ENSOLUM

October 21, 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: Revised Remediation Work Plan
VGEU 30-01
Incident Number NAPP2200643457
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared the following *Revised Remediation Work Plan* (RRWP) to document site assessment and soil sampling activities and provide supplemental information requested in the denial of the original RRWP, dated September 15, 2022. Maverick received the denial notice from the New Mexico Oil Conservation Division (NMOCD) on September 21, 2022. In the denial, NMOCD stated:

> *Revised Remediation Plan Denied. Before OCD can approve the installation of a liner, additional soil data is needed. Please collect a soil sample from PH02 at 6' and PH05 between 0-4'. Vertical delineation in locations PH01 and PH02 needs to be completed before OCD can determine if a liner can be approved. Depending on final depth of vertical delineation, OCD may require an excavation greater than 4'. Please resubmit a revised Remediation Plan with this requested data by October 21, 2022.*

Based on previous delineation and additional delineation sampling results addressing NMOCD's denial, the following RRWP proposes excavation of impacted soil to 4 feet below ground surface (bgs) and installation of a 20-mil impermeable poly liner on the floor of the excavation to address residual chloride impacts.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 31, Township 17 South, Range 35 East, in Lea County, New Mexico (32.786389° N, 103.495278° W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On December 21, 2021, a hole in a poly flowline resulted in the release of approximately 66.4 barrels (bbls) of produced water and 7.4 bbls of crude oil into the pasture where fluids pooled. Released fluids were not recovered. The previous operator, ConocoPhillips Company (COP), reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on January 6, 2022. The release was assigned Incident Number NAPP2200643457.

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) 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.

Based on the results of the Site Characterization presented in the July 13, 2022 *Remediation Work Plan* (RWP) that was approved by NMOCD, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On January 3, 2022, personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six preliminary soil samples (SS01 through SS06) were collected within the release extent from a depth of approximately 0.25 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 A.

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 sample SS05 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS01 through SS04, and SS06 indicated BTEX, TPH, and/or chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical reports for this sampling event were provided in the July 2022 RWP.

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

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between August 18, 2022 and October 18, 2022 delineation activities were conducted at the Site to assess the vertical and lateral extent of impacted soil. Potholes PH01 through PH07 were advanced via track mounted backhoe within and around the release extent. The delineation potholes were advanced to a depth of approximately 19 feet bgs before encountering refusal. Discrete delineation soil samples were collected from each pothole at depths ranging from 1-foot to 19 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 B. 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 and PH02, collected from within the release extent, indicated TPH and/or chloride concentrations exceeded the Site Closure Criteria at depths ranging from the ground surface to 16 feet bgs. The terminal depth samples at PH01D, collected at 19 feet bgs and PH02E, collected at 18 feet bgs, were compliant with the Site Closure Criteria. Laboratory analytical results for the delineation soil samples collected from potholes PH03 through PH07, at depths ranging from 1-foot to 12 feet bgs, indicated all COC concentrations were compliant with the Site Closure Criteria. Supplemental information was requested in the denial for PH02 and PH05. Laboratory analytical results for PH02, collected at 6 feet bgs indicated chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for PH05, collected at 3 feet indicated TPH and chloride concentrations were compliant with the Site Closure Criteria and successfully defines the lateral extent of the release.

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

Impacted soil has been detected at the ground surface as indicated by preliminary surface soil samples SS01 through SS04, and SS06, and in portions of the release extent and in the vicinity of potholes PH01 and PH02 to a maximum depth of 16 feet bgs. Depth to groundwater beneath the Site has been reasonably estimated to be 95 feet bgs based on United States Geological Survey (USGS) well 324657103292801. The strictest Closure Criteria is applied to this Site based on a wetland present approximately 165 feet east of the Site; however, the wetlands are relatively level with the Site.

As a result of delineation activities completed to-date, Maverick proposes excavation of impacted soil in the top 4 feet and installation of a liner on the floor of the excavation to mitigate future chloride impacts to the subsurface or to offsite sensitive receptors.

Maverick requests approval to complete the following remediation activities:

- Excavation of chloride and TPH impacted soil in the top 4 feet. Excavation will proceed laterally until sidewall samples confirm TPH and chloride concentrations are compliant with the Site Closure Criteria. 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 BTEX, TPH, and chloride.

- Upon completion of excavation activities, a 20-mil impermeable liner will be installed over the chloride impacted soil to retard chloride impacts migrating further down into the subsurface. The liner will be installed at 4 feet bgs within the open excavation.
- An estimated 750 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 Bureau of Land Management (BLM) seed mixture.

