October 25, 2022

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

Re: Remediation Work Plan
MCA 94
Incident Number NAPP2212531906
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared the following *Remediation Work Plan* (RWP) to document site assessment and soil sampling activities completed to date and additional remediation acttivities proposed at the MCA 94 (Site), resulting from a flow line release of produced water into the surrounding pasture. The following RWP proposes excavation of waste-containing soil in the top 4 feet of non-oil and gas production areas.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 20, Township 17 South, Range 32 East, in Lea County, New Mexico (32.81441 ° N, 103.783172 ° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On April 28, 2022, a hole in a poly flowline resulted in the release of approximately 125 barrels (bbls) of produced water into the pasture where fluids pooled. Released fluids were not recovered. The previous operator, ConocoPhillips Company (COP), reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on May 5, 2022. The release was assigned Incident Number NAPP2212531906.

The previous operator, ConocoPhillips Company, sold the asset to Maverick on June 1, 2022. Field activities at the Site were postponed until the sale of the Site was complete.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well RA-12020-POD1, located approximately 3,290 feet southwest of the Site. The groundwater well has a reported depth to groundwater of 81 feet bgs and a total depth of 120 feet bgs. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well record is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a wash out, located approximately 7,213 feet east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 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: 10,000 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 and lease road 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 August 8, 2022, personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven preliminary soil samples (SS01 through SS07) were collected within the release extent at a depth of approximately 0.5 feet bgs. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS07 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for

preliminary soil samples SS01, SS03, SS05, and SS06 indicated chloride concentrations exceeded the reclamation requirement. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, delineation of waste-containing soil appeared warranted.

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between October 3 and October 6, 2022, delineation activities were conducted at the Site to assess the vertical and lateral extent of waste-containing soil. Potholes PH01 through PH06 were advanced via track mounted backhoe within and around the release extent. The delineation potholes were advanced to a depth of approximately 12 feet bgs before encountering refusal. Discrete delineation soil samples were collected from each pothole at depths ranging from 1-foot to 12 feet bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil samples were handled and analyzed as described above. The delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for the delineation soil samples PH01 through PH06, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for the delineation soil samples collected from potholes PH02, PH03, and PH05 indicated waste-containing soil is present within the top 4 feet of soil off pad. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix C.

PROPOSED REMEDIATION WORK PLAN

Waste-containing soil has been detected in the top 4 feet of soil off pad as indicated by preliminary surface soil samples SS01, SS03, SS05, and SS06 and in the vicinity of potholes PH02, PH03, and PH05 to a total depth of 3 feet bgs. As a result, Maverick proposes excavation of waste-containing soil in the top 4 feet.

Maverick requests approval to complete the following remediation activities:

- Excavation of chloride impacted soil in the top 4 feet of soil in areas of non-oil and gas production facilities. Excavation will proceed laterally until sidewall samples indicated chloride concentrations are compliant with the reclamation requirements. Confirmation samples will be collected from the sidewalls of the final excavation extent.
- Sidewall samples will be collected at a frequency of every 200 square feet. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation samples will be analyzed for chloride only.
- The limited impacted soil will be addressed at PH04 at 8 feet bgs. All other locations appear to be waste-containing soil and will be addressed by excavation. The excavation samples will be analyzed for BTEX, TPH, and chloride.
- Upon completion of excavation activities, if the final depth of the excavation is shallower than 4 feet bgs, discrete samples will be collected to confirm the reclamation requirement.
- An estimated 500 cubic yards of impacted soil will be excavated and disposed of at a licensed disposal facility.

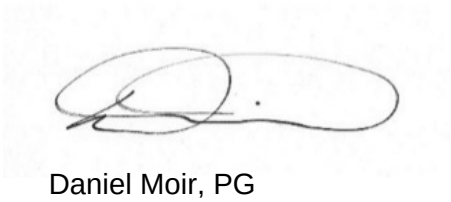
- The excavation will be backfilled and recontoured to match pre-existing conditions. The disturbed pasture will be re-seeded with an approved BLM seed mixture.

Maverick will complete the excavation activities within 90 days of the date of approval of this RWP by the NMOCD. A report detailing remedial action will be submitted within 30 days of receipt of laboratory analytical results. Maverick believes the scope of work described above will meet requirements set forth in 19.15.29.13 NMAC and be protective of human health, the environment, and groundwater. As such, Maverick respectfully requests approval of this RWP from NMOCD.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist



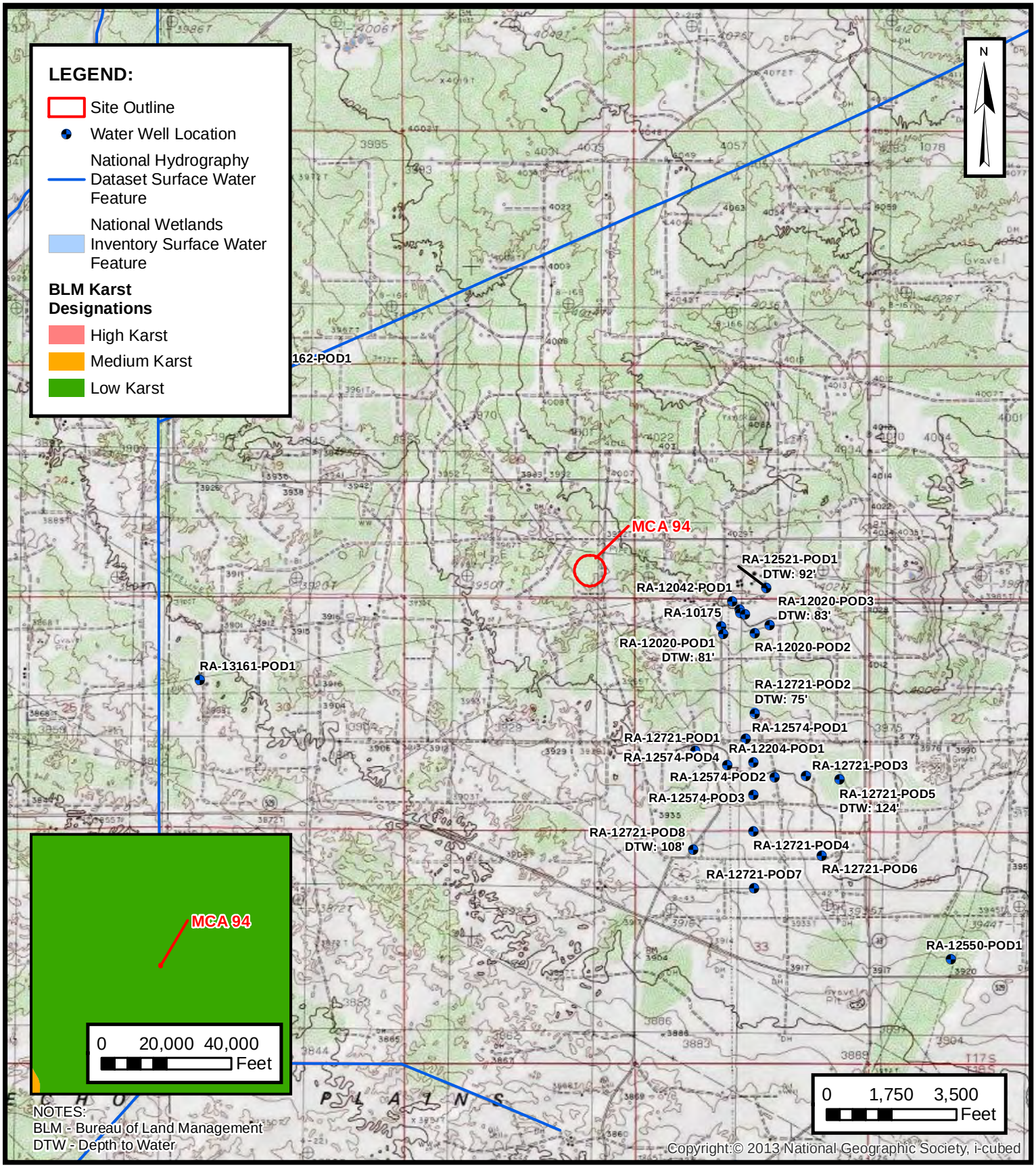
Daniel Moir, PG
Senior Managing Geologist

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

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	Final C-141

FIGURES



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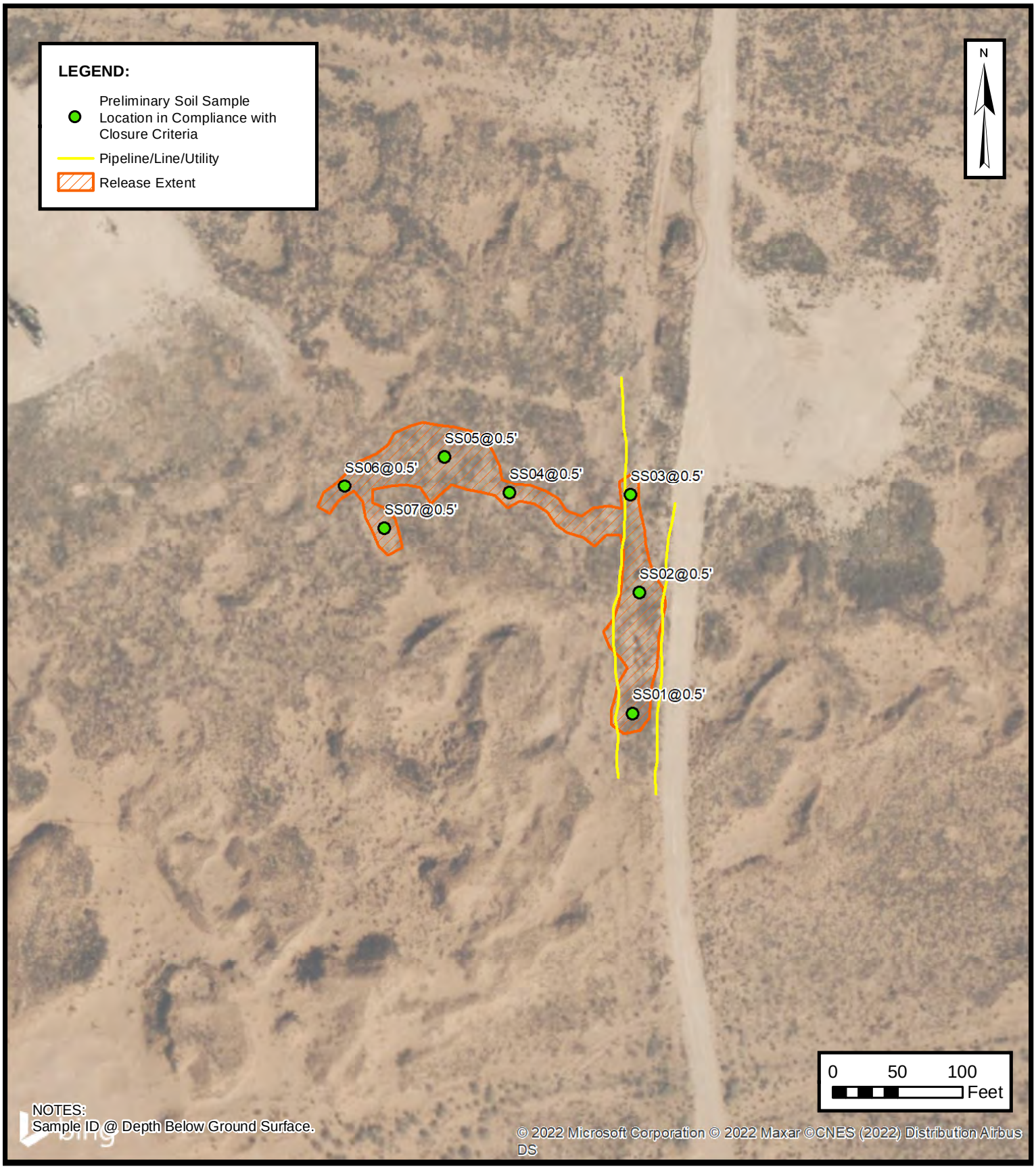
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
MCA 94
NAPP2212531906
Unit P, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE
1



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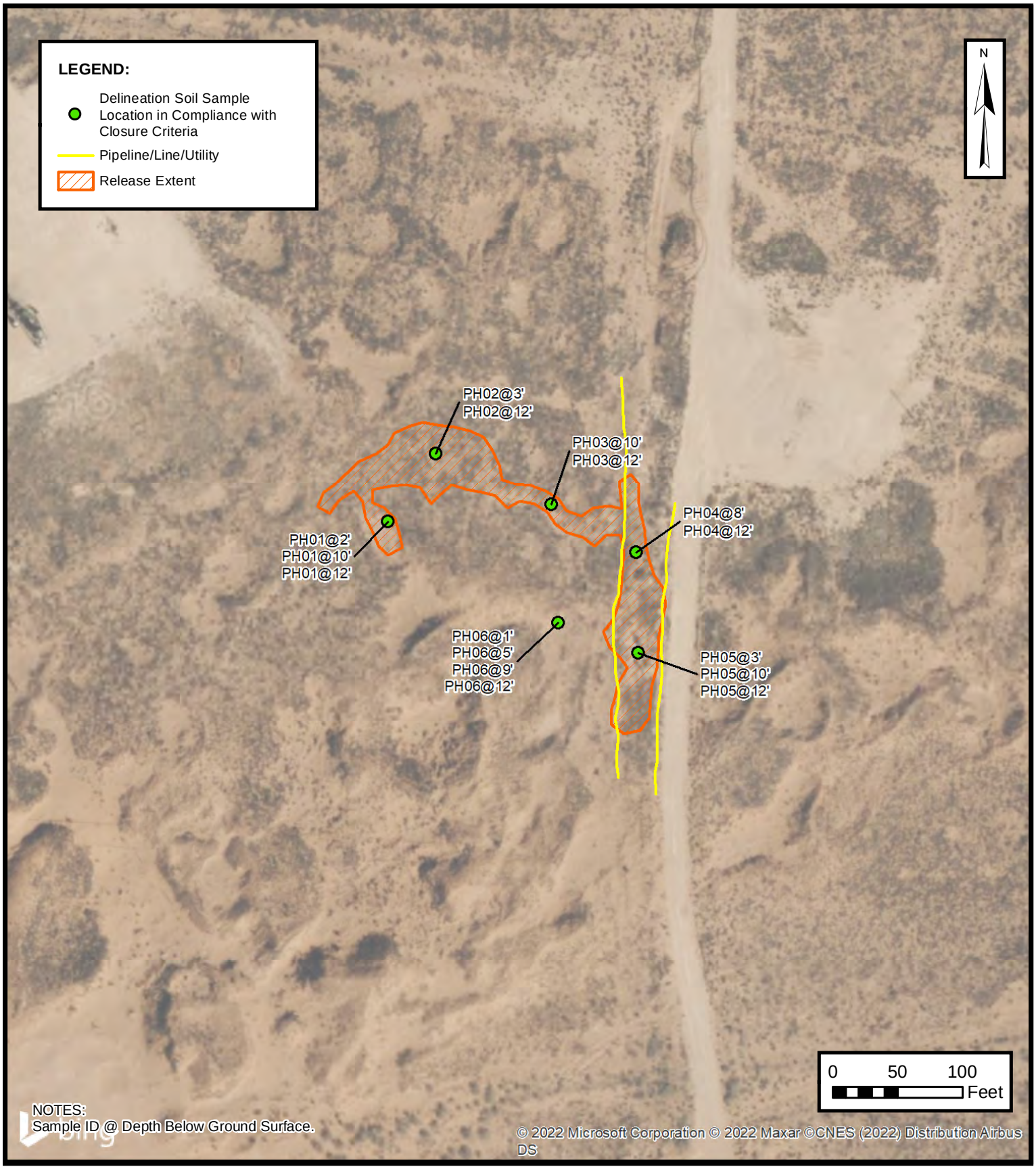
PRELIMINARY SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
MCA 94
NAPP2212531906
Unit P, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE
2



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DELINEATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
MCA 94
NAPP2212531906
Unit P, Sec 20, T17S, R32E
Lea County, New Mexico

FIGURE
3

TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 94
Maverick Natural Resources, 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 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Preliminary Assessment Soil Samples										
SS01	08/08/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	5,960*
SS02	08/08/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	545*
SS03	08/08/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	2,520*
SS04	08/08/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	429*
SS05	08/08/2022	0.5	<0.00199	<0.00398	<49.9	55.6	<49.9	55.6	55.6	4,870*
SS06	08/08/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	3,460*
SS07	08/08/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	5.76*
Delineation Soil Samples										
PH01	10/03/2022	2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	9,380*
PH01	10/03/2022	10	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	1,170
PH01	10/04/2022	12	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	6,400
PH02	10/04/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	7,810*
PH02	10/04/2022	12	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7,510
PH03	10/04/2022	10	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	9,320
PH03	10/04/2022	12	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	8,940
PH04	10/04/2022	8	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	**10,300**
PH04	10/04/2022	12	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	7,190
PH05	10/04/2022	3	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	164*
PH05	10/06/2022	10	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	6,350
PH05	10/6/2022	12	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7,310
PH06	10/06/2022	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	38.3*
PH06	10/06/2022	5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	142
PH06	10/06/2022	9	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	50.9
PH06	10/06/2022	12	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	33.2

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
*Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.*
***Grey** text represents samples that have been excavated*

APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 12020 POD1	2	2	1	28	17S	32E	614828	3630954

Driller License: 1456 **Driller Company:** WHITE DRILLING COMPANY

Driller Name: WHITE, JOHN (LD)

Drill Start Date: 09/24/2013 **Drill Finish Date:** 09/25/2013 **Plug Date:**

Log File Date: 10/07/2013 **PCW Rcv Date:** **Source:** Shallow

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

Casing Size: 2.00 **Depth Well:** 120 feet **Depth Water:** 81 feet

Water Bearing Stratifications:	Top	Bottom	Description
	70	111	Sandstone/Gravel/Conglomerate
	111	120	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	75	110

18S.31E.01.44432

IMPORTANT Inventory Page

Monitoring location 324600103484601 is associated with a WELL in EDDY COUNTY, NEW MEXICO. Water data back to 1971 are available online.

