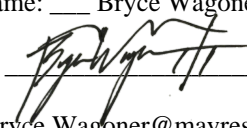
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Bryce Wagoner Title: Permian HSE Specialist

Signature:  Date: 10-13-2023

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Shelly Wells Date: 10/17/2023

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

Closure Approved by: Scott Rodgers Date: 01/10/2024

Printed Name: Scott Rodgers Title: Environmental Specialist Adv.

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 276522

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 276522
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	None	1/10/2024