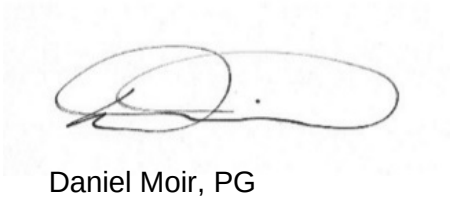
The installation of the liner will prevent vertical migration of chloride in soil to depths reaching the groundwater table (estimated to be 95 feet bgs) or wash out laterally to the nearby wetland. By removing the top 4 feet of impacted soil, remaining impacted soil will be at an elevation lower than the wetland and will have the liner act as a barrier to any lateral migration potential.

Maverick will complete the excavation activities within 90 days of the date of approval of this Revised Remediation Work Plan 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 and other sensitive receptors. As such, Maverick respectfully requests approval of this Work Plan 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
New Mexico State Land Office

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	Photographic Log
Appendix B	Lithologic / Soil Sampling Logs
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix D	Final C-141

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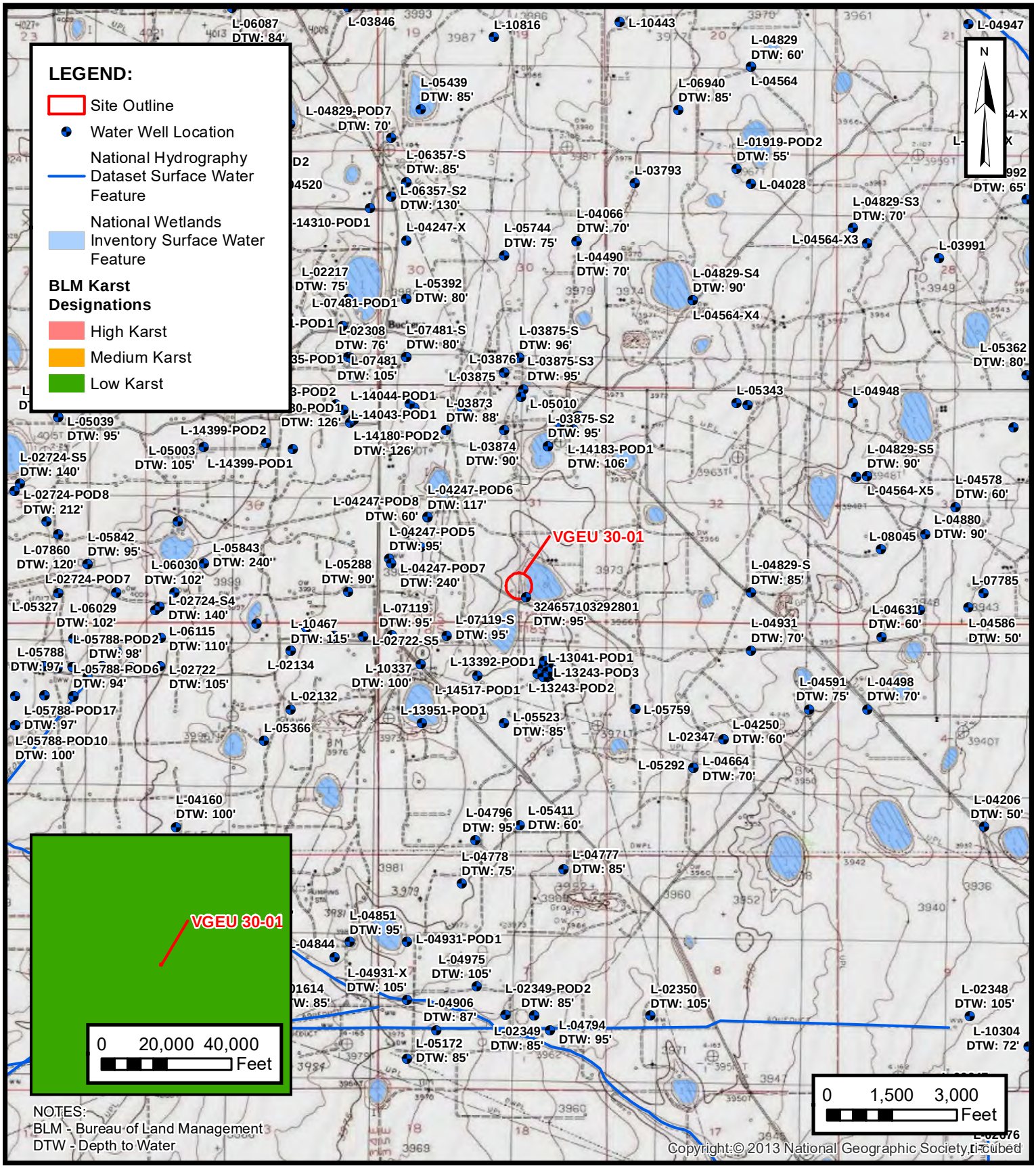
FIGURES