○ 1 year ○ 10 years ◉ Period of record

Change time span | **Retrieve data**

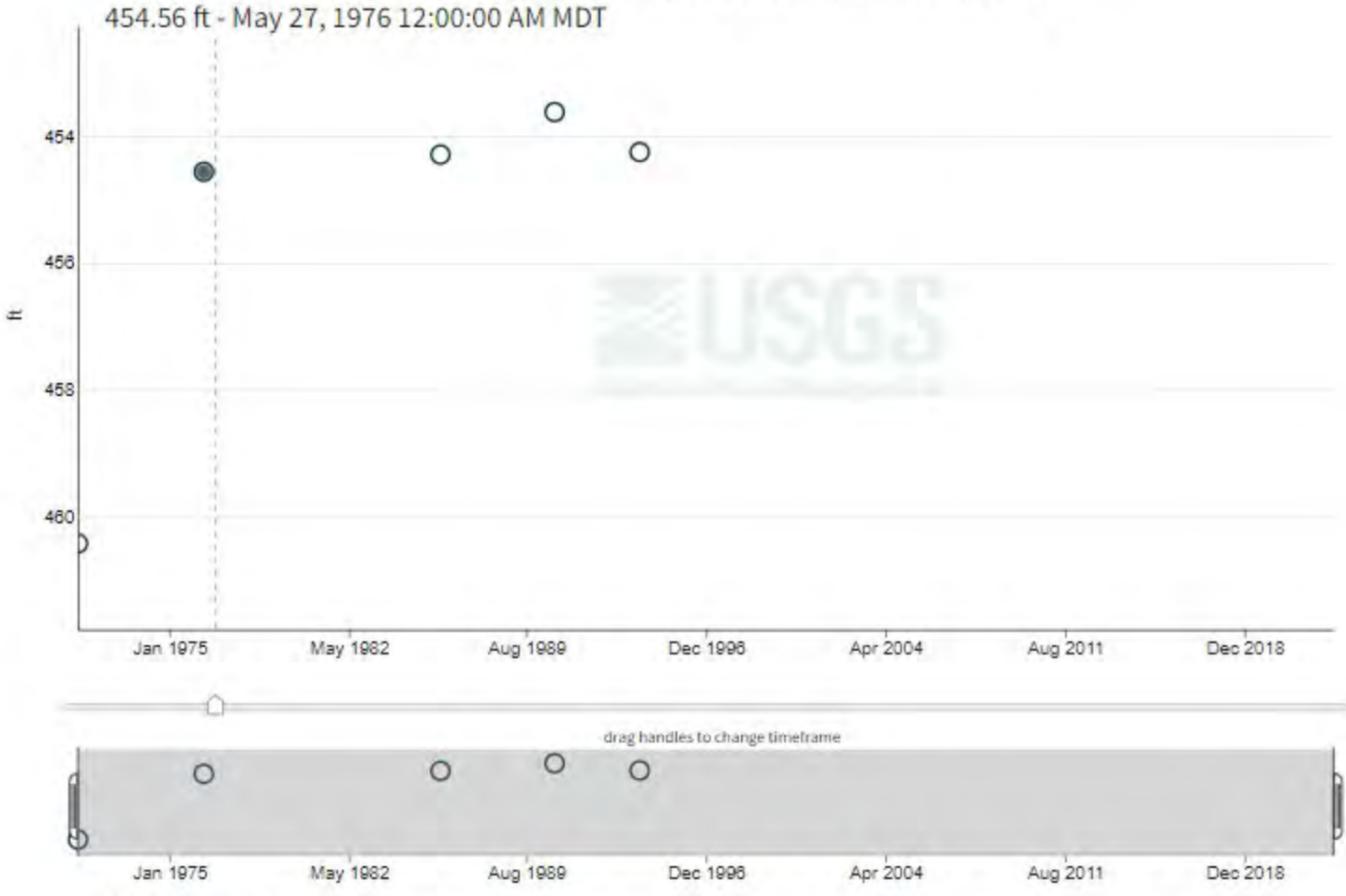
Select data to be downloaded

◉ Field visits
○ About this location

Retrieve

A separate tab will open with the requested data.
All data is in RDB format.
Data is retrieved from USGS Water Data Services.
If you are an R user, use the USGS dataRetrieval package to download, analyze and plot your data

Depth to water level, ft below land surface



Field visit: ○ Approved

APPENDIX B

Photographic Log

Photographic Log
Maverick Natural Resources, LLC
MCA 94
Incident Number NAPP2212531906

Photograph: 1 Date: 4/29/2022
Description: Soil staining in release footprint
View: Northwest

Photograph: 2 Date: 4/29/2022
Description: Soil staining in release footprint
View: Southeast

Photograph: 3 Date: 8/8/2022
Description: Soil Sampling activities
View: West

Photograph: 4 Date: 8/8/2022
Description: Soil Sampling Activities
View: Southwest

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APPENDIX C

Lithologic Soil Sampling Logs

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Sample Name: PH01	Date: 10/3/22 & 10/4/22	
Site Name: MCA 94		
Incident Number: NAPP2212531906		
Job Number: 03D2057010		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CW & CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Y	10,858	0.0	N		1	1	sp	Sand, VF, Red, w/ Silt
Y	14,935	0.0	N		2	2	sp	Sand, VF, Red, w/ CCHE
N	14,935	0.0	N		3	3	cche	CCHE
N	12,712	0.0	N		4	4	cche	CCHE
N		0.0	N		5	5	cche	CCHE
N	5,756	0.0	N		6	6	cche	CCHE
N		0.0	N		7	7	cche	CCHE
N	1,730	0.0	N		8	8	cche	CCHE
N		0.0	N		9	9	cche	CCHE
Y	8,820	0.0	N		10	10	sp-sm	Stone w/cche Brown/Tan
Y		0.0	N		11	11	sp-sm	Stone w/cche Brown/Tan
N	12,930	0.0	N		12	12	sp-sm	Sand Sandstone w/ cche Brown/Tan

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Sample Name: PH02	Date: 10/4/22	
Site Name: MCA 94		
Incident Number: NAPP2212531906		
Job Number: 03D2057010		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	6,988	0.0	N		1	1	sp-sm	Sand Red Brown
N	10,287	0.0	N		2	2	sp-sm	Sand Red Brown
N	11,110	0.0	N		3	3	sp-sm	Sand Red Brown
N	10,287	0.0	N		4	4	sp-sm	Sand Red Brown
N		0.0	N		5	5	sp-sm	Sand Red Brown
N	8,820	0.0	N		6	6	sp-sm	Sand Red Brown
N		0.0	N		7	7	sp-sm	Sand Red Brown
N	11,110	0.0	N		8	8	cche	Sand Red Brown w/ Clay & cche
N		0.0	N		9	9	cche	Sand Red Brown w/ Clay & cche
N	10,287	0.0	N		10	10	cche	Sand Tan Brown w/ chhe
N		0.0	N		11	11	cche	Sand Tan Brown w/ chhe
N	12,006	0.0	N		12	12	cche	Sand Tan Brown w/ chhe

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Sample Name: PH03	Date: 10/4/22	
Site Name: MCA 94		
Incident Number: NAPP2212531906		
Job Number: 03D2057010		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	778	0.0	N		1	1	sp-sm	Sand Tan-Brown Med-Fine Grained
N	2,839	0.0	N		2	2	sp-sm	Sand Tan-Brown Med-Fine Grained
N	2,296	0.0	N		3	3	sp-sm	Sand Tan-Brown Med-Fine Grained
N	3,544	0.0	N		4	4	sp-sm	Sand Tan-Brown Med-Fine Grained
N		0.0	N		5	5	sp-sm	Sand Tan-Brown Med-Fine Grained
N	14,067	0.0	N		6	6	sp-sc	Sand Red-Brown w/ Clay
N		0.0	N		7	7	sp-sc	Sand Red-Brown w/ Clay
N	14,067	0.0	N		8	8	sp-sc	Sand Red-Brown w/ Clay
N		0.0	N		9	9	sp-sc	Sand Red-Brown w/ Clay
N	16,592	0.0	N		10	10	sp-sm	Sand Tan-Brown
N		0.0	N		11	11	sp-sm	Sand Tan-Brown
N	14,067	0.0	N		12	12	sp-sm	Sand Tan-Brown

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Sample Name: PH04	Date: 10/4/22	
Site Name: MCA 94		
Incident Number: NAPP2212531906		
Job Number: 03D2057010		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	0.0	N		1	1	sp-sm	Sand Brown loose fine grained poorly graded
N	712	0.0	N		2	2	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N	2,464	0.0	N		3	3	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N	3,544	0.0	N		4	4	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N		0.0	N		5	5	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N	12,006	0.0	N		6	6	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N		0.0	N		7	7	sp-sm	Sand Red Brown compact (wet) fine grained poorly graded
N	14,067	0.0	N		8	8	cche/spsm	Sand Tan Brwon w/ White Clasts?
N		0.0	N		9	9	cche/spsm	Sand Tan Brwon w/ White Clasts?
N	12,006	0.0	N		10	10	spsm/cche	Sand Tan Brwon w/ White Clasts?
N		0.0	N		11	11	spsm/cche	Sand Tan Brwon w/ White Clasts?
N	8,820	0.0	N		12	12	spsm/cche	Sand Tan Brwon w/ White Clasts?

ENSOLUM

	Sample Name: PH05	Date: 10/4/22 &10/6/22
	Site Name: MCA 94	
	Incident Number: NAPP2212531906	
	Job Number: 03D2057010	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	ND	0.0	N		1	1	sp-sm	Sand Tan/Reddish Brown Fine Grained Poorly Graded
N	ND	0.0	N		2	2	sp-sm	Sand Tan/Reddish Brown Fine Grained Poorly Graded
N	108	0.0	N		3	3	sp-sm	Sand Tan/Reddish Brown Fine Grained Poorly Graded
N	ND	0.0	N		4	4	sp-sm	Sand Tan/Reddish Brown Fine Grained Poorly Graded
N		0.0	N		5	5	sp-sm	Sand Tan/Reddish Brown Fine Grained Poorly Graded
N	3,052	0.0	N		6	6	sp-sm	Sand Red/Brown
N		0.0	N		7	7	sp-sm	Sand Red/Brown
N	2,464	0.0	N		8	8	sp-sm	Sand Red/Brown
N		0.0	N		9	9	sp-sm	Sand Red/Brown
N	15,260	0.0	N		10	10	sp-sm	Sand Tan/Brown w/ White Clasts
N		0.0	N		11	11	sp-sm	Sand Tan/Brown w/ White Clasts
N	15,260	0.0	N		12	12	spsm/cche	Tan Brown w/ White Clasts

ENSOLUM

Sample Name: PH05	Date: 10/6/22	
Site Name: MCA 94		
Incident Number: NAPP2212531906		
Job Number: 03D2057010		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS	Method: Backhoe
Coordinates: 32.81441, -103.783172	Hole Diameter:	Total Depth: 12'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
		ND			1	1	sp-sm	Sand Red Brown
		ND			5	5	sp-sm	Sand Red Brown
		ND			9	9	sp-sc	Sand Red/Brown w/ Clay
		ND			12	12	spsm/cche	Sand White Brown w/ Clasts

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2733-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
8/18/2022 9:48:24 AM

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

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Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Job ID: 890-2733-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2733-1

Receipt
The samples were received on 8/8/2022 3:56 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 6.2°C

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-18027-A-1-D). 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: SS06 (890-2733-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: o-Xylene biased high in LCS. Since only an acceptable LCS or LCSD is required per the method, the data has been qualified and reported.(LCS 880-32053/1-A)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-32053 and analytical batch 880-32046 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample duplicate (LCSD) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) sample: (890-2732-A-1-B MS). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS07 (890-2733-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31853 and analytical batch 880-31943 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31914 and analytical batch 880-31923 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-31914 and analytical batch 880-31923 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

Client Sample ID: SS01

Lab Sample ID: 890-2733-1

Date Collected: 08/08/22 11:00
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 13:59	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 13:59	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 13:59	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 13:59	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/12/22 08:33	08/12/22 13:59	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*08/12/22 08:33*	*08/12/22 13:59*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/12/22 08:33*	*08/12/22 13:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/15/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 13:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 13:31	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/10/22 15:10*	*08/11/22 13:31*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/10/22 15:10*	*08/11/22 13:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5960**		50.4		mg/Kg			08/11/22 06:20	10

Client Sample ID: SS02

Lab Sample ID: 890-2733-2

Date Collected: 08/08/22 11:10
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 14:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 14:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 14:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/12/22 08:33	08/12/22 14:19	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/12/22 08:33	08/12/22 14:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/12/22 08:33	08/12/22 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*08/12/22 08:33*	*08/12/22 14:19*	*1*

Client Sample ID: SS02

Lab Sample ID: 890-2733-2

Date Collected: 08/08/22 11:10
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/12/22 08:33*	*08/12/22 14:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			08/15/22 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/10/22 15:10	08/11/22 13:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/10/22 15:10	08/11/22 13:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/10/22 15:10	08/11/22 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*08/10/22 15:10*	*08/11/22 13:53*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/10/22 15:10*	*08/11/22 13:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**545**		5.01	mg/Kg			08/11/22 06:48	1

Client Sample ID: SS03

Lab Sample ID: 890-2733-3

Date Collected: 08/08/22 11:20
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/12/22 08:33	08/12/22 15:42	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/12/22 08:33	08/12/22 15:42	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/12/22 08:33	08/12/22 15:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/12/22 08:33	08/12/22 15:42	1
o-Xylene	<0.00199	U *+	0.00199	mg/Kg		08/12/22 08:33	08/12/22 15:42	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/12/22 08:33	08/12/22 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*08/12/22 08:33*	*08/12/22 15:42*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/12/22 08:33*	*08/12/22 15:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/15/22 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			08/12/22 09:16	1

Client Sample ID: SS03

Lab Sample ID: 890-2733-3

Date Collected: 08/08/22 11:20
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:15	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:15*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2520**		25.0		mg/Kg			08/11/22 06:57	5

Client Sample ID: SS04

Lab Sample ID: 890-2733-4

Date Collected: 08/08/22 11:30
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 16:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 16:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 16:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 16:03	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/12/22 08:33	08/12/22 16:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/12/22 08:33*	*08/12/22 16:03*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*08/12/22 08:33*	*08/12/22 16:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/15/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:37	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/10/22 15:10	08/11/22 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:37*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:37*	*1*

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Client Sample ID: SS04

Lab Sample ID: 890-2733-4

Date Collected: 08/08/22 11:30
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**429**		5.00		mg/Kg			08/11/22 07:06	1

Client Sample ID: SS05

Lab Sample ID: 890-2733-5

Date Collected: 08/08/22 11:40
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/12/22 08:33	08/12/22 16:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/12/22 08:33	08/12/22 16:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/12/22 08:33	08/12/22 16:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/12/22 08:33	08/12/22 16:23	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/12/22 08:33	08/12/22 16:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/12/22 08:33	08/12/22 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/12/22 08:33*	*08/12/22 16:23*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/12/22 08:33*	*08/12/22 16:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/15/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**55.6**		49.9		mg/Kg			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 14:58	1
Diesel Range Organics (Over C10-C28)	**55.6**		49.9		mg/Kg		08/10/22 15:10	08/11/22 14:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:58*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/10/22 15:10*	*08/11/22 14:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4870**		50.0		mg/Kg			08/11/22 07:15	10

Client Sample ID: SS06

Lab Sample ID: 890-2733-6

Date Collected: 08/08/22 11:50
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 16:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 16:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 16:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/12/22 08:33	08/12/22 16:44	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/12/22 08:33	08/12/22 16:44	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/12/22 08:33	08/12/22 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/12/22 08:33*	*08/12/22 16:44*	*1*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*08/12/22 08:33*	*08/12/22 16:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/15/22 11:29	1

Method: 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			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 15:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 15:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/10/22 15:10*	*08/11/22 15:20*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/10/22 15:10*	*08/11/22 15:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3460**		50.2		mg/Kg			08/11/22 07:24	10

Client Sample ID: SS07

Lab Sample ID: 890-2733-7

Date Collected: 08/08/22 12:00
Matrix: Solid
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 17:04	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 17:04	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/12/22 08:33	08/12/22 17:04	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 17:04	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/12/22 08:33	08/12/22 17:04	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/12/22 08:33	08/12/22 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/12/22 08:33*	*08/12/22 17:04*	*1*

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Client Sample ID: SS07
Date Collected: 08/08/22 12:00
Date Received: 08/08/22 15:56
Sample Depth: 0.5

Lab Sample ID: 890-2733-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/12/22 08:33*	*08/12/22 17:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/15/22 11:29	1

Method: 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			08/12/22 09:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 16:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 16:04	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/10/22 15:10	08/11/22 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*08/10/22 15:10*	*08/11/22 16:04*	*1*
o-Terphenyl	*141*	*S1+*	*70 - 130*	*08/10/22 15:10*	*08/11/22 16:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.76**		4.99		mg/Kg			08/17/22 18:18	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-17955-A-8 MS	Matrix Spike	145 S1+	89
880-17955-A-8 MSD	Matrix Spike Duplicate	137 S1+	92
880-18027-A-1-B MS	Matrix Spike	116	98
880-18027-A-1-C MSD	Matrix Spike Duplicate	122	94
890-2733-1	SS01	120	89
890-2733-2	SS02	119	91
890-2733-3	SS03	115	91
890-2733-4	SS04	116	83
890-2733-5	SS05	116	89
890-2733-6	SS06	101	64 S1-
890-2733-7	SS07	117	87
LCS 880-32046/34	Lab Control Sample	118	99
LCS 880-32053/1-A	Lab Control Sample	129	95
LCSD 880-32046/35	Lab Control Sample Dup	116	94
LCSD 880-32053/2-A	Lab Control Sample Dup	108	99
MB 880-32046/39	Method Blank	101	83
MB 880-32053/5-A	Method Blank	99	82

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2732-A-1-B MS	Matrix Spike	71	67 S1-
890-2732-A-1-C MSD	Matrix Spike Duplicate	73	71
890-2733-1	SS01	102	112
890-2733-2	SS02	91	97
890-2733-3	SS03	100	113
890-2733-4	SS04	102	110
890-2733-5	SS05	102	110
890-2733-6	SS06	102	109
890-2733-7	SS07	122	141 S1+
LCS 880-31853/2-A	Lab Control Sample	103	103
LCSD 880-31853/3-A	Lab Control Sample Dup	119	122
MB 880-31853/1-A	Method Blank	93	112

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-32046/39
Matrix: Solid
Analysis Batch: 32046

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg			08/12/22 22:01	1
Toluene	<0.00200	U	0.00200		mg/Kg			08/12/22 22:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg			08/12/22 22:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg			08/12/22 22:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg			08/12/22 22:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			08/12/22 22:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*08/12/22 22:01*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*		*08/12/22 22:01*	*1*

Lab Sample ID: LCS 880-32046/34
Matrix: Solid
Analysis Batch: 32046

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09686		mg/Kg		97	70 - 130		
Toluene			0.100	0.09575		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.1081		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.2217		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1221		mg/Kg		122	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-32046/35
Matrix: Solid
Analysis Batch: 32046

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09131		mg/Kg		91	70 - 130	6	35
Toluene			0.100	0.09500		mg/Kg		95	70 - 130	1	35
Ethylbenzene			0.100	0.1048		mg/Kg		105	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2171		mg/Kg		109	70 - 130	2	35
o-Xylene			0.100	0.1198		mg/Kg		120	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-17955-A-8 MS
Matrix: Solid
Analysis Batch: 32046

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.1003		mg/Kg		100	70 - 130		
Toluene	<0.00200	U	0.100	0.1126		mg/Kg		113	70 - 130		

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

Lab Sample ID: 880-17955-A-8 MS
Matrix: Solid
Analysis Batch: 32046

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.1293		mg/Kg		129	70 - 130
m-Xylene & p-Xylene	<0.00400	U F1	0.200	0.2794	F1	mg/Kg		140	70 - 130
o-Xylene	<0.00200	U F1	0.100	0.1588	F1	mg/Kg		159	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*145*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: 880-17955-A-8 MSD
Matrix: Solid
Analysis Batch: 32046

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

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	0.09242		mg/Kg		92	70 - 130	8	35
Toluene	<0.00200	U	0.100	0.1014		mg/Kg		101	70 - 130	10	35
Ethylbenzene	<0.00200	U	0.100	0.1197		mg/Kg		120	70 - 130	8	35
m-Xylene & p-Xylene	<0.00400	U F1	0.200	0.2496		mg/Kg		125	70 - 130	11	35
o-Xylene	<0.00200	U F1	0.100	0.1400	F1	mg/Kg		140	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-32053/5-A
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32053

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/12/22 08:33	08/12/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/12/22 08:33	08/12/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/12/22 08:33	08/12/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/12/22 08:33*	*08/12/22 10:53*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*08/12/22 08:33*	*08/12/22 10:53*	*1*

Lab Sample ID: LCS 880-32053/1-A
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.09482		mg/Kg		95	70 - 130
Toluene			0.100	0.1002		mg/Kg		100	70 - 130
Ethylbenzene			0.100	0.1112		mg/Kg		111	70 - 130
m-Xylene & p-Xylene			0.200	0.2383		mg/Kg		119	70 - 130

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

Lab Sample ID: LCS 880-32053/1-A
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1328	*+	mg/Kg		133	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-32053/2-A
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32053

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1031		mg/Kg		103	70 - 130	8	35
Toluene			0.100	0.09994		mg/Kg		100	70 - 130	0	35
Ethylbenzene			0.100	0.1057		mg/Kg		106	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2197		mg/Kg		110	70 - 130	8	35
o-Xylene			0.100	0.1198		mg/Kg		120	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-18027-A-1-B MS
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09679		mg/Kg		95	70 - 130		
Toluene	0.0148		0.101	0.09379		mg/Kg		78	70 - 130		
Ethylbenzene	0.0416	F1	0.101	0.1031	F1	mg/Kg		61	70 - 130		
m-Xylene & p-Xylene	0.117	F1	0.202	0.2156	F1	mg/Kg		49	70 - 130		
o-Xylene	0.0679	*+ F1	0.101	0.1183	F1	mg/Kg		50	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-18027-A-1-C MSD
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1032		mg/Kg		102	70 - 130	6	35
Toluene	0.0148		0.100	0.1078		mg/Kg		93	70 - 130	14	35
Ethylbenzene	0.0416	F1	0.100	0.1203		mg/Kg		79	70 - 130	15	35
m-Xylene & p-Xylene	0.117	F1	0.200	0.2554	F1	mg/Kg		69	70 - 130	17	35
o-Xylene	0.0679	*+ F1	0.100	0.1419		mg/Kg		74	70 - 130	18	35

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

Lab Sample ID: 880-18027-A-1-C MSD
Matrix: Solid
Analysis Batch: 32046

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32053

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

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

Lab Sample ID: MB 880-31853/1-A
Matrix: Solid
Analysis Batch: 31943

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31853

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/09/22 15:10	08/11/22 10:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/09/22 15:10	08/11/22 10:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/09/22 15:10	08/11/22 10:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	08/09/22 15:10	08/11/22 10:17	1
o-Terphenyl	112		70 - 130	08/09/22 15:10	08/11/22 10:17	1

Lab Sample ID: LCS 880-31853/2-A
Matrix: Solid
Analysis Batch: 31943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31853

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	925.9		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.0		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-31853/3-A
Matrix: Solid
Analysis Batch: 31943

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31853

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1030		mg/Kg		103	70 - 130	11	20
Diesel Range Organics (Over C10-C28)			1000	1070		mg/Kg		107	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	122		70 - 130

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

Lab Sample ID: 890-2732-A-1-B MS
Matrix: Solid
Analysis Batch: 31943

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31853

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	999	974.0		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	623.0	F1	mg/Kg		62	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*71*		*70 - 130*
o-Terphenyl	*67*	*S1-*	*70 - 130*

Lab Sample ID: 890-2732-A-1-C MSD
Matrix: Solid
Analysis Batch: 31943

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31853

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	929.9		mg/Kg		91	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	668.7	F1	mg/Kg		67	70 - 130	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*73*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31914/1-A
Matrix: Solid
Analysis Batch: 31923

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/11/22 03:07	1

Lab Sample ID: LCS 880-31914/2-A
Matrix: Solid
Analysis Batch: 31923

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	243.2		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-31914/3-A
Matrix: Solid
Analysis Batch: 31923

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	253.4		mg/Kg		101	90 - 110	4	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-17882-A-7-A MSD
Matrix: Solid
Analysis Batch: 31923

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1710	F1	1250	3090	F1	mg/Kg		111	90 - 110	1	20

Lab Sample ID: 880-17882-A-7-B MS
Matrix: Solid
Analysis Batch: 31923

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	1710	F1	1250	3064		mg/Kg		109	90 - 110

Lab Sample ID: MB 880-31858/1-A
Matrix: Solid
Analysis Batch: 31926

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/17/22 14:54	1

Lab Sample ID: LCS 880-31858/2-A
Matrix: Solid
Analysis Batch: 31926

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	257.0		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-31858/3-A
Matrix: Solid
Analysis Batch: 31926

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	257.1		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-2732-A-1-F MS
Matrix: Solid
Analysis Batch: 31926

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	7.85		250	276.5		mg/Kg		107	90 - 110

Lab Sample ID: 890-2732-A-1-F MSD
Matrix: Solid
Analysis Batch: 31926

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.85		250	276.4		mg/Kg		107	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

GC VOA

Analysis Batch: 32046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	8021B	32053
890-2733-2	SS02	Total/NA	Solid	8021B	32053
890-2733-3	SS03	Total/NA	Solid	8021B	32053
890-2733-4	SS04	Total/NA	Solid	8021B	32053
890-2733-5	SS05	Total/NA	Solid	8021B	32053
890-2733-6	SS06	Total/NA	Solid	8021B	32053
890-2733-7	SS07	Total/NA	Solid	8021B	32053
MB 880-32046/39	Method Blank	Total/NA	Solid	8021B	
MB 880-32053/5-A	Method Blank	Total/NA	Solid	8021B	32053
LCS 880-32046/34	Lab Control Sample	Total/NA	Solid	8021B	
LCS 880-32053/1-A	Lab Control Sample	Total/NA	Solid	8021B	32053
LCSD 880-32046/35	Lab Control Sample Dup	Total/NA	Solid	8021B	
LCSD 880-32053/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	32053
880-17955-A-8 MS	Matrix Spike	Total/NA	Solid	8021B	
880-17955-A-8 MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	
880-18027-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	32053
880-18027-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	32053

Prep Batch: 32053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	5035	
890-2733-2	SS02	Total/NA	Solid	5035	
890-2733-3	SS03	Total/NA	Solid	5035	
890-2733-4	SS04	Total/NA	Solid	5035	
890-2733-5	SS05	Total/NA	Solid	5035	
890-2733-6	SS06	Total/NA	Solid	5035	
890-2733-7	SS07	Total/NA	Solid	5035	
MB 880-32053/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-32053/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-32053/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-18027-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-18027-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 32163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	Total BTEX	
890-2733-2	SS02	Total/NA	Solid	Total BTEX	
890-2733-3	SS03	Total/NA	Solid	Total BTEX	
890-2733-4	SS04	Total/NA	Solid	Total BTEX	
890-2733-5	SS05	Total/NA	Solid	Total BTEX	
890-2733-6	SS06	Total/NA	Solid	Total BTEX	
890-2733-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 31853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	8015NM Prep	
890-2733-2	SS02	Total/NA	Solid	8015NM Prep	
890-2733-3	SS03	Total/NA	Solid	8015NM Prep	
890-2733-4	SS04	Total/NA	Solid	8015NM Prep	

GC Semi VOA (Continued)

Prep Batch: 31853 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-5	SS05	Total/NA	Solid	8015NM Prep	
890-2733-6	SS06	Total/NA	Solid	8015NM Prep	
890-2733-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-31853/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31853/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31853/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2732-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2732-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	8015B NM	31853
890-2733-2	SS02	Total/NA	Solid	8015B NM	31853
890-2733-3	SS03	Total/NA	Solid	8015B NM	31853
890-2733-4	SS04	Total/NA	Solid	8015B NM	31853
890-2733-5	SS05	Total/NA	Solid	8015B NM	31853
890-2733-6	SS06	Total/NA	Solid	8015B NM	31853
890-2733-7	SS07	Total/NA	Solid	8015B NM	31853
MB 880-31853/1-A	Method Blank	Total/NA	Solid	8015B NM	31853
LCS 880-31853/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31853
LCSD 880-31853/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31853
890-2732-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	31853
890-2732-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31853

Analysis Batch: 32057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Total/NA	Solid	8015 NM	
890-2733-2	SS02	Total/NA	Solid	8015 NM	
890-2733-3	SS03	Total/NA	Solid	8015 NM	
890-2733-4	SS04	Total/NA	Solid	8015 NM	
890-2733-5	SS05	Total/NA	Solid	8015 NM	
890-2733-6	SS06	Total/NA	Solid	8015 NM	
890-2733-7	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-7	SS07	Soluble	Solid	DI Leach	
MB 880-31858/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31858/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31858/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2732-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2732-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 31914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Soluble	Solid	DI Leach	
890-2733-2	SS02	Soluble	Solid	DI Leach	
890-2733-3	SS03	Soluble	Solid	DI Leach	
890-2733-4	SS04	Soluble	Solid	DI Leach	

HPLC/IC (Continued)

Leach Batch: 31914 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-5	SS05	Soluble	Solid	DI Leach	
890-2733-6	SS06	Soluble	Solid	DI Leach	
MB 880-31914/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31914/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31914/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17882-A-7-A MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-17882-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	

Analysis Batch: 31923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-1	SS01	Soluble	Solid	300.0	31914
890-2733-2	SS02	Soluble	Solid	300.0	31914
890-2733-3	SS03	Soluble	Solid	300.0	31914
890-2733-4	SS04	Soluble	Solid	300.0	31914
890-2733-5	SS05	Soluble	Solid	300.0	31914
890-2733-6	SS06	Soluble	Solid	300.0	31914
MB 880-31914/1-A	Method Blank	Soluble	Solid	300.0	31914
LCS 880-31914/2-A	Lab Control Sample	Soluble	Solid	300.0	31914
LCSD 880-31914/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31914
880-17882-A-7-A MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31914
880-17882-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	31914

Analysis Batch: 31926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2733-7	SS07	Soluble	Solid	300.0	31858
MB 880-31858/1-A	Method Blank	Soluble	Solid	300.0	31858
LCS 880-31858/2-A	Lab Control Sample	Soluble	Solid	300.0	31858
LCSD 880-31858/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31858
890-2732-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	31858
890-2732-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31858

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Client Sample ID: SS01
Date Collected: 08/08/22 11:00
Date Received: 08/08/22 15:56