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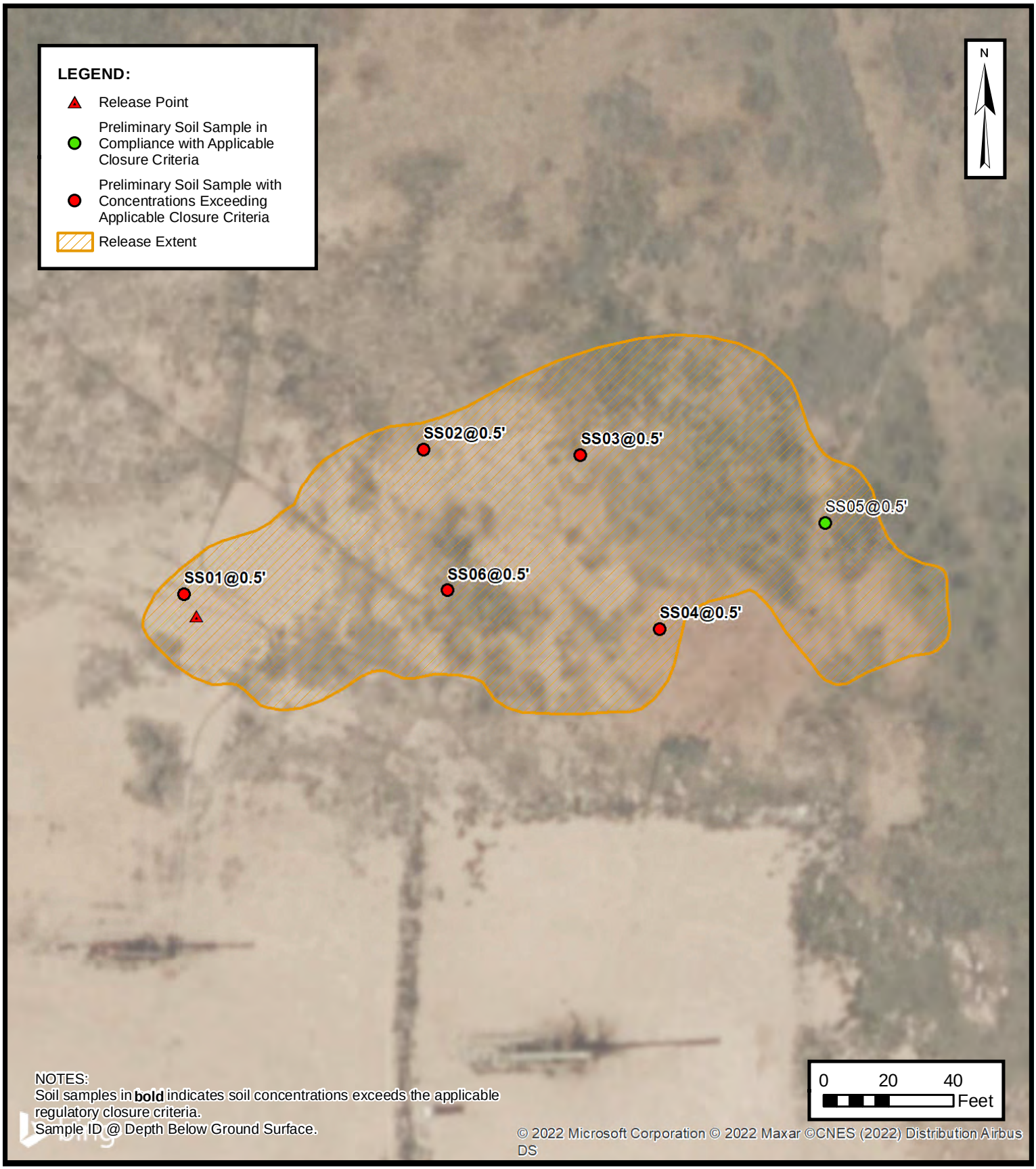
SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
VGEU 30-01
NAPP2200643457
Unit O, Sec 31, T17S, R35E
Lea County, New Mexico