Lab Sample ID: 890-2733-1
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			4.98 g	5 mL	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 13:59	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 13:31	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		10			31923	08/11/22 06:20	CH	EET MID

Client Sample ID: SS02
Date Collected: 08/08/22 11:10
Date Received: 08/08/22 15:56

Lab Sample ID: 890-2733-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 14:19	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 13:53	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		1			31923	08/11/22 06:48	CH	EET MID

Client Sample ID: SS03
Date Collected: 08/08/22 11:20
Date Received: 08/08/22 15:56

Lab Sample ID: 890-2733-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 15:42	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 14:15	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		5			31923	08/11/22 06:57	CH	EET MID

Client Sample ID: SS04
Date Collected: 08/08/22 11:30
Date Received: 08/08/22 15:56

Lab Sample ID: 890-2733-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 16:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-2733-4

Date Collected: 08/08/22 11:30

Matrix: Solid

Date Received: 08/08/22 15:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 14:37	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		1			31923	08/11/22 07:06	CH	EET MID

Client Sample ID: SS05

Lab Sample ID: 890-2733-5

Date Collected: 08/08/22 11:40

Matrix: Solid

Date Received: 08/08/22 15:56

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	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 16:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 14:58	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		10			31923	08/11/22 07:15	CH	EET MID

Client Sample ID: SS06

Lab Sample ID: 890-2733-6

Date Collected: 08/08/22 11:50

Matrix: Solid

Date Received: 08/08/22 15:56

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	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 16:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 15:20	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	31914	08/10/22 13:18	AJ	EET MID
Soluble	Analysis	300.0		10			31923	08/11/22 07:24	CH	EET MID

Client Sample ID: SS07

Lab Sample ID: 890-2733-7

Date Collected: 08/08/22 12:00

Matrix: Solid

Date Received: 08/08/22 15:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	32053	08/12/22 08:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32046	08/12/22 17:04	SM	EET MID
Total/NA	Analysis	Total BTEX		1			32163	08/15/22 11:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			32057	08/12/22 09:16	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31853	08/10/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		1			31943	08/11/22 16:04	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Client Sample ID: SS07

Date Collected: 08/08/22 12:00
Date Received: 08/08/22 15:56

Lab Sample ID: 890-2733-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	31858	08/09/22 15:40	AJ	EET MID
Soluble	Analysis	300.0		1			31926	08/17/22 18:18	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 94

Job ID: 890-2733-1
SDG: Lea County NM

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-2733-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2733-1	SS01	Solid	08/08/22 11:00	08/08/22 15:56	0.5
890-2733-2	SS02	Solid	08/08/22 11:10	08/08/22 15:56	0.5
890-2733-3	SS03	Solid	08/08/22 11:20	08/08/22 15:56	0.5
890-2733-4	SS04	Solid	08/08/22 11:30	08/08/22 15:56	0.5
890-2733-5	SS05	Solid	08/08/22 11:40	08/08/22 15:56	0.5
890-2733-6	SS06	Solid	08/08/22 11:50	08/08/22 15:56	0.5
890-2733-7	SS07	Solid	08/08/22 12:00	08/08/22 15:56	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum	Company Name:	Ensolum
Address:	3122 National Parks HWY	Address:	3122 National Parks HWY
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:		☑ Routine ☐ Rush	
Project Location:	Lea County, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	6.4	
Total Containers:		Corrected Temperature:	6.2	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	8.8.22	11:00	0.5'	Grab/	1	X	X	X
SS02	S	8.8.22	11:10	0.5'	Grab/	1	X	X	X
SS03	S	8.8.22	11:20	0.5'	Grab/	1	X	X	X
SS04	S	8.8.22	11:30	0.5'	Grab/	1	X	X	X
SS05	S	8.8.22	11:40	0.5'	Grab/	1	X	X	X
SS06	S	8.8.22	11:50	0.5'	Grab/	1	X	X	X
SS07	S	8.8.22	12:00	0.5'	Grab/	1	X	X	X

890-2733 Chain of Custody

Preservative Codes

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

Sample Comments

Incident Numbers
NAPP2212531906

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8.8.22 1556	2		
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2733-1
SDG Number: Lea County NM

Login Number: 2733
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.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2733-1
SDG Number: Lea County NM

Login Number: 2733
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 08/10/22 10:29 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3142-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/13/2022 3:12:50 PM

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

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Job ID: 890-3142-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3142-1

Receipt
The samples were received on 10/5/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3142-1), PH01 (890-3142-2), PH01 (890-3142-3) and PH01 (890-3142-4).

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

GC Semi VOA
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 880-36242 and analytical batch 880-36598 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 ID: PH01

Lab Sample ID: 890-3142-1

Date Collected: 10/04/22 09:00
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 10'

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		10/10/22 13:48	10/12/22 00:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:48	10/12/22 00:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:48	10/12/22 00:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:48	10/12/22 00:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:48	10/12/22 00:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:48	10/12/22 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*10/10/22 13:48*	*10/12/22 00:30*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 13:48*	*10/12/22 00:30*	*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			10/12/22 11:46	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			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/06/22 08:43	10/06/22 15:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/06/22 08:43	10/06/22 15:32	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/06/22 08:43	10/06/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:43*	*10/06/22 15:32*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/06/22 08:43*	*10/06/22 15:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5800**	**F1**	49.8		mg/Kg			10/11/22 07:34	10

Client Sample ID: PH01

Lab Sample ID: 890-3142-2

Date Collected: 10/04/22 09:30
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 12'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:48	10/12/22 00:51	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:48	10/12/22 00:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:48	10/12/22 00:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/10/22 13:48	10/12/22 00:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:48	10/12/22 00:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/10/22 13:48	10/12/22 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*10/10/22 13:48*	*10/12/22 00:51*	*1*

Client Sample ID: PH01

Lab Sample ID: 890-3142-2

Date Collected: 10/04/22 09:30
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 12'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/10/22 13:48*	*10/12/22 00:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/12/22 11:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:43	10/06/22 15:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:43	10/06/22 15:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:43	10/06/22 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:43*	*10/06/22 15:53*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/06/22 08:43*	*10/06/22 15:53*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6400**		49.5	mg/Kg			10/11/22 07:57	10

Client Sample ID: PH01

Lab Sample ID: 890-3142-3

Date Collected: 10/03/22 15:35
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/12/22 10:00	10/13/22 11:50	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/12/22 10:00	10/13/22 11:50	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/12/22 10:00	10/13/22 11:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/12/22 10:00	10/13/22 11:50	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/12/22 10:00	10/13/22 11:50	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/12/22 10:00	10/13/22 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:50*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/12/22 11:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/07/22 09:47	1

Client Sample ID: PH01

Lab Sample ID: 890-3142-3

Date Collected: 10/03/22 15:35
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 2'

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		10/06/22 08:43	10/06/22 16:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 16:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:14*	*1*
o-Terphenyl	*104*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:14*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9380**		99.8		mg/Kg			10/11/22 08:05	20

Client Sample ID: PH01

Lab Sample ID: 890-3142-4

Date Collected: 10/03/22 16:00
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 10'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/12/22 10:00	10/13/22 12:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/12/22 10:00	10/13/22 12:10	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/12/22 10:00	10/13/22 12:10	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/12/22 10:00	10/13/22 12:10	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/12/22 10:00	10/13/22 12:10	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/12/22 10:00	10/13/22 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:10*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			10/12/22 11:46	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 16:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 16:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:34*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:34*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Client Sample ID: PH01
Date Collected: 10/03/22 16:00
Date Received: 10/05/22 09:10
Sample Depth: 10'

Lab Sample ID: 890-3142-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1170		5.03		mg/Kg			10/11/22 08:12	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3142-1	PH01	120	96										
890-3142-2	PH01	115	99										
890-3142-3	PH01	110	97										
890-3142-3 MS	PH01	95	102										
890-3142-3 MSD	PH01	99	104										
890-3142-4	PH01	92	103										
890-3147-A-1-C MS	Matrix Spike	94	97										
890-3147-A-1-D MSD	Matrix Spike Duplicate	94	93										
LCS 880-36590/1-A	Lab Control Sample	89	92										
LCS 880-36731/1-A	Lab Control Sample	94	106										
LCSD 880-36590/2-A	Lab Control Sample Dup	89	92										
LCSD 880-36731/2-A	Lab Control Sample Dup	95	104										
MB 880-36590/5-A	Method Blank	98	82										
MB 880-36628/5-A	Method Blank	106	84										
MB 880-36731/5-A	Method Blank	88	108										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-19921-A-8-B MS	Matrix Spike	84	80										
880-19921-A-8-C MSD	Matrix Spike Duplicate	86	82										
890-3142-1	PH01	88	95										
890-3142-2	PH01	88	91										
890-3142-3	PH01	95	104										
890-3142-4	PH01	88	95										
LCS 880-36227/2-A	Lab Control Sample	85	90										
LCSD 880-36227/3-A	Lab Control Sample Dup	99	106										
MB 880-36227/1-A	Method Blank	105	114										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36590/5-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36590

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:48	10/11/22 21:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:48	10/11/22 21:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:48	10/11/22 21:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/10/22 13:48*	*10/11/22 21:22*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*10/10/22 13:48*	*10/11/22 21:22*	*1*

Lab Sample ID: LCS 880-36590/1-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36590

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09596		mg/Kg		96	70 - 130		
Toluene			0.100	0.09632		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.08819		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1845		mg/Kg		92	70 - 130		
o-Xylene			0.100	0.09352		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-36590/2-A
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36590

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1054		mg/Kg		105	70 - 130	9	35
Toluene			0.100	0.1064		mg/Kg		106	70 - 130	10	35
Ethylbenzene			0.100	0.09629		mg/Kg		96	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.1995		mg/Kg		100	70 - 130	8	35
o-Xylene			0.100	0.09993		mg/Kg		100	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-3147-A-1-C MS
Matrix: Solid
Analysis Batch: 36625

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36590

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.1006		mg/Kg		101	70 - 130		
Toluene	<0.00200	U	0.0998	0.09590		mg/Kg		95	70 - 130		

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

Lab Sample ID: 890-3147-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36590**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.08125		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1643		mg/Kg		82	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08297		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3147-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36590**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.1022		mg/Kg		103	70 - 130	2	35
Toluene	<0.00200	U	0.0996	0.1003		mg/Kg		99	70 - 130	5	35
Ethylbenzene	<0.00200	U	0.0996	0.08603		mg/Kg		86	70 - 130	6	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1774		mg/Kg		89	70 - 130	8	35
o-Xylene	<0.00200	U	0.0996	0.08805		mg/Kg		88	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: MB 880-36628/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36625 — **Prep Batch: 36628**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 10:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/11/22 08:09	10/11/22 10:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/11/22 08:09	10/11/22 10:38	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/11/22 08:09	10/11/22 10:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 08:09*	*10/11/22 10:38*	*1*

Lab Sample ID: MB 880-36731/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36813 — **Prep Batch: 36731**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/12/22 10:00	10/13/22 11:21	1

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

Lab Sample ID: MB 880-36731/5-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36731

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/12/22 10:00	10/13/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*

Lab Sample ID: LCS 880-36731/1-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36731

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07510		mg/Kg		75	70 - 130		
Toluene			0.100	0.08909		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.07922		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1568		mg/Kg		78	70 - 130		
o-Xylene			0.100	0.07872		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-36731/2-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36731

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09069		mg/Kg		91	70 - 130	19	35
Toluene			0.100	0.09188		mg/Kg		92	70 - 130	3	35
Ethylbenzene			0.100	0.08146		mg/Kg		81	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1640		mg/Kg		82	70 - 130	4	35
o-Xylene			0.100	0.08158		mg/Kg		82	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3142-3 MS
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.09148		mg/Kg		92	70 - 130		
Toluene	<0.00201	U	0.0998	0.09208		mg/Kg		92	70 - 130		
Ethylbenzene	<0.00201	U	0.0998	0.08246		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1662		mg/Kg		83	70 - 130		
o-Xylene	<0.00201	U	0.0998	0.08307		mg/Kg		83	70 - 130		

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

Lab Sample ID: 890-3142-3 MS
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36731

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-3142-3 MSD
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08863		mg/Kg		90	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.09418		mg/Kg		95	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.08216		mg/Kg		83	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1661		mg/Kg		84	70 - 130	0	35
o-Xylene	<0.00201	U	0.0990	0.08369		mg/Kg		84	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

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

Lab Sample ID: MB 880-36227/1-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36227

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		10/06/22 08:43	10/06/22 09:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*105*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*
o-Terphenyl	*114*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*

Lab Sample ID: LCS 880-36227/2-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	823.7		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	835.9		mg/Kg		84	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

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

Lab Sample ID: LCSD 880-36227/3-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	893.3		mg/Kg		89	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	915.3		mg/Kg		92	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 880-19921-A-8-B MS
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36227

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	1025		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	838.6		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 880-19921-A-8-C MSD
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36227

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1051		mg/Kg		103	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	868.5		mg/Kg		84	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36242/1-A
Matrix: Solid
Analysis Batch: 36598

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			10/11/22 07:11	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-36242/2-A
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36242/3-A
Matrix: Solid
Analysis Batch: 36598

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	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-3142-1 MS
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5800	F1	2490	9310	F1	mg/Kg		141	90 - 110		

Lab Sample ID: 890-3142-1 MSD
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5800	F1	2490	9291	F1	mg/Kg		140	90 - 110	0	20

GC VOA

Prep Batch: 36590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	5035	
890-3142-2	PH01	Total/NA	Solid	5035	
MB 880-36590/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36590/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36590/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3147-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	8021B	36590
890-3142-2	PH01	Total/NA	Solid	8021B	36590
MB 880-36590/5-A	Method Blank	Total/NA	Solid	8021B	36590
MB 880-36628/5-A	Method Blank	Total/NA	Solid	8021B	36628
LCS 880-36590/1-A	Lab Control Sample	Total/NA	Solid	8021B	36590
LCSD 880-36590/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36590
890-3147-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	36590
890-3147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36590

Prep Batch: 36628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36628/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-3	PH01	Total/NA	Solid	5035	
890-3142-4	PH01	Total/NA	Solid	5035	
MB 880-36731/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36731/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36731/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3142-3 MS	PH01	Total/NA	Solid	5035	
890-3142-3 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 36758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	Total BTEX	
890-3142-2	PH01	Total/NA	Solid	Total BTEX	
890-3142-3	PH01	Total/NA	Solid	Total BTEX	
890-3142-4	PH01	Total/NA	Solid	Total BTEX	

Analysis Batch: 36813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-3	PH01	Total/NA	Solid	8021B	36731
890-3142-4	PH01	Total/NA	Solid	8021B	36731
MB 880-36731/5-A	Method Blank	Total/NA	Solid	8021B	36731
LCS 880-36731/1-A	Lab Control Sample	Total/NA	Solid	8021B	36731
LCSD 880-36731/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36731
890-3142-3 MS	PH01	Total/NA	Solid	8021B	36731
890-3142-3 MSD	PH01	Total/NA	Solid	8021B	36731

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

GC Semi VOA

Analysis Batch: 36218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	8015B NM	36227
890-3142-2	PH01	Total/NA	Solid	8015B NM	36227
890-3142-3	PH01	Total/NA	Solid	8015B NM	36227
890-3142-4	PH01	Total/NA	Solid	8015B NM	36227
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015B NM	36227
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36227
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36227
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	36227
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36227

Prep Batch: 36227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	8015NM Prep	
890-3142-2	PH01	Total/NA	Solid	8015NM Prep	
890-3142-3	PH01	Total/NA	Solid	8015NM Prep	
890-3142-4	PH01	Total/NA	Solid	8015NM Prep	
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Total/NA	Solid	8015 NM	
890-3142-2	PH01	Total/NA	Solid	8015 NM	
890-3142-3	PH01	Total/NA	Solid	8015 NM	
890-3142-4	PH01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Soluble	Solid	DI Leach	
890-3142-2	PH01	Soluble	Solid	DI Leach	
890-3142-3	PH01	Soluble	Solid	DI Leach	
890-3142-4	PH01	Soluble	Solid	DI Leach	
MB 880-36242/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3142-1 MS	PH01	Soluble	Solid	DI Leach	
890-3142-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 36598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-1	PH01	Soluble	Solid	300.0	36242
890-3142-2	PH01	Soluble	Solid	300.0	36242
890-3142-3	PH01	Soluble	Solid	300.0	36242
890-3142-4	PH01	Soluble	Solid	300.0	36242
MB 880-36242/1-A	Method Blank	Soluble	Solid	300.0	36242
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	300.0	36242