FIGURE
1



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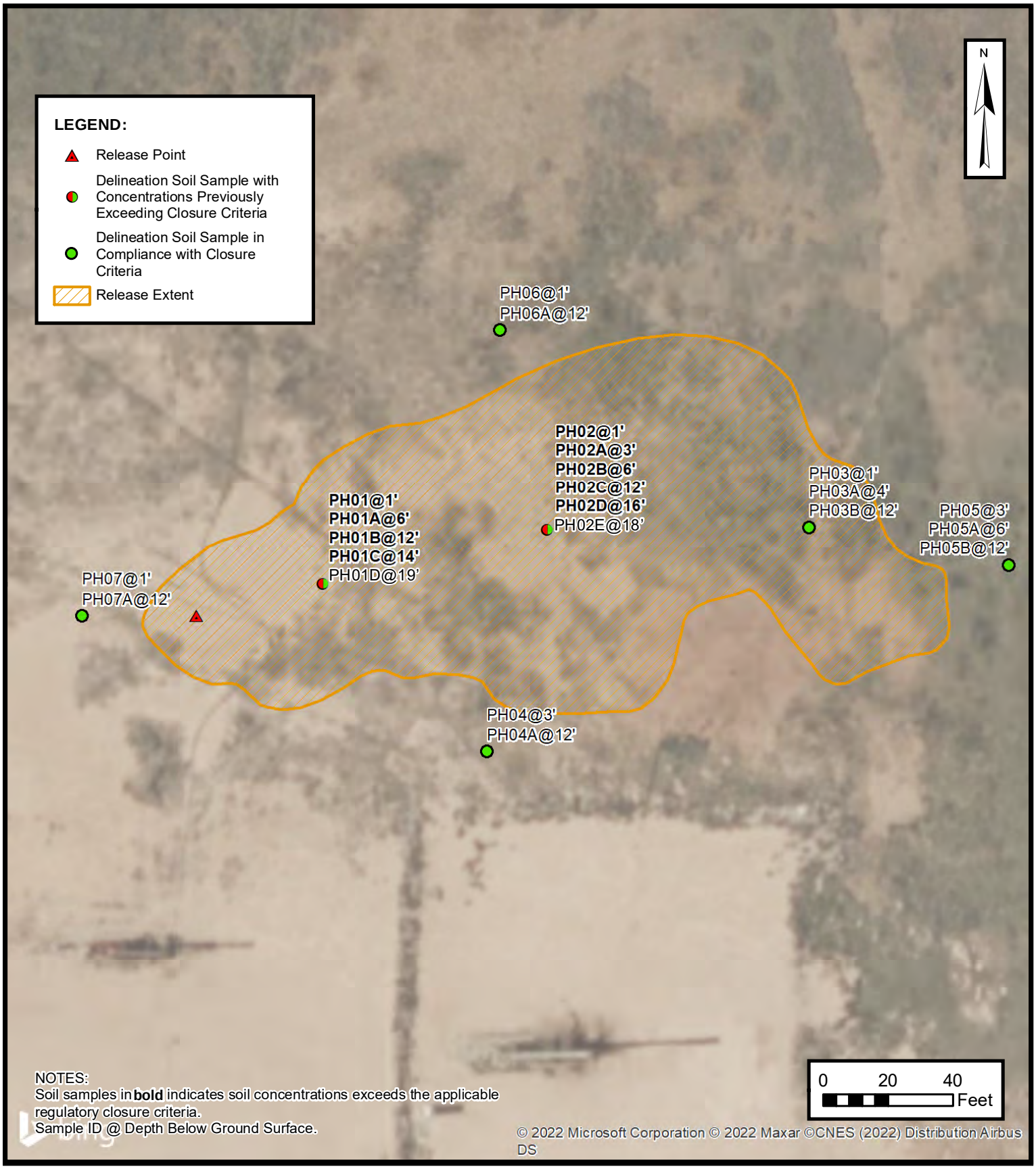
PRELIMINARY SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
VGEU 30-01
NAPP2200643457
Unit O, Sec 31, T17S, R35E
Lea County, New Mexico

FIGURE
2



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DELINEATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
VGEU 30-01
NAPP2200643457
Unit O, Sec 31, T17S, R35E
Lea County, New Mexico

FIGURE

3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
VGEU 30-01
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	NE	100	600
Preliminary Assessment Soil Samples										
SS01	01/03/2022	0.25	<0.0401	0.102	157	2,160	<50.0	2,317	**2,320**	**4,990**
SS02	01/03/2022	0.25	<0.0398	<0.0795	<49.9	586	<49.9	586	**586**	**661**
SS03	01/03/2022	0.25	<0.0400	<0.0800	<49.9	<49.9	<49.9	<49.9	<49.9	**10,000**
SS04	01/03/2022	0.25	0.558	**97.8**	1,950	11,200	<249	13,150	**13,200**	281
SS05	01/03/2022	0.25	<0.0396	<0.0792	<50.0	<50.0	<50.0	<50.0	<50.0	51.4
SS06	01/03/2022	0.25	1.67	**80.4**	1,520	7,040	<250	8,560	**8,560**	**5,770**
Delineation Soil Samples										
PH01	08/18/2022	1	<0.0401	<0.0802	<49.9	51.7	<49.9	51.7	51.7	**8,380**
PH01A	08/18/2022	6	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	**1,430**
PH01B	08/18/2022	12	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	**1,020**
PH01C	10/18/2022	14	<0.00198	<0.00397	<50.0	74.5	<50.0	74.5	74.5	**3,320**
PH01D	10/18/2022	19	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	527
PH02	08/18/2022	1	<0.0399	<0.0798	<49.9	168	<49.9	168	**168**	**1,200**
PH02A	08/18/2022	3	<0.0101	<0.0202	<50.0	463	<50.0	463	**463**	**3,660**
PH02B	10/14/2022	6	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	**1,230**
PH02C	08/18/2022	12	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	**772**
PH02D	10/14/2022	16	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	**706**
PH02E	10/14/2022	18	<0.00200	0.0106	<49.8	<49.8	<49.8	<49.8	<49.8	274
PH03	08/18/2022	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	84.5
PH03A	08/18/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	510
PH03B	08/18/2022	12	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	225
PH04	08/19/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	526
PH04A	08/19/2022	12	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	526
PH05	10/14/2022	3	<0.00201	<0.00994	<50.0	<50.0	<50.0	<50.0	<50.0	40.3
PH05A	08/19/2022	6	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	259
PH05B	08/19/2022	12	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	93.1
PH06	08/19/2022	1	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	330
PH06A	08/19/2022	12	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	233
PH07	08/19/2022	1	<0.00200	<0.00399	<50.0	53.2	<50.0	53.2	53.2	593
PH07A	08/19/2022	12	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	254

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

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APPENDIX A

Photographic Log

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Photographic Log
Maverick Natural Resources, LLC
VGEU 30-01
Incident Number NAPP2200643457

Photograph 1 Date: 01/03/2022
Description: Photo of release extent taken durinng initial site assessment.

Photograph 2 Date: 01/03/2022
Description: Photo of release extent taken during initial site assessment.

Photograph 3 Date: 08/18/2022
Description: Photo of PH02 taken during delineation activities.

Photograph 4 Date: 08/19/2022
Description: Photo of PH07 taken during delineation activities.

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APPENDIX B

Lithologic Soil Sampling Logs

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Sample Name:PH01	8/23/2022 & 10/18/2022	
Site Name:VGEU 30-01 Flowline		
Incident Number:NAPP2200643457		
Job Number:03D2057005		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	Total Depth:19'

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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	8,820	0.2	N	PH01	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone, silt
D	4,653	0.1	N	PH01	2	2	CCHE	Caliche
D	4,950	0.3	N	PH01	3	3	CCHE	Caliche
D	2,934	0.1	N	PH01	4	4	CCHE	Caliche
D	1,366	0.2	N	PH01	6	6	CCHE	Caliche
D	1,366	0.2	N	PH01	8	8	CCHE	SAA
D	604.8	0.3	N	PH01	12	12	CCHE	SAA
D	868	0.3	N	PH01	14	14	CCHE	SAA
D	589	0.4	N	PH01	19	19	CCHE	SAA

TD @ 19 feet bgs

ENSOLUM

Sample Name:PH02	8/23/2022 & 10/18/2022	
Site Name:VGEU 30-01 Flowline		
Incident Number:NAPP2200643457		
Job Number:03D2057005		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	Total Depth:19'

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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	1,254	2.6	N	PH02	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone, silt
D	593	0.8	N	PH02	2	2	CCHE	Caliche
D	4,267	12.4	N	PH02	3	3	CCHE	Caliche
D	1,064	1.5	N	PH02	4	4	CCHE	Caliche
D	1,159	0.6	N	PH02	6	6	CCHE	Caliche
D	974	1.7	N	PH02	8	8	CCHE	SAA
D	800	0.9	N	PH02	12	12	CCHE	SAA
D	946	0.3	N	PH02	16	16	CCHE	SAA
D	634	0.4	N	PH02	18	18	CCHE	SAA

TD @ 18 feet bgs

ENSOLUM	Sample Name:PH03	8/23/2022
	Site Name:VGEU 30-01 Flowline	
	Incident Number:NAPP2200643457	
	Job Number:03D2057005	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	Total Depth:6'

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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	ND	0.5	N	PH03	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone
D	ND	0.5	N	PH03	2	2	CCHE	SAA
D	280	0.6	N	PH03	3	3	CCHE	SAA
D	582	0.6	N	PH03	4	4	CCHE	SAA
D	280	0.5	N	PH03	12	12	CCHE	SAA