HPLC/IC (Continued)

Analysis Batch: 36598 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36242
890-3142-1 MS	PH01	Soluble	Solid	300.0	36242
890-3142-1 MSD	PH01	Soluble	Solid	300.0	36242

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Client Sample ID: PH01
Date Collected: 10/04/22 09:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3142-1
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	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/12/22 00:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36758	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36342	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 15:32	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		10			36598	10/11/22 07:34	CH	EET MID

Client Sample ID: PH01
Date Collected: 10/04/22 09:30
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3142-2
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	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/12/22 00:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36758	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36342	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 15:53	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		10			36598	10/11/22 07:57	CH	EET MID

Client Sample ID: PH01
Date Collected: 10/03/22 15:35
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3142-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	36731	10/12/22 10:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36813	10/13/22 11:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36758	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36342	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 16:14	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		20			36598	10/11/22 08:05	CH	EET MID

Client Sample ID: PH01
Date Collected: 10/03/22 16:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3142-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	36731	10/12/22 10:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36813	10/13/22 12:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36758	10/12/22 11:46	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Client Sample ID: PH01
Date Collected: 10/03/22 16:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3142-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			36342	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 16:34	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 08:12	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 94

Job ID: 890-3142-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3142-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3142-1	PH01	Solid	10/04/22 09:00	10/05/22 09:10	10'
890-3142-2	PH01	Solid	10/04/22 09:30	10/05/22 09:10	12'
890-3142-3	PH01	Solid	10/03/22 15:35	10/05/22 09:10	2'
890-3142-4	PH01	Solid	10/03/22 16:00	10/05/22 09:10	10'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	10.04.22	900	10'	G	2	X	X	X
PH01	S	10.04.22	930	12'	G	2	X	X	X
PH01	S	10.03.22	1535	2'	G	1	X	X	X
PH01	S	10.03.22	1600	10'	G	1	X	X	X

Parameters

890-3142 Chain of Custody

Sample Comments

Incident Number
NAPP2212531906

10.04.22

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Amanda Stuff	10/5/22 0910			
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3142-1
SDG Number: 03D2057010

Login Number: 3142
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: 890-3142-1
SDG Number: 03D2057010

Login Number: 3142
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/06/22 10:20 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3143-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/13/2022 3:12:49 PM

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

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Job ID: 890-3143-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3143-1

Receipt
The samples were received on 10/5/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3143-1) and PH02 (890-3143-2).

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 880-36292 and analytical batch 880-36222 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
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36241 and analytical batch 880-36597 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 ID: PH02

Lab Sample ID: 890-3143-1

Date Collected: 10/04/22 10:05
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 12:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 12:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 12:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/12/22 10:00	10/13/22 12:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 12:31	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/12/22 10:00	10/13/22 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:31*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:31*	*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			10/13/22 15:19	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			10/07/22 10:14	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		10/06/22 15:51	10/06/22 21:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 21:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*10/06/22 15:51*	*10/06/22 21:19*	*1*
o-Terphenyl	*76*		*70 - 130*	*10/06/22 15:51*	*10/06/22 21:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7810**		50.5		mg/Kg			10/11/22 02:10	10

Client Sample ID: PH02

Lab Sample ID: 890-3143-2

Date Collected: 10/04/22 10:30
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 12'

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		10/12/22 10:00	10/13/22 12:51	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/12/22 10:00	10/13/22 12:51	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/12/22 10:00	10/13/22 12:51	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/12/22 10:00	10/13/22 12:51	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/12/22 10:00	10/13/22 12:51	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/12/22 10:00	10/13/22 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:51*	*1*

Client Sample ID: PH02
Date Collected: 10/04/22 10:30
Date Received: 10/05/22 09:10
Sample Depth: 12'

Lab Sample ID: 890-3143-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/12/22 10:00*	*10/13/22 12:51*	*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			10/13/22 15:19	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			10/07/22 10:14	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		10/06/22 15:51	10/06/22 22:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 22:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 22:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/06/22 15:51*	*10/06/22 22:24*	*1*
o-Terphenyl	*78*		*70 - 130*	*10/06/22 15:51*	*10/06/22 22:24*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7510**		50.0		mg/Kg			10/11/22 02:17	10

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3142-A-3-D MS	Matrix Spike	95	102
890-3142-A-3-E MSD	Matrix Spike Duplicate	99	104
890-3143-1	PH02	95	101
890-3143-2	PH02	92	102
LCS 880-36731/1-A	Lab Control Sample	94	106
LCSD 880-36731/2-A	Lab Control Sample Dup	95	104
MB 880-36731/5-A	Method Blank	88	108

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3143-1	PH02	83	76
890-3143-1 MS	PH02	84	70
890-3143-1 MSD	PH02	87	72
890-3143-2	PH02	82	78
LCS 880-36292/2-A	Lab Control Sample	95	92
LCSD 880-36292/3-A	Lab Control Sample Dup	94	90
MB 880-36292/1-A	Method Blank	11 S1-	13 S1-

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36731/5-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36731

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/12/22 10:00	10/13/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*

Lab Sample ID: LCS 880-36731/1-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36731

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07510		mg/Kg		75	70 - 130		
Toluene			0.100	0.08909		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.07922		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1568		mg/Kg		78	70 - 130		
o-Xylene			0.100	0.07872		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-36731/2-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36731

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09069		mg/Kg		91	70 - 130	19	35
Toluene			0.100	0.09188		mg/Kg		92	70 - 130	3	35
Ethylbenzene			0.100	0.08146		mg/Kg		81	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1640		mg/Kg		82	70 - 130	4	35
o-Xylene			0.100	0.08158		mg/Kg		82	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3142-A-3-D MS
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.09148		mg/Kg		92	70 - 130		
Toluene	<0.00201	U	0.0998	0.09208		mg/Kg		92	70 - 130		

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

Lab Sample ID: 890-3142-A-3-D MS
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.08246		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1662		mg/Kg		83	70 - 130
o-Xylene	<0.00201	U	0.0998	0.08307		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-3142-A-3-E MSD
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08863		mg/Kg		90	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.09418		mg/Kg		95	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.08216		mg/Kg		83	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1661		mg/Kg		84	70 - 130	0	35
o-Xylene	<0.00201	U	0.0990	0.08369		mg/Kg		84	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

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

Lab Sample ID: MB 880-36292/1-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36292

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		10/06/22 15:51	10/06/22 19:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 19:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 19:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*11*	*S1-*	*70 - 130*	*10/06/22 15:51*	*10/06/22 19:28*	*1*
o-Terphenyl	*13*	*S1-*	*70 - 130*	*10/06/22 15:51*	*10/06/22 19:28*	*1*

Lab Sample ID: LCS 880-36292/2-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36292

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	954.5		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)			1000	872.9		mg/Kg		87	70 - 130

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

Lab Sample ID: LCS 880-36292/2-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36292

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

Lab Sample ID: LCSD 880-36292/3-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36292

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	937.8		mg/Kg		94	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	848.7		mg/Kg		85	70 - 130	3	20

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

Lab Sample ID: 890-3143-1 MS
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 36292

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	1052		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	799.9		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*70*		*70 - 130*

Lab Sample ID: 890-3143-1 MSD
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 36292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1090		mg/Kg		107	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	830.8		mg/Kg		83	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36241/1-A
Matrix: Solid
Analysis Batch: 36597

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			10/10/22 22:26	1

Lab Sample ID: LCS 880-36241/2-A
Matrix: Solid
Analysis Batch: 36597

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.6		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36241/3-A
Matrix: Solid
Analysis Batch: 36597

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.4		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3141-A-11-B MS
Matrix: Solid
Analysis Batch: 36597

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	3180	F1	1250	4582	F1	mg/Kg		112	90 - 110		

Lab Sample ID: 890-3141-A-11-C MSD
Matrix: Solid
Analysis Batch: 36597

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3180	F1	1250	4577	F1	mg/Kg		112	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

GC VOA

Prep Batch: 36731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	5035	
890-3143-2	PH02	Total/NA	Solid	5035	
MB 880-36731/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36731/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36731/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3142-A-3-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3142-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	8021B	36731
890-3143-2	PH02	Total/NA	Solid	8021B	36731
MB 880-36731/5-A	Method Blank	Total/NA	Solid	8021B	36731
LCS 880-36731/1-A	Lab Control Sample	Total/NA	Solid	8021B	36731
LCSD 880-36731/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36731
890-3142-A-3-D MS	Matrix Spike	Total/NA	Solid	8021B	36731
890-3142-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36731

Analysis Batch: 36894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	Total BTEX	
890-3143-2	PH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	8015B NM	36292
890-3143-2	PH02	Total/NA	Solid	8015B NM	36292
MB 880-36292/1-A	Method Blank	Total/NA	Solid	8015B NM	36292
LCS 880-36292/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36292
LCSD 880-36292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36292
890-3143-1 MS	PH02	Total/NA	Solid	8015B NM	36292
890-3143-1 MSD	PH02	Total/NA	Solid	8015B NM	36292

Prep Batch: 36292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	8015NM Prep	
890-3143-2	PH02	Total/NA	Solid	8015NM Prep	
MB 880-36292/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36292/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3143-1 MS	PH02	Total/NA	Solid	8015NM Prep	
890-3143-1 MSD	PH02	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Total/NA	Solid	8015 NM	
890-3143-2	PH02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

HPLC/IC

Leach Batch: 36241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Soluble	Solid	DI Leach	
890-3143-2	PH02	Soluble	Solid	DI Leach	
MB 880-36241/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36241/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36241/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3141-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3141-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3143-1	PH02	Soluble	Solid	300.0	36241
890-3143-2	PH02	Soluble	Solid	300.0	36241
MB 880-36241/1-A	Method Blank	Soluble	Solid	300.0	36241
LCS 880-36241/2-A	Lab Control Sample	Soluble	Solid	300.0	36241
LCSD 880-36241/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36241
890-3141-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	36241
890-3141-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36241

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

Client Sample ID: PH02

Lab Sample ID: 890-3143-1

Date Collected: 10/04/22 10:05

Matrix: Solid

Date Received: 10/05/22 09:10

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	36731	10/12/22 10:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36813	10/13/22 12:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36894	10/13/22 15:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			36363	10/07/22 10:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36292	10/06/22 15:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36222	10/06/22 21:19	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	36241	10/06/22 09:50	CH	EET MID
Soluble	Analysis	300.0		10			36597	10/11/22 02:10	CH	EET MID

Client Sample ID: PH02

Lab Sample ID: 890-3143-2

Date Collected: 10/04/22 10:30

Matrix: Solid

Date Received: 10/05/22 09:10

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	36731	10/12/22 10:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36813	10/13/22 12:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36894	10/13/22 15:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			36363	10/07/22 10:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36292	10/06/22 15:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36222	10/06/22 22:24	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36241	10/06/22 09:50	CH	EET MID
Soluble	Analysis	300.0		10			36597	10/11/22 02:17	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 94

Job ID: 890-3143-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3143-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3143-1	PH02	Solid	10/04/22 10:05	10/05/22 09:10	3'
890-3143-2	PH02	Solid	10/04/22 10:30	10/05/22 09:10	12'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TDM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH02	S	10.04.22	1005	3'	G	2		X	X	X
PH02	S	10.04.22	1030	12'	G	2		X	X	X

Parameters

890-3143 Chain of Custody

Sample Comments

Incident Number
NAPP2212531906

10.04.22

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	10/5/22 0910	2		
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3143-1
SDG Number: 03D2057010

Login Number: 3143
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: 890-3143-1
SDG Number: 03D2057010

Login Number: 3143
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/06/22 10:20 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3144-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/13/2022 10:49:01 AM

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

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 94

Job ID: 890-3144-1
SDG: 03D2057010

Job ID: 890-3144-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3144-1

Receipt
The samples were received on 10/5/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH03 (890-3144-1) and PH03 (890-3144-2).

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

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

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

Client Sample ID: PH03

Lab Sample ID: 890-3144-1

Date Collected: 10/04/22 11:00
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 10'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F2 F1	0.00201		mg/Kg		10/10/22 13:52	10/12/22 23:25	1
Toluene	<0.00201	U F1	0.00201		mg/Kg		10/10/22 13:52	10/12/22 23:25	1
Ethylbenzene	<0.00201	U F1	0.00201		mg/Kg		10/10/22 13:52	10/12/22 23:25	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402		mg/Kg		10/10/22 13:52	10/12/22 23:25	1
o-Xylene	<0.00201	U F1	0.00201		mg/Kg		10/10/22 13:52	10/12/22 23:25	1
Xylenes, Total	<0.00402	U F1	0.00402		mg/Kg		10/10/22 13:52	10/12/22 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:25*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 16:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 16:55	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:55*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/06/22 08:43*	*10/06/22 16:55*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9320**		99.4		mg/Kg			10/07/22 12:27	20

Client Sample ID: PH03

Lab Sample ID: 890-3144-2

Date Collected: 10/04/22 11:30
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 12'

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		10/10/22 13:52	10/12/22 23:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:46	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/10/22 13:52	10/12/22 23:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:46	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/10/22 13:52	10/12/22 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:46*	*1*

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

Client Sample ID: PH03
Date Collected: 10/04/22 11:30
Date Received: 10/05/22 09:10
Sample Depth: 12'

Lab Sample ID: 890-3144-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:46*	*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			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:16	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:16	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:16*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:16*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8940**		49.8		mg/Kg			10/07/22 12:33	10

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3144-1	PH03	93	99										
890-3144-1 MS	PH03	117	97										
890-3144-1 MSD	PH03	85	95										
890-3144-2	PH03	119	87										
LCS 880-36591/1-A	Lab Control Sample	96	104										
LCSD 880-36591/2-A	Lab Control Sample Dup	96	100										
MB 880-36589/5-A	Method Blank	90	94										
MB 880-36591/5-A	Method Blank	88	94										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-19921-A-8-B MS	Matrix Spike	84	80										
880-19921-A-8-C MSD	Matrix Spike Duplicate	86	82										
890-3144-1	PH03	88	95										
890-3144-2	PH03	87	93										
LCS 880-36227/2-A	Lab Control Sample	85	90										
LCSD 880-36227/3-A	Lab Control Sample Dup	99	106										
MB 880-36227/1-A	Method Blank	105	114										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36589/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36589

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*

Lab Sample ID: MB 880-36591/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36591

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*

Lab Sample ID: LCS 880-36591/1-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1109		mg/Kg		111	70 - 130		
Toluene			0.100	0.09785		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09422		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1941		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.1122		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36591/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09337		mg/Kg		93	70 - 130	17	35

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

Lab Sample ID: LCSD 880-36591/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08557		mg/Kg		86	70 - 130	13	35
Ethylbenzene			0.100	0.08075		mg/Kg		81	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1627		mg/Kg		81	70 - 130	18	35
o-Xylene			0.100	0.09260		mg/Kg		93	70 - 130	19	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3144-1 MS
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 36591

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.07974		mg/Kg		79	70 - 130
Toluene	<0.00201	U F1	0.100	0.08047		mg/Kg		80	70 - 130
Ethylbenzene	<0.00201	U F1	0.100	0.08454		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1817		mg/Kg		91	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.1046		mg/Kg		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3144-1 MSD
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 36591

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	<0.00198	U F2 F1	mg/Kg		0.4	70 - 130	198	35
Toluene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	<0.00396	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-36227/1-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36227

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		10/06/22 08:43	10/06/22 09:43	1

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

Lab Sample ID: MB 880-36227/1-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36227

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*
o-Terphenyl	*114*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*

Lab Sample ID: LCS 880-36227/2-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	823.7		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	835.9		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Lab Sample ID: LCSD 880-36227/3-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	893.3		mg/Kg		89	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	915.3		mg/Kg		92	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 880-19921-A-8-B MS
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36227

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	1025		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	838.6		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

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

Lab Sample ID: 880-19921-A-8-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36218 — **Prep Batch: 36227**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1051		mg/Kg		103	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	868.5		mg/Kg		84	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36287/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/07/22 10:29	1

Lab Sample ID: LCS 880-36287/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	225.7		mg/Kg		90	90 - 110		

Lab Sample ID: LCSD 880-36287/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	230.8		mg/Kg		92	90 - 110	2	20

Lab Sample ID: 880-20057-A-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	66.1		248	307.7		mg/Kg		97	90 - 110		