TD @ 12 feet bgs

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	Sample Name:PH04	8/23/2022
	Site Name:VGEU 30-01 Flowline	
	Incident Number:NAPP2200643457	
	Job Number:03D2057005	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	ND	0	N	PH04	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone
D	470	0.2	N	PH04	3	3	CCHE	SAA
D	324	0.1	N	PH04	6	6	CCHE	SAA
D	414	0	N	PH04	9	9	CCHE	SAA
D	414	0	N	PH04	12	12	CCHE	SAA

TD @ 12 feet bgs

ENSOLUM	Sample Name:PH05	8/23/2022
	Site Name:VGEU 30-01 Flowline	
	Incident Number:NAPP2200643457	
	Job Number:03D2057005	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	ND	1.8	N	PH05	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone
D	ND	1.8	N	PH05	3	3	CCHE	SAA
D	324	1.5	N	PH05	6	6	CCHE	SAA
D	240.8	0.9	N	PH05	9	9	CCHE	SAA
D	ND	0.5	N	PH05	12	12	CCHE	SAA

TD @ 12 feet bgs

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	Sample Name:PH06	8/23/2022
	Site Name:VGEU 30-01 Flowline	
	Incident Number:NAPP2200643457	
	Job Number:03D2057005	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	ND	1.00	N	PH06	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone
D	ND	1.00	N	PH06	6	6	CCHE	SAA
D	241	0.80	N	PH06	12	12	CCHE	SAA

TD @ 12 feet bgs

ENSOLUM

	Sample Name:PH07	8/23/2022
	Site Name:VGEU 30-01 Flowline	
	Incident Number:NAPP2200643457	
	Job Number:03D2057005	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/CW	Method:Backhoe
Coordinates:32.78639, -103.4953	Hole Diameter:N/A	Total Depth:6.5'

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. ND: Non-Detect.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	324	0.50	N	PH07	1	1	CCHE	Caliche-Brown, well rounded, medium-fine grained sandstone
D	824	0.50	N	PH07	6	6	CCHE	SAA
D	240.8	0.50	N	PH07	6.5	6.5	CCHE	SAA

TD @ 6.5 feet bgs

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1792-1
Laboratory Sample Delivery Group: PENDING
Client Project/Site: VGEU 30-01 FLOWLINE

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Kalei Jennings

JKramer

Authorized for release by:
1/10/2022 12:07:40 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Laboratory Job ID: 890-1792-1
SDG: PENDING

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1792-1
Project/Site: VGEU 30-01 FLOWLINE SDG: PENDING

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, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Job ID: 890-1792-1

Laboratory: Eurofins Xenco

Narrative

Job Narrative
890-1792-1

Receipt
The samples were received on 1/3/2022 1:44 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
Method 8021B: The following samples were diluted due to the nature of the sample matrix: SS02 (890-1792-2), SS03 (890-1792-3), SS04 (890-1792-4), SS05 (890-1792-5) and SS06 (890-1792-6) at 20.0, 20.0, 100.0, 20.0 and 100.0. Elevated reporting limits (RLs) are provided.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16102 and analytical batch 880-16116 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS01

Lab Sample ID: 890-1792-1
Matrix: Solid
Date Collected: 01/03/22 12:21
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U	0.0401		mg/Kg		01/05/22 12:00	01/05/22 15:52	20
Toluene	<0.0401	U	0.0401		mg/Kg		01/05/22 12:00	01/05/22 15:52	20
Ethylbenzene	<0.0401	U	0.0401		mg/Kg		01/05/22 12:00	01/05/22 15:52	20
m-Xylene & p-Xylene	**0.102**		0.0802		mg/Kg		01/05/22 12:00	01/05/22 15:52	20
o-Xylene	<0.0401	U	0.0401		mg/Kg		01/05/22 12:00	01/05/22 15:52	20
Xylenes, Total	**0.102**		0.0802		mg/Kg		01/05/22 12:00	01/05/22 15:52	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*01/05/22 12:00*	*01/05/22 15:52*	*20*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*01/05/22 12:00*	*01/05/22 15:52*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.102**		0.0802		mg/Kg			01/07/22 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2320**		50.0		mg/Kg			01/06/22 15:12	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	**157**		50.0		mg/Kg		01/05/22 16:34	01/07/22 11:36	1
Diesel Range Organics (Over C10-C28)	**2160**		50.0		mg/Kg		01/05/22 16:34	01/07/22 11:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/05/22 16:34	01/07/22 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*01/05/22 16:34*	*01/07/22 11:36*	*1*
o-Terphenyl	*114*		*70 - 130*	*01/05/22 16:34*	*01/07/22 11:36*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4990**		100		mg/Kg			01/06/22 01:02	20

Client Sample ID: SS02

Lab Sample ID: 890-1792-2
Matrix: Solid
Date Collected: 01/03/22 12:22
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		01/05/22 12:00	01/05/22 16:12	20
Toluene	<0.0398	U	0.0398		mg/Kg		01/05/22 12:00	01/05/22 16:12	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		01/05/22 12:00	01/05/22 16:12	20
m-Xylene & p-Xylene	<0.0795	U	0.0795		mg/Kg		01/05/22 12:00	01/05/22 16:12	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		01/05/22 12:00	01/05/22 16:12	20
Xylenes, Total	<0.0795	U	0.0795		mg/Kg		01/05/22 12:00	01/05/22 16:12	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*01/05/22 12:00*	*01/05/22 16:12*	*20*

Eurofins Xenco

Client Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS02

Lab Sample ID: 890-1792-2
Matrix: Solid
Date Collected: 01/03/22 12:22
Date Received: 01/03/22 13:44
Sample Depth: 0.25

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*01/05/22 12:00*	*01/05/22 16:12*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0795	U	0.0795	mg/Kg			01/07/22 16:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**586**		49.9	mg/Kg			01/06/22 15:12	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 F2	49.9	mg/Kg		01/05/22 16:34	01/06/22 11:05	1
Diesel Range Organics (Over C10-C28)	**586**		49.9	mg/Kg		01/05/22 16:34	01/06/22 11:05	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/05/22 16:34	01/06/22 11:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*120*		*70 - 130*	*01/05/22 16:34*	*01/06/22 11:05*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*01/05/22 16:34*	*01/06/22 11:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**661**		25.0	mg/Kg			01/06/22 01:10	5

Client Sample ID: SS03

Lab Sample ID: 890-1792-3
Matrix: Solid
Date Collected: 01/03/22 12:24
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0400	U	0.0400	mg/Kg		01/05/22 12:00	01/05/22 16:32	20
Toluene	<0.0400	U	0.0400	mg/Kg		01/05/22 12:00	01/05/22 16:32	20
Ethylbenzene	<0.0400	U	0.0400	mg/Kg		01/05/22 12:00	01/05/22 16:32	20
m-Xylene & p-Xylene	<0.0800	U	0.0800	mg/Kg		01/05/22 12:00	01/05/22 16:32	20
o-Xylene	<0.0400	U	0.0400	mg/Kg		01/05/22 12:00	01/05/22 16:32	20
Xylenes, Total	<0.0800	U	0.0800	mg/Kg		01/05/22 12:00	01/05/22 16:32	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*01/05/22 12:00*	*01/05/22 16:32*	*20*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/05/22 12:00*	*01/05/22 16:32*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0800	U	0.0800	mg/Kg			01/07/22 16:05	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			01/06/22 15:12	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS03

Lab Sample ID: 890-1792-3
Matrix: Solid
Date Collected: 01/03/22 12:24
Date Received: 01/03/22 13:44
Sample Depth: 0.25

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		01/05/22 16:34	01/06/22 12:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/05/22 16:34	01/06/22 12:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/05/22 16:34	01/06/22 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*01/05/22 16:34*	*01/06/22 12:07*	*1*
o-Terphenyl	*115*		*70 - 130*	*01/05/22 16:34*	*01/06/22 12:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10000**		49.8		mg/Kg			01/06/22 01:18	10

Client Sample ID: SS04

Lab Sample ID: 890-1792-4
Matrix: Solid
Date Collected: 01/03/22 12:26
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.558**		0.200		mg/Kg		01/05/22 12:00	01/05/22 16:53	100
Toluene	**16.3**		0.200		mg/Kg		01/05/22 12:00	01/05/22 16:53	100
Ethylbenzene	**35.5**		0.200		mg/Kg		01/05/22 12:00	01/05/22 16:53	100
m-Xylene & p-Xylene	**31.1**		0.399		mg/Kg		01/05/22 12:00	01/05/22 16:53	100
o-Xylene	**14.3**		0.200		mg/Kg		01/05/22 12:00	01/05/22 16:53	100
Xylenes, Total	**45.4**		0.399		mg/Kg		01/05/22 12:00	01/05/22 16:53	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*205*	*S1+*	*70 - 130*	*01/05/22 12:00*	*01/05/22 16:53*	*100*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*01/05/22 12:00*	*01/05/22 16:53*	*100*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**97.8**		0.399		mg/Kg			01/07/22 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**13200**		249		mg/Kg			01/06/22 15:12	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	**1950**		249		mg/Kg		01/05/22 16:34	01/06/22 12:48	5
Diesel Range Organics (Over C10-C28)	**11200**		249		mg/Kg		01/05/22 16:34	01/06/22 12:48	5
Oil Range Organics (Over C28-C36)	<249	U	249		mg/Kg		01/05/22 16:34	01/06/22 12:48	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*148*	*S1+*	*70 - 130*	*01/05/22 16:34*	*01/06/22 12:48*	*5*
o-Terphenyl	*104*		*70 - 130*	*01/05/22 16:34*	*01/06/22 12:48*	*5*