Lab Sample ID: 880-20057-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36379

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	66.1		248	322.7		mg/Kg		103	90 - 110	5	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

GC VOA

Prep Batch: 36589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36589/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	5035	
890-3144-2	PH03	Total/NA	Solid	5035	
MB 880-36591/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3144-1 MS	PH03	Total/NA	Solid	5035	
890-3144-1 MSD	PH03	Total/NA	Solid	5035	

Analysis Batch: 36716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	8021B	36591
890-3144-2	PH03	Total/NA	Solid	8021B	36591
MB 880-36589/5-A	Method Blank	Total/NA	Solid	8021B	36589
MB 880-36591/5-A	Method Blank	Total/NA	Solid	8021B	36591
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	8021B	36591
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36591
890-3144-1 MS	PH03	Total/NA	Solid	8021B	36591
890-3144-1 MSD	PH03	Total/NA	Solid	8021B	36591

Analysis Batch: 36859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	Total BTEX	
890-3144-2	PH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	8015B NM	36227
890-3144-2	PH03	Total/NA	Solid	8015B NM	36227
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015B NM	36227
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36227
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36227
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	36227
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36227

Prep Batch: 36227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	8015NM Prep	
890-3144-2	PH03	Total/NA	Solid	8015NM Prep	
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

GC Semi VOA

Analysis Batch: 36343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Total/NA	Solid	8015 NM	
890-3144-2	PH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Soluble	Solid	DI Leach	
890-3144-2	PH03	Soluble	Solid	DI Leach	
MB 880-36287/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36287/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36287/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-20057-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20057-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3144-1	PH03	Soluble	Solid	300.0	36287
890-3144-2	PH03	Soluble	Solid	300.0	36287
MB 880-36287/1-A	Method Blank	Soluble	Solid	300.0	36287
LCS 880-36287/2-A	Lab Control Sample	Soluble	Solid	300.0	36287
LCSD 880-36287/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36287
880-20057-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	36287
880-20057-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36287

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

Client Sample ID: PH03

Date Collected: 10/04/22 11:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3144-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 23:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36859	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36343	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 16:55	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36287	10/06/22 15:32	KS	EET MID
Soluble	Analysis	300.0		20			36379	10/07/22 12:27	CH	EET MID

Client Sample ID: PH03

Date Collected: 10/04/22 11:30
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3144-2

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			4.99 g	5 mL	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 23:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36859	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36343	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 17:16	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36287	10/06/22 15:32	KS	EET MID
Soluble	Analysis	300.0		10			36379	10/07/22 12:33	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 94

Job ID: 890-3144-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3144-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3144-1	PH03	Solid	10/04/22 11:00	10/05/22 09:10	10'
890-3144-2	PH03	Solid	10/04/22 11:30	10/05/22 09:10	12'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH03	S	10.04.22	1100	10'	G	2		X	X	X	
PH03	S	10.04.22	1130	12'	G	2		X	X	X	

890-3144 Chain of Custody

Incident Number
NAPP2212531906

10.04.22

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2	10/5/22 0910	3	4	
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3144-1
SDG Number: 03D2057010

Login Number: 3144
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: 890-3144-1
SDG Number: 03D2057010

Login Number: 3144
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/06/22 10:20 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3145-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

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Authorized for release by:
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Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

Job ID: 890-3145-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3145-1

Receipt
The samples were received on 10/5/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH04 (890-3145-1) and PH04 (890-3145-2).

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

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36242 and 880-36242 and analytical batch 880-36598 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 ID: PH04

Lab Sample ID: 890-3145-1

Date Collected: 10/04/22 13:00
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 8'

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		10/10/22 13:52	10/13/22 00:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 00:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 00:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/10/22 13:52	10/13/22 00:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/13/22 00:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/10/22 13:52	10/13/22 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:06*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:06*	*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			10/13/22 11:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:36	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:36	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/06/22 08:43	10/06/22 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:36*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:36*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10300**		100		mg/Kg			10/11/22 08:20	20

Client Sample ID: PH04

Lab Sample ID: 890-3145-2

Date Collected: 10/04/22 13:30
Matrix: Solid
Date Received: 10/05/22 09:10
Sample Depth: 12'

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		10/10/22 13:52	10/13/22 00:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 00:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 00:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:52	10/13/22 00:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:52	10/13/22 00:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:52	10/13/22 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:26*	*1*

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

Client Sample ID: PH04
Date Collected: 10/04/22 13:30
Date Received: 10/05/22 09:10
Sample Depth: 12'

Lab Sample ID: 890-3145-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/10/22 13:52*	*10/13/22 00:26*	*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			10/13/22 11:29	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			10/07/22 09:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/06/22 08:43	10/06/22 17:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/06/22 08:43	10/06/22 17:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/06/22 08:43	10/06/22 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:57*	*1*
o-Terphenyl	*94*		*70 - 130*	*10/06/22 08:43*	*10/06/22 17:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7190**		49.8	mg/Kg			10/12/22 12:09	10

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3144-A-1-D MS	Matrix Spike	117	97
890-3144-A-1-E MSD	Matrix Spike Duplicate	85	95
890-3145-1	PH04	106	86
890-3145-2	PH04	94	93
LCS 880-36591/1-A	Lab Control Sample	96	104
LCSD 880-36591/2-A	Lab Control Sample Dup	96	100
MB 880-36589/5-A	Method Blank	90	94
MB 880-36591/5-A	Method Blank	88	94

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-19921-A-8-B MS	Matrix Spike	84	80
880-19921-A-8-C MSD	Matrix Spike Duplicate	86	82
890-3145-1	PH04	86	92
890-3145-2	PH04	88	94
890-3145-2 MS	PH04	77	73
890-3145-2 MSD	PH04	89	74
LCS 880-36227/2-A	Lab Control Sample	85	90
LCS 880-36321/2-A	Lab Control Sample	102	93
LCSD 880-36227/3-A	Lab Control Sample Dup	99	106
LCSD 880-36321/3-A	Lab Control Sample Dup	102	87
MB 880-36227/1-A	Method Blank	105	114
MB 880-36321/1-A	Method Blank	90	89

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36589/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36589

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*

Lab Sample ID: MB 880-36591/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36591

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:52	10/12/22 23:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:52	10/12/22 23:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:52*	*10/12/22 23:04*	*1*

Lab Sample ID: LCS 880-36591/1-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1109		mg/Kg		111	70 - 130		
Toluene			0.100	0.09785		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09422		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1941		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.1122		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36591/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09337		mg/Kg		93	70 - 130	17	35

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

Lab Sample ID: LCSD 880-36591/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36591

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08557		mg/Kg		86	70 - 130	13	35
Ethylbenzene			0.100	0.08075		mg/Kg		81	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1627		mg/Kg		81	70 - 130	18	35
o-Xylene			0.100	0.09260		mg/Kg		93	70 - 130	19	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3144-A-1-D MS
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36591

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.07974		mg/Kg		79	70 - 130
Toluene	<0.00201	U F1	0.100	0.08047		mg/Kg		80	70 - 130
Ethylbenzene	<0.00201	U F1	0.100	0.08454		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1817		mg/Kg		91	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.1046		mg/Kg		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-3144-A-1-E MSD
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36591

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	<0.00198	U F2 F1	mg/Kg		0.4	70 - 130	198	35
Toluene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	<0.00396	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00201	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-36227/1-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36227

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		10/06/22 08:43	10/06/22 09:43	1

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

Lab Sample ID: MB 880-36227/1-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36227

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:43	10/06/22 09:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*
o-Terphenyl	*114*		*70 - 130*	*10/06/22 08:43*	*10/06/22 09:43*	*1*

Lab Sample ID: LCS 880-36227/2-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	823.7		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	835.9		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Lab Sample ID: LCSD 880-36227/3-A
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36227

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	893.3		mg/Kg		89	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	915.3		mg/Kg		92	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 880-19921-A-8-B MS
Matrix: Solid
Analysis Batch: 36218

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36227

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	1025		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	838.6		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

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

Lab Sample ID: 880-19921-A-8-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36218 — **Prep Batch: 36227**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1051		mg/Kg		103	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	868.5		mg/Kg		84	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: MB 880-36321/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36313 — **Prep Batch: 36321**

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		10/07/22 07:40	10/07/22 09:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 09:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/07/22 07:40	10/07/22 09:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/07/22 07:40*	*10/07/22 09:54*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/07/22 07:40*	*10/07/22 09:54*	*1*

Lab Sample ID: LCS 880-36321/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36313 — **Prep Batch: 36321**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	859.3		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1064		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: LCSD 880-36321/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36313 — **Prep Batch: 36321**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	825.5		mg/Kg		83	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	989.6		mg/Kg		99	70 - 130	7	20

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

Lab Sample ID: LCSD 880-36321/3-A
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36321

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-3145-2 MS
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: PH04
Prep Type: Total/NA
Prep Batch: 36321

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	816.5		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	810.5		mg/Kg		81	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-3145-2 MSD
Matrix: Solid
Analysis Batch: 36313

Client Sample ID: PH04
Prep Type: Total/NA
Prep Batch: 36321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	847.6		mg/Kg		85	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	830.8		mg/Kg		83	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	74		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36242/1-A
Matrix: Solid
Analysis Batch: 36598

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			10/11/22 07:11	1

Lab Sample ID: LCS 880-36242/2-A
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	260.6		mg/Kg		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-36242/3-A
Matrix: Solid
Analysis Batch: 36598

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	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-3142-A-1-B MS
Matrix: Solid
Analysis Batch: 36598

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	5800	F1	2490	9310	F1	mg/Kg		141	90 - 110		

Lab Sample ID: 890-3142-A-1-C MSD
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5800	F1	2490	9291	F1	mg/Kg		140	90 - 110	0	20

Lab Sample ID: 890-3147-A-4-B MS
Matrix: Solid
Analysis Batch: 36598

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	8500	F1	5000	18090	F1	mg/Kg		192	90 - 110		

Lab Sample ID: 890-3147-A-4-C MSD
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8500	F1	5000	17000	F1	mg/Kg		170	90 - 110	6	20

GC VOA

Prep Batch: 36589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36589/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	5035	
890-3145-2	PH04	Total/NA	Solid	5035	
MB 880-36591/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3144-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3144-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	8021B	36591
890-3145-2	PH04	Total/NA	Solid	8021B	36591
MB 880-36589/5-A	Method Blank	Total/NA	Solid	8021B	36589
MB 880-36591/5-A	Method Blank	Total/NA	Solid	8021B	36591
LCS 880-36591/1-A	Lab Control Sample	Total/NA	Solid	8021B	36591
LCSD 880-36591/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36591
890-3144-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	36591
890-3144-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36591

Analysis Batch: 36860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	Total BTEX	
890-3145-2	PH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	8015B NM	36227
890-3145-2	PH04	Total/NA	Solid	8015B NM	36227
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015B NM	36227
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36227
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36227
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015B NM	36227
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36227

Prep Batch: 36227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	8015NM Prep	
890-3145-2	PH04	Total/NA	Solid	8015NM Prep	
MB 880-36227/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36227/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36227/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-19921-A-8-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-19921-A-8-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

GC Semi VOA

Analysis Batch: 36313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36321/1-A	Method Blank	Total/NA	Solid	8015B NM	36321
LCS 880-36321/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36321
LCSD 880-36321/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36321
890-3145-2 MS	PH04	Total/NA	Solid	8015B NM	36321
890-3145-2 MSD	PH04	Total/NA	Solid	8015B NM	36321

Prep Batch: 36321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36321/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36321/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36321/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3145-2 MS	PH04	Total/NA	Solid	8015NM Prep	
890-3145-2 MSD	PH04	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Total/NA	Solid	8015 NM	
890-3145-2	PH04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Soluble	Solid	DI Leach	
890-3145-2	PH04	Soluble	Solid	DI Leach	
MB 880-36242/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3142-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3142-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3147-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3147-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3145-1	PH04	Soluble	Solid	300.0	36242
890-3145-2	PH04	Soluble	Solid	300.0	36242
MB 880-36242/1-A	Method Blank	Soluble	Solid	300.0	36242
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	300.0	36242
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36242
890-3142-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	36242
890-3142-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36242
890-3147-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	36242
890-3147-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36242

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

Client Sample ID: PH04

Date Collected: 10/04/22 13:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3145-1

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	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 00:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36860	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36344	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 17:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		20			36598	10/11/22 08:20	CH	EET MID

Client Sample ID: PH04

Date Collected: 10/04/22 13:30
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3145-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36591	10/10/22 13:52	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/13/22 00:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36860	10/13/22 11:29	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36344	10/07/22 09:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36227	10/06/22 08:43	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36218	10/06/22 17:57	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		10			36598	10/12/22 12:09	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 94

Job ID: 890-3145-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3145-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3145-1	PH04	Solid	10/04/22 13:00	10/05/22 09:10	8'
890-3145-2	PH04	Solid	10/04/22 13:30	10/05/22 09:10	12'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH04	S	10.04.22	1300	8'	G	2		X	X	X
PH04	S	10.04.22	1330	12'	G	2		X	X	X

890-3145 Chain of Custody

10.04.22

Preservative Codes

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

Sample Comments

Incident Number
NAPP2212531906

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	10/5/22 0913			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3145-1
SDG Number: 03D2057010

Login Number: 3145
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: 890-3145-1
SDG Number: 03D2057010

Login Number: 3145
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/06/22 10:20 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3146-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94
Revision: 1

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/17/2022 1:05:37 PM

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

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Job ID: 890-3146-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3146-1

REVISION

The report being provided is a revision of the original report sent on 10/12/2022. The report (revision 1) is being revised due to Per client email, requesting TPH re run.

Report revision history

Receipt
The sample was received on 10/5/2022 9:10 AM. 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 1.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH05 (890-3146-1).

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: Surrogate recovery for the following sample was outside control limits: (LCS 880-36849/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-20328-A-1-B MS) and (880-20328-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH05 (890-3146-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36242 and analytical batch 880-36598 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 94

Job ID: 890-3146-1
SDG: 03D2057010

Client Sample ID: PH05

Date Collected: 10/04/22 14:00
Date Received: 10/05/22 09:10
Sample Depth: 3'

Lab Sample ID: 890-3146-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:31	10/12/22 15:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:31	10/12/22 15:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:31	10/12/22 15:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/11/22 14:31	10/12/22 15:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:31	10/12/22 15:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/11/22 14:31	10/12/22 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:31*	*10/12/22 15:52*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*10/11/22 14:31*	*10/12/22 15:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/12/22 16:23	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			10/07/22 09:09	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		10/13/22 10:24	10/15/22 02:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/15/22 02:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/15/22 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*10/13/22 10:24*	*10/15/22 02:26*	*1*
o-Terphenyl	*144*	*S1+*	*70 - 130*	*10/13/22 10:24*	*10/15/22 02:26*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**164**		4.97		mg/Kg			10/11/22 08:51	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20176-A-12-C MS	Matrix Spike	89	90
880-20176-A-12-D MSD	Matrix Spike Duplicate	85	89
890-3146-1	PH05	103	87
LCS 880-36686/1-A	Lab Control Sample	84	90
LCSD 880-36686/2-A	Lab Control Sample Dup	90	90
MB 880-36686/5-A	Method Blank	103	84

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20328-A-1-B MS	Matrix Spike	197 S1+	189 S1+
880-20328-A-1-C MSD	Matrix Spike Duplicate	192 S1+	186 S1+
890-3146-1	PH05	148 S1+	144 S1+
LCS 880-36849/2-A	Lab Control Sample	69 S1-	86
LCSD 880-36849/3-A	Lab Control Sample Dup	82	97
MB 880-36849/1-A	Method Blank	121	130

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36686/5-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36686

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:31	10/12/22 11:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 14:31	10/12/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:31*	*10/12/22 11:01*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 14:31*	*10/12/22 11:01*	*1*

Lab Sample ID: LCS 880-36686/1-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36686

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1008		mg/Kg		101	70 - 130		
Toluene			0.100	0.1020		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.09606		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1983		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.09918		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-36686/2-A
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36686

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1024		mg/Kg		102	70 - 130	2	35
Toluene			0.100	0.1064		mg/Kg		106	70 - 130	4	35
Ethylbenzene			0.100	0.09847		mg/Kg		98	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2051		mg/Kg		103	70 - 130	3	35
o-Xylene			0.100	0.1011		mg/Kg		101	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-20176-A-12-C MS
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1018		mg/Kg		102	70 - 130		
Toluene	<0.00201	U	0.0998	0.1041		mg/Kg		104	70 - 130		