Client Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS04

Lab Sample ID: 890-1792-4
Matrix: Solid
Date Collected: 01/03/22 12:26
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	281		49.5		mg/Kg			01/06/22 01:26	10

Client Sample ID: SS05

Lab Sample ID: 890-1792-5
Matrix: Solid
Date Collected: 01/03/22 12:28
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0396	U	0.0396		mg/Kg		01/05/22 12:00	01/05/22 17:13	20
Toluene	<0.0396	U	0.0396		mg/Kg		01/05/22 12:00	01/05/22 17:13	20
Ethylbenzene	<0.0396	U	0.0396		mg/Kg		01/05/22 12:00	01/05/22 17:13	20
m-Xylene & p-Xylene	<0.0792	U	0.0792		mg/Kg		01/05/22 12:00	01/05/22 17:13	20
o-Xylene	<0.0396	U	0.0396		mg/Kg		01/05/22 12:00	01/05/22 17:13	20
Xylenes, Total	<0.0792	U	0.0792		mg/Kg		01/05/22 12:00	01/05/22 17:13	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*01/05/22 12:00*	*01/05/22 17:13*	*20*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*01/05/22 12:00*	*01/05/22 17:13*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0792	U	0.0792		mg/Kg			01/07/22 16:05	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			01/10/22 12:40	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		01/05/22 16:34	01/06/22 13:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/05/22 16:34	01/06/22 13:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/05/22 16:34	01/06/22 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*01/05/22 16:34*	*01/06/22 13:33*	*1*
o-Terphenyl	*116*		*70 - 130*	*01/05/22 16:34*	*01/06/22 13:33*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.4		4.96		mg/Kg			01/06/22 01:34	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS06

Date Collected: 01/03/22 12:30
Date Received: 01/03/22 13:44
Sample Depth: 0.25

Lab Sample ID: 890-1792-6

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.67		0.201		mg/Kg		01/05/22 12:00	01/05/22 17:34	100
Toluene	18.8		0.201		mg/Kg		01/05/22 12:00	01/05/22 17:34	100
Ethylbenzene	26.8		0.201		mg/Kg		01/05/22 12:00	01/05/22 17:34	100
m-Xylene & p-Xylene	23.1		0.402		mg/Kg		01/05/22 12:00	01/05/22 17:34	100
o-Xylene	10.0		0.201		mg/Kg		01/05/22 12:00	01/05/22 17:34	100
Xylenes, Total	33.1		0.402		mg/Kg		01/05/22 12:00	01/05/22 17:34	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*183*	*S1+*	*70 - 130*	*01/05/22 12:00*	*01/05/22 17:34*	*100*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*01/05/22 12:00*	*01/05/22 17:34*	*100*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	80.4		0.402		mg/Kg			01/07/22 16:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	8560		250		mg/Kg			01/10/22 12:40	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	1520		250		mg/Kg		01/05/22 16:34	01/06/22 13:12	5
Diesel Range Organics (Over C10-C28)	7040		250		mg/Kg		01/05/22 16:34	01/06/22 13:12	5
Oil Range Organics (Over C28-C36)	<250	U	250		mg/Kg		01/05/22 16:34	01/06/22 13:12	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*01/05/22 16:34*	*01/06/22 13:12*	*5*
o-Terphenyl	*110*		*70 - 130*	*01/05/22 16:34*	*01/06/22 13:12*	*5*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5770		50.0		mg/Kg			01/06/22 01:41	10

Surrogate Summary

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

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)
880-9832-A-1-B MS	Matrix Spike	119	117
880-9832-A-1-C MSD	Matrix Spike Duplicate	118	105
890-1792-1	SS01	89	110
890-1792-2	SS02	93	108
890-1792-3	SS03	80	105
890-1792-4	SS04	205 S1+	96
890-1792-5	SS05	95	112
890-1792-6	SS06	183 S1+	96
LCS 880-16035/1-A	Lab Control Sample	116	107
LCSD 880-16035/2-A	Lab Control Sample Dup	133 S1+	128
MB 880-16035/5-A	Method Blank	100	105

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)
890-1792-1	SS01	117	114
890-1792-2	SS02	120	131 S1+
890-1792-2 MS	SS02	131 S1+	143 S1+
890-1792-2 MSD	SS02	109	119
890-1792-3	SS03	110	115
890-1792-4	SS04	148 S1+	104
890-1792-5	SS05	112	116
890-1792-6	SS06	126	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO2	OTPH2