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

Lab Sample ID: 880-20176-A-12-C MS
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.09844		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2047		mg/Kg		103	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1010		mg/Kg		101	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-20176-A-12-D MSD
Matrix: Solid
Analysis Batch: 36715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36686

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09470		mg/Kg		95	70 - 130	7	35
Toluene	<0.00201	U	0.0996	0.09624		mg/Kg		97	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0996	0.09061		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1862		mg/Kg		93	70 - 130	9	35
o-Xylene	<0.00201	U	0.0996	0.09149		mg/Kg		92	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

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

Lab Sample ID: MB 880-36849/1-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36849

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		10/13/22 10:24	10/14/22 19:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/14/22 19:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/14/22 19:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/13/22 10:24*	*10/14/22 19:36*	*1*
o-Terphenyl	*130*		*70 - 130*	*10/13/22 10:24*	*10/14/22 19:36*	*1*

Lab Sample ID: LCS 880-36849/2-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1101		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1057		mg/Kg		106	70 - 130

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

Lab Sample ID: LCS 880-36849/2-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36849

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	69	S1-	70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: LCSD 880-36849/3-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36849

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	991.9		mg/Kg		99	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1151		mg/Kg		115	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: 880-20328-A-1-B MS
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	871.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1191		mg/Kg		119	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	197	S1+	70 - 130
o-Terphenyl	189	S1+	70 - 130

Lab Sample ID: 880-20328-A-1-C MSD
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36849

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	830.5		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1172		mg/Kg		117	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	192	S1+	70 - 130
o-Terphenyl	186	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36242/1-A
Matrix: Solid
Analysis Batch: 36598

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			10/11/22 07:11	1

Lab Sample ID: LCS 880-36242/2-A
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.6		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-36242/3-A
Matrix: Solid
Analysis Batch: 36598

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	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-3142-A-1-B MS
Matrix: Solid
Analysis Batch: 36598

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	5800	F1	2490	9310	F1	mg/Kg		141	90 - 110		

Lab Sample ID: 890-3142-A-1-C MSD
Matrix: Solid
Analysis Batch: 36598

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5800	F1	2490	9291	F1	mg/Kg		140	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

GC VOA

Prep Batch: 36686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	5035	
MB 880-36686/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36686/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36686/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20176-A-12-C MS	Matrix Spike	Total/NA	Solid	5035	
880-20176-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	8021B	36686
MB 880-36686/5-A	Method Blank	Total/NA	Solid	8021B	36686
LCS 880-36686/1-A	Lab Control Sample	Total/NA	Solid	8021B	36686
LCSD 880-36686/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36686
880-20176-A-12-C MS	Matrix Spike	Total/NA	Solid	8021B	36686
880-20176-A-12-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36686

Analysis Batch: 36794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	8015 NM	

Prep Batch: 36849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	8015NM Prep	
MB 880-36849/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36849/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36849/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20328-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20328-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Total/NA	Solid	8015B NM	36849
MB 880-36849/1-A	Method Blank	Total/NA	Solid	8015B NM	36849
LCS 880-36849/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36849
LCSD 880-36849/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36849
880-20328-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	36849
880-20328-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36849

HPLC/IC

Leach Batch: 36242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Soluble	Solid	DI Leach	
MB 880-36242/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

HPLC/IC (Continued)

Leach Batch: 36242 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3142-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3142-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3146-1	PH05	Soluble	Solid	300.0	36242
MB 880-36242/1-A	Method Blank	Soluble	Solid	300.0	36242
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	300.0	36242
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36242
890-3142-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	36242
890-3142-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36242

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

Client Sample ID: PH05

Date Collected: 10/04/22 14:00
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3146-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36686	10/11/22 14:31	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36715	10/12/22 15:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36794	10/12/22 16:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			36333	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36849	10/13/22 10:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36918	10/15/22 02:26	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 08:51	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 94

Job ID: 890-3146-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3146-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3146-1	PH05	Solid	10/04/22 14:00	10/05/22 09:10	3'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☒ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TAM-907	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.8	
Total Containers:		Corrected Temperature:	1.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH05	S	10.04.22	1400	3'	G	2		X	X	X

Parameters

Preservative Codes

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

Sample Comments

Incident Number
NAPP2212531906

10.04.22

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Amanda Estep	10/5/22 0910			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

10/17/2022 (Rev. 1)

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3146-1
SDG Number: 03D2057010

Login Number: 3146
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: 890-3146-1
SDG Number: 03D2057010

Login Number: 3146
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/06/22 10:20 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3174-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/17/2022 12:59:53 PM

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

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Definitions/Glossary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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

Job ID: 890-3174-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3174-1

Receipt
The samples were received on 10/6/2022 3:11 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH06 (890-3174-1), PH06 (890-3174-2), PH06 (890-3174-3) and PH06 (890-3174-4).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36884 and analytical batch 880-37019 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-36499 and analytical batch 880-36494 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample ID: PH06

Date Collected: 10/06/22 09:05
Date Received: 10/06/22 15:11
Sample Depth: 1

Lab Sample ID: 890-3174-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F2 F1	0.00201		mg/Kg		10/13/22 13:49	10/16/22 11:42	1
Toluene	<0.00201	U F2 F1	0.00201		mg/Kg		10/13/22 13:49	10/16/22 11:42	1
Ethylbenzene	<0.00201	U F2 F1	0.00201		mg/Kg		10/13/22 13:49	10/16/22 11:42	1
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.00402		mg/Kg		10/13/22 13:49	10/16/22 11:42	1
o-Xylene	<0.00201	U F2 F1	0.00201		mg/Kg		10/13/22 13:49	10/16/22 11:42	1
Xylenes, Total	<0.00402	U F2 F1	0.00402		mg/Kg		10/13/22 13:49	10/16/22 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:42*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/17/22 10:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/11/22 10:34	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	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 18:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 18:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*10/10/22 07:38*	*10/10/22 18:50*	*1*
o-Terphenyl	*95*		*70 - 130*	*10/10/22 07:38*	*10/10/22 18:50*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**38.3**		4.95		mg/Kg			10/12/22 15:52	1

Client Sample ID: PH06

Date Collected: 10/06/22 09:10
Date Received: 10/06/22 15:11
Sample Depth: 5

Lab Sample ID: 890-3174-2
Matrix: Solid

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		10/13/22 13:49	10/16/22 12:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 12:02	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 12:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 12:02	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:02*	*1*

Client Sample ID: PH06

Date Collected: 10/06/22 09:10
Date Received: 10/06/22 15:11
Sample Depth: 5

Lab Sample ID: 890-3174-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:02*	*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			10/17/22 10:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/11/22 10:34	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	<49.8	U	49.8	mg/Kg		10/10/22 07:38	10/10/22 19:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/10/22 07:38	10/10/22 19:11	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/10/22 07:38	10/10/22 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:11*	*1*
o-Terphenyl	*110*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:11*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**142**		5.05	mg/Kg			10/12/22 16:07	1

Client Sample ID: PH06

Date Collected: 10/06/22 09:15
Date Received: 10/06/22 15:11
Sample Depth: 9

Lab Sample ID: 890-3174-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/13/22 13:49	10/16/22 12:23	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/13/22 13:49	10/16/22 12:23	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/13/22 13:49	10/16/22 12:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/13/22 13:49	10/16/22 12:23	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/13/22 13:49	10/16/22 12:23	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/13/22 13:49	10/16/22 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:23*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:23*	*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			10/17/22 10:58	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			10/11/22 10:34	1

Client Sample ID: PH06

Date Collected: 10/06/22 09:15
Date Received: 10/06/22 15:11
Sample Depth: 9

Lab Sample ID: 890-3174-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 19:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 19:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:32*	*1*
o-Terphenyl	*112*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**50.9**		4.97		mg/Kg			10/12/22 16:12	1

Client Sample ID: PH06

Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11
Sample Depth: 12

Lab Sample ID: 890-3174-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 12:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 12:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 12:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 12:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 12:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:43*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/13/22 13:49*	*10/16/22 12:43*	*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			10/17/22 10:58	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			10/11/22 10:34	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		10/10/22 07:38	10/10/22 19:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 19:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:53*	*1*
o-Terphenyl	*96*		*70 - 130*	*10/10/22 07:38*	*10/10/22 19:53*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Client Sample ID: PH06
Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11
Sample Depth: 12

Lab Sample ID: 890-3174-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.2		4.98		mg/Kg			10/12/22 16:17	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3174-1	PH06	94	106
890-3174-1 MS	PH06	102	99
890-3174-1 MSD	PH06	97	102
890-3174-2	PH06	93	104
890-3174-3	PH06	93	100
890-3174-4	PH06	101	100
LCS 880-36884/1-A	Lab Control Sample	95	108
LCSD 880-36884/2-A	Lab Control Sample Dup	91	105
MB 880-36884/5-A	Method Blank	89	111
MB 880-36974/5-A	Method Blank	94	108

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3174-1	PH06	86	95
890-3174-2	PH06	102	110
890-3174-3	PH06	103	112
890-3174-4	PH06	87	96
890-3175-A-1-C MS	Matrix Spike	88	88
890-3175-A-1-D MSD	Matrix Spike Duplicate	105	104
LCS 880-36499/2-A	Lab Control Sample	95	104
LCSD 880-36499/3-A	Lab Control Sample Dup	104	114
MB 880-36499/1-A	Method Blank	94	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36884/5-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36884

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/13/22 13:49	10/16/22 11:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:13*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:13*	*1*

Lab Sample ID: LCS 880-36884/1-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36884

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.09984		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.08607		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			0.200	0.1715		mg/Kg		86	70 - 130		
o-Xylene			0.100	0.08524		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-36884/2-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36884

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08812		mg/Kg		88	70 - 130	16	35
Toluene			0.100	0.08699		mg/Kg		87	70 - 130	14	35
Ethylbenzene			0.100	0.07410		mg/Kg		74	70 - 130	15	35
m-Xylene & p-Xylene			0.200	0.1486		mg/Kg		74	70 - 130	14	35
o-Xylene			0.100	0.07442		mg/Kg		74	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-3174-1 MS
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: PH06
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F2 F1	0.100	0.04440	F1	mg/Kg		44	70 - 130		
Toluene	<0.00201	U F2 F1	0.100	0.05500	F1	mg/Kg		55	70 - 130		

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

Lab Sample ID: 890-3174-1 MS
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: PH06
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F2 F1	0.100	0.05117	F1	mg/Kg		51	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.201	0.1031	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F2 F1	0.100	0.05409	F1	mg/Kg		54	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-3174-1 MSD
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: PH06
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0996	0.09045	F2	mg/Kg		91	70 - 130	68	35
Toluene	<0.00201	U F2 F1	0.0996	0.09442	F2	mg/Kg		95	70 - 130	53	35
Ethylbenzene	<0.00201	U F2 F1	0.0996	0.08216	F2	mg/Kg		82	70 - 130	46	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.199	0.1661	F2	mg/Kg		83	70 - 130	47	35
o-Xylene	<0.00201	U F2 F1	0.0996	0.08174	F2	mg/Kg		82	70 - 130	41	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-36974/5-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36974

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/14/22 13:40	10/15/22 23:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/14/22 13:40	10/15/22 23:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/14/22 13:40	10/15/22 23:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/14/22 13:40*	*10/15/22 23:39*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/14/22 13:40*	*10/15/22 23:39*	*1*

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

Lab Sample ID: MB 880-36499/1-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36499

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		10/10/22 07:38	10/10/22 11:01	1

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

Lab Sample ID: MB 880-36499/1-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36499

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 11:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*10/10/22 07:38*	*10/10/22 11:01*	*1*
o-Terphenyl	*103*		*70 - 130*	*10/10/22 07:38*	*10/10/22 11:01*	*1*

Lab Sample ID: LCS 880-36499/2-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36499

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	867.7		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	909.1		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36499/3-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36499

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	919.2		mg/Kg		92	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	966.8		mg/Kg		97	70 - 130	6	20

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

Lab Sample ID: 890-3175-A-1-C MS
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36499

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

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

Lab Sample ID: 890-3175-A-1-D MSD
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36499

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36520/1-A
Matrix: Solid
Analysis Batch: 36820

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			10/12/22 15:38	1

Lab Sample ID: LCS 880-36520/2-A
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.7		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36520/3-A
Matrix: Solid
Analysis Batch: 36820

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	257.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3174-1 MS
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: PH06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	38.3		248	287.9		mg/Kg		101	90 - 110		

Lab Sample ID: 890-3174-1 MSD
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: PH06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	38.3		248	288.7		mg/Kg		101	90 - 110	0	20

GC VOA

Prep Batch: 36884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	5035	
890-3174-2	PH06	Total/NA	Solid	5035	
890-3174-3	PH06	Total/NA	Solid	5035	
890-3174-4	PH06	Total/NA	Solid	5035	
MB 880-36884/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36884/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36884/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3174-1 MS	PH06	Total/NA	Solid	5035	
890-3174-1 MSD	PH06	Total/NA	Solid	5035	

Prep Batch: 36974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36974/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 37019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	8021B	36884
890-3174-2	PH06	Total/NA	Solid	8021B	36884
890-3174-3	PH06	Total/NA	Solid	8021B	36884
890-3174-4	PH06	Total/NA	Solid	8021B	36884
MB 880-36884/5-A	Method Blank	Total/NA	Solid	8021B	36884
MB 880-36974/5-A	Method Blank	Total/NA	Solid	8021B	36974
LCS 880-36884/1-A	Lab Control Sample	Total/NA	Solid	8021B	36884
LCSD 880-36884/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36884
890-3174-1 MS	PH06	Total/NA	Solid	8021B	36884
890-3174-1 MSD	PH06	Total/NA	Solid	8021B	36884

Analysis Batch: 37134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	Total BTEX	
890-3174-2	PH06	Total/NA	Solid	Total BTEX	
890-3174-3	PH06	Total/NA	Solid	Total BTEX	
890-3174-4	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	8015B NM	36499
890-3174-2	PH06	Total/NA	Solid	8015B NM	36499
890-3174-3	PH06	Total/NA	Solid	8015B NM	36499
890-3174-4	PH06	Total/NA	Solid	8015B NM	36499
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015B NM	36499
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36499
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36499
890-3175-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36499
890-3175-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36499

Prep Batch: 36499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	8015NM Prep	

GC Semi VOA (Continued)

Prep Batch: 36499 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-2	PH06	Total/NA	Solid	8015NM Prep	
890-3174-3	PH06	Total/NA	Solid	8015NM Prep	
890-3174-4	PH06	Total/NA	Solid	8015NM Prep	
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3175-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3175-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Total/NA	Solid	8015 NM	
890-3174-2	PH06	Total/NA	Solid	8015 NM	
890-3174-3	PH06	Total/NA	Solid	8015 NM	
890-3174-4	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Soluble	Solid	DI Leach	
890-3174-2	PH06	Soluble	Solid	DI Leach	
890-3174-3	PH06	Soluble	Solid	DI Leach	
890-3174-4	PH06	Soluble	Solid	DI Leach	
MB 880-36520/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3174-1 MS	PH06	Soluble	Solid	DI Leach	
890-3174-1 MSD	PH06	Soluble	Solid	DI Leach	

Analysis Batch: 36820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3174-1	PH06	Soluble	Solid	300.0	36520
890-3174-2	PH06	Soluble	Solid	300.0	36520
890-3174-3	PH06	Soluble	Solid	300.0	36520
890-3174-4	PH06	Soluble	Solid	300.0	36520
MB 880-36520/1-A	Method Blank	Soluble	Solid	300.0	36520
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	300.0	36520
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36520
890-3174-1 MS	PH06	Soluble	Solid	300.0	36520
890-3174-1 MSD	PH06	Soluble	Solid	300.0	36520

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Client Sample ID: PH06
Date Collected: 10/06/22 09:05
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3174-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 11:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37134	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36667	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 18:50	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 15:52	CH	EET MID

Client Sample ID: PH06
Date Collected: 10/06/22 09:10
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3174-2
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			4.99 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 12:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37134	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36667	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 19:11	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:07	CH	EET MID

Client Sample ID: PH06
Date Collected: 10/06/22 09:15
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3174-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 12:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37134	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36667	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 19:32	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:12	CH	EET MID

Client Sample ID: PH06
Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3174-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 12:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37134	10/17/22 10:58	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Client Sample ID: PH06

Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3174-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			36667	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 19:53	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:17	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 94

Job ID: 890-3174-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3174-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3174-1	PH06	Solid	10/06/22 09:05	10/06/22 15:11	1
890-3174-2	PH06	Solid	10/06/22 09:10	10/06/22 15:11	5
890-3174-3	PH06	Solid	10/06/22 09:15	10/06/22 15:11	9
890-3174-4	PH06	Solid	10/06/22 09:20	10/06/22 15:11	12

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:	kjennings@ensolum.com	

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.8	
Total Containers:		Corrected Temperature:	4.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH06	S	10.06.22	905	1'	G	1		X	X	X
PH06	S	10.06.22	910	5'	G	1		X	X	X
PH06	S	10.06.22	915	9'	G	1		X	X	X
PH06	S	10.06.22	920	12'	G	1		X	X	X

Parameters

ANALYSIS REQUEST

890-3174 Chain of Custody

Preservative Codes

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

Sample Comments

Incident Number
NAPP2212531906

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.6.22 1511	2		
3			4		
5			6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3174-1
SDG Number: 03D2057010

Login Number: 3174
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3174-1
SDG Number: 03D2057010

Login Number: 3174
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/10/22 08:41 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3176-1
Laboratory Sample Delivery Group: 03D2057010
Client Project/Site: MCA 94

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/17/2022 11:20:55 AM

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

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Qualifiers

GC 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, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Job ID: 890-3176-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3176-1

Receipt
The samples were received on 10/6/2022 3:11 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH05 (890-3176-1) and PH05 (890-3176-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36609 and analytical batch 880-36928 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH05 (890-3176-1). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-36499 and analytical batch 880-36494 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample ID: PH05

Lab Sample ID: 890-3176-1

Date Collected: 10/06/22 09:00
Matrix: Solid
Date Received: 10/06/22 15:11
Sample Depth: 10

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		10/10/22 16:53	10/15/22 13:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 13:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 13:46	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/10/22 16:53	10/15/22 13:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 13:46	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/10/22 16:53	10/15/22 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*51*	*S1-*	*70 - 130*	*10/10/22 16:53*	*10/15/22 13:46*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*10/10/22 16:53*	*10/15/22 13:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/14/22 12:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/11/22 10:34	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	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 20:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 20:15	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/10/22 07:38*	*10/10/22 20:15*	*1*
o-Terphenyl	*100*		*70 - 130*	*10/10/22 07:38*	*10/10/22 20:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6350**		49.7		mg/Kg			10/13/22 11:32	10

Client Sample ID: PH05

Lab Sample ID: 890-3176-2

Date Collected: 10/04/22 14:30
Matrix: Solid
Date Received: 10/06/22 15:11
Sample Depth: 12

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		10/13/22 13:16	10/14/22 00:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:16	10/14/22 00:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:16	10/14/22 00:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/13/22 13:16	10/14/22 00:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:16	10/14/22 00:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/13/22 13:16	10/14/22 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/13/22 13:16*	*10/14/22 00:41*	*1*

Client Sample ID: PH05
Date Collected: 10/04/22 14:30
Date Received: 10/06/22 15:11
Sample Depth: 12

Lab Sample ID: 890-3176-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/13/22 13:16*	*10/14/22 00:41*	*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			10/14/22 12:21	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			10/11/22 10:34	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	<50.0	U	50.0	mg/Kg		10/10/22 07:38	10/10/22 20:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/10/22 07:38	10/10/22 20:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/10/22 07:38	10/10/22 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*10/10/22 07:38*	*10/10/22 20:36*	*1*
o-Terphenyl	*113*		*70 - 130*	*10/10/22 07:38*	*10/10/22 20:36*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7310**		49.7	mg/Kg			10/13/22 11:37	10

Surrogate Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3176-1
SDG: 03D2057010

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)
890-3150-A-23-C MS	Matrix Spike	120	90
890-3150-A-23-D MSD	Matrix Spike Duplicate	98	87
890-3176-1	PH05	51 S1-	72
890-3176-2	PH05	100	103
890-3176-2 MS	PH05	107	107
890-3176-2 MSD	PH05	105	103
LCS 880-36609/1-A	Lab Control Sample	89	84
LCS 880-36882/1-A	Lab Control Sample	105	102
LCSD 880-36609/2-A	Lab Control Sample Dup	96	93
LCSD 880-36882/2-A	Lab Control Sample Dup	100	98
MB 880-36609/5-A	Method Blank	100	80
MB 880-36684/5-A	Method Blank	103	84
MB 880-36731/5-A	Method Blank	88	108
MB 880-36882/5-A	Method Blank	88	114

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)
890-3175-A-1-C MS	Matrix Spike	88	88
890-3175-A-1-D MSD	Matrix Spike Duplicate	105	104
890-3176-1	PH05	90	100
890-3176-2	PH05	102	113
LCS 880-36499/2-A	Lab Control Sample	95	104
LCSD 880-36499/3-A	Lab Control Sample Dup	104	114
MB 880-36499/1-A	Method Blank	94	103

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36609/5-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36609

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 16:53	10/15/22 08:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/10/22 16:53*	*10/15/22 08:53*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/10/22 16:53*	*10/15/22 08:53*	*1*

Lab Sample ID: LCS 880-36609/1-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36609

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09563		mg/Kg		96	70 - 130		
Toluene			0.100	0.09823		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09267		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1924		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09704		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: LCSD 880-36609/2-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36609

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09888		mg/Kg		99	70 - 130	3	35
Toluene			0.100	0.1027		mg/Kg		103	70 - 130	4	35
Ethylbenzene			0.100	0.09791		mg/Kg		98	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2013		mg/Kg		101	70 - 130	4	35
o-Xylene			0.100	0.1024		mg/Kg		102	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-3150-A-23-C MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.100	0.04224	F1	mg/Kg		42	70 - 130		
Toluene	<0.00200	U F1 F2	0.100	0.05595	F1	mg/Kg		56	70 - 130		

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

Lab Sample ID: 890-3150-A-23-C MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.100	0.06608	F1	mg/Kg		66	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1334	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00200	U	0.100	0.07676		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 890-3150-A-23-D MSD
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0990	0.08809	F2	mg/Kg		89	70 - 130	70	35
Toluene	<0.00200	U F1 F2	0.0990	0.09250	F2	mg/Kg		93	70 - 130	49	35
Ethylbenzene	<0.00200	U F1	0.0990	0.08628		mg/Kg		87	70 - 130	27	35
m-Xylene & p-Xylene	<0.00399	U F1	0.198	0.1727		mg/Kg		87	70 - 130	26	35
o-Xylene	<0.00200	U	0.0990	0.09104		mg/Kg		92	70 - 130	17	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: MB 880-36684/5-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36684

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/11/22 14:22	10/14/22 22:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/11/22 14:22	10/14/22 22:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/11/22 14:22	10/14/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:22*	*10/14/22 22:12*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/11/22 14:22*	*10/14/22 22:12*	*1*

Lab Sample ID: MB 880-36731/5-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36731

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/12/22 10:00	10/13/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/12/22 10:00	10/13/22 11:21	1

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

Lab Sample ID: MB 880-36731/5-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36731

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/12/22 10:00	10/13/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/12/22 10:00	10/13/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/12/22 10:00*	*10/13/22 11:21*	*1*

Lab Sample ID: MB 880-36882/5-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36882

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:16	10/14/22 00:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:16	10/14/22 00:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:16	10/14/22 00:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/13/22 13:16	10/14/22 00:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:16	10/14/22 00:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/13/22 13:16	10/14/22 00:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*10/13/22 13:16*	*10/14/22 00:12*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*10/13/22 13:16*	*10/14/22 00:12*	*1*

Lab Sample ID: LCS 880-36882/1-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36882

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09905		mg/Kg		99	70 - 130		
Toluene			0.100	0.1048		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.09399		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1893		mg/Kg		95	70 - 130		
o-Xylene			0.100	0.09263		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-36882/2-A
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36882

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09547		mg/Kg		95	70 - 130	4	35
Toluene			0.100	0.1023		mg/Kg		102	70 - 130	2	35
Ethylbenzene			0.100	0.09025		mg/Kg		90	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1844		mg/Kg		92	70 - 130	3	35
o-Xylene			0.100	0.09137		mg/Kg		91	70 - 130	1	35

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-3176-2 MS
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: PH05
Prep Type: Total/NA
Prep Batch: 36882

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0998	0.08802		mg/Kg		88	70 - 130
Toluene	<0.00199	U	0.0998	0.09314		mg/Kg		93	70 - 130
Ethylbenzene	<0.00199	U	0.0998	0.08368		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1692		mg/Kg		85	70 - 130
o-Xylene	<0.00199	U	0.0998	0.08385		mg/Kg		84	70 - 130

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

Lab Sample ID: 890-3176-2 MSD
Matrix: Solid
Analysis Batch: 36813

Client Sample ID: PH05
Prep Type: Total/NA
Prep Batch: 36882

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.08044		mg/Kg		80	70 - 130	9	35
Toluene	<0.00199	U	0.100	0.08412		mg/Kg		84	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.100	0.07598		mg/Kg		76	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1542		mg/Kg		77	70 - 130	9	35
o-Xylene	<0.00199	U	0.100	0.07544		mg/Kg		75	70 - 130	11	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-36499/1-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36499

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		10/10/22 07:38	10/10/22 11:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/10/22 07:38	10/10/22 11:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/10/22 07:38	10/10/22 11:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	10/10/22 07:38	10/10/22 11:01	1
o-Terphenyl	103		70 - 130	10/10/22 07:38	10/10/22 11:01	1

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

Lab Sample ID: LCS 880-36499/2-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36499

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	867.7		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	909.1		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36499/3-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36499

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	919.2		mg/Kg		92	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	966.8		mg/Kg		97	70 - 130	6	20

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

Lab Sample ID: 890-3175-A-1-C MS
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36499

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: 890-3175-A-1-D MSD
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36499

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36520/1-A
Matrix: Solid
Analysis Batch: 36820

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			10/12/22 15:38	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-36520/2-A
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.7		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36520/3-A
Matrix: Solid
Analysis Batch: 36820

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	257.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3175-A-7-B MS
Matrix: Solid
Analysis Batch: 36820

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	261		248	515.1		mg/Kg		103	90 - 110		

Lab Sample ID: 890-3175-A-7-C MSD
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	261		248	516.5		mg/Kg		103	90 - 110	0	20

GC VOA

Prep Batch: 36609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	5035	
MB 880-36609/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36609/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36609/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3150-A-23-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3150-A-23-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 36684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36684/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36731/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 36813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-2	PH05	Total/NA	Solid	8021B	36882
MB 880-36731/5-A	Method Blank	Total/NA	Solid	8021B	36731
MB 880-36882/5-A	Method Blank	Total/NA	Solid	8021B	36882
LCS 880-36882/1-A	Lab Control Sample	Total/NA	Solid	8021B	36882
LCSD 880-36882/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36882
890-3176-2 MS	PH05	Total/NA	Solid	8021B	36882
890-3176-2 MSD	PH05	Total/NA	Solid	8021B	36882

Prep Batch: 36882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-2	PH05	Total/NA	Solid	5035	
MB 880-36882/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36882/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36882/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3176-2 MS	PH05	Total/NA	Solid	5035	
890-3176-2 MSD	PH05	Total/NA	Solid	5035	

Analysis Batch: 36928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	8021B	36609
MB 880-36609/5-A	Method Blank	Total/NA	Solid	8021B	36609
MB 880-36684/5-A	Method Blank	Total/NA	Solid	8021B	36684
LCS 880-36609/1-A	Lab Control Sample	Total/NA	Solid	8021B	36609
LCSD 880-36609/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36609
890-3150-A-23-C MS	Matrix Spike	Total/NA	Solid	8021B	36609
890-3150-A-23-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36609

Analysis Batch: 36967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	Total BTEX	
890-3176-2	PH05	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3176-1
SDG: 03D2057010

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Analysis Batch: 36494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	8015B NM	36499
890-3176-2	PH05	Total/NA	Solid	8015B NM	36499
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015B NM	36499
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36499
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36499
890-3175-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36499
890-3175-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36499

Prep Batch: 36499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	8015NM Prep	
890-3176-2	PH05	Total/NA	Solid	8015NM Prep	
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3175-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3175-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Total/NA	Solid	8015 NM	
890-3176-2	PH05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Soluble	Solid	DI Leach	
890-3176-2	PH05	Soluble	Solid	DI Leach	
MB 880-36520/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3175-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3175-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3176-1	PH05	Soluble	Solid	300.0	36520
890-3176-2	PH05	Soluble	Solid	300.0	36520
MB 880-36520/1-A	Method Blank	Soluble	Solid	300.0	36520
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	300.0	36520
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36520
890-3175-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	36520
890-3175-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36520

Lab Chronicle

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3176-1
SDG: 03D2057010

Client Sample ID: PH05

Date Collected: 10/06/22 09:00
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3176-1

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	36609	10/10/22 16:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36928	10/15/22 13:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36967	10/14/22 12:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36668	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 20:15	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		10			36820	10/13/22 11:32	CH	EET MID

Client Sample ID: PH05

Date Collected: 10/04/22 14:30
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3176-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36882	10/13/22 13:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36813	10/14/22 00:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36967	10/14/22 12:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36668	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 20:36	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		10			36820	10/13/22 11:37	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 94

Job ID: 890-3176-1
SDG: 03D2057010

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3176-1
SDG: 03D2057010

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 94

Job ID: 890-3176-1
SDG: 03D2057010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3176-1	PH05	Solid	10/06/22 09:00	10/06/22 15:11	10
890-3176-2	PH05	Solid	10/04/22 14:30	10/06/22 15:11	12

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	Email:		kjennings@ensolum.com

Work Order Comments

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

Project Name:	MCA 94	Turn Around	
Project Number:	03D2057010	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	NM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.8
Total Containers:		Corrected Temperature:	4.6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH05	S	10.06.22	900	10'	G	1		X	X	X
PH05	S	10.04.22	1430	12'	G	1		X	X	X

ANALYSIS REQUEST / Parameters

890-3176 Chain of Custody

Preservative Codes

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

Sample Comments

Incident Number
NAPP2212531906

10.06.22

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.6.22 1511	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3176-1
SDG Number: 03D2057010

Login Number: 3176
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3176-1
SDG Number: 03D2057010

Login Number: 3176
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 10/10/22 11:59 AM

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

ENSOLUM

APPENDIX E

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	217817
Contact Name	Rahul Kaushik	Contact Telephone	(432) 238-3781
Contact email	Rahul.Kaushik@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2212531906
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.81441 Longitude -103.783172
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	MCA 94	Site Type	Flowline
Date Release Discovered	April 28, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
P	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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 125	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a flowline failure due to maintenance issues.
The release was off pad. No fluids were recovered due to sandy soil.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Immediate notification was given by Rahul Kaushik on April 29, 2022 at 4:05 PM to ocd.enviro@state.nm.us and blm_nm_cfo_spill@blm.gov.

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 5/5/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 05/05/2022

NAPP2212531906

L48 Spill Volume Estimate Form

Facility Name & Number:	A 94
Asset Area:	Maljamar
Release Discovery Date & Time:	4/28/2022 0:00
Release Type:	Produced Water
Provide any known details about the event:	Injection line leak. ! BBLS were recoverd due to the extremely dry and sandy area.

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
t rained at least a half inch in the last 24 hours?	See reference table below

Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
125.0	6.0	6.00	15.12%	66.750	10.093
75.0	5.0	7.00	15.12%	38.938	5.887
250.0	6.0	6.00	15.12%	133.500	20.185
55.0	30.0	24.00	15.12%	587.400	88.815
				0.000	0.000
				0.000	0.000
				0.000	0.000
				0.000	0.000
				0.000	0.000
				0.000	0.000
				Total Volume Release:	124.980

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 104337

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 104337
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	5/5/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2212531906
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?	50-100 (feet bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

HSE Specialist

Incident ID	NAPP2212531906
District RP	
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 II

Signature: Date: 10/25/2022

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 10/26/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2212531906
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _Bryce Wagoner_____ Title: _Permian HSE Specialist II_____

Signature: _____ Date: ___10/25/2022_____

email: _Bryce.Wagoner@mavresources.com_____ Telephone: __928-241-1862_____

OCD Only

Received by: Jocelyn Harimon Date: 10/26/2022

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

Signature: Jennifer Nobui Date: 11/22/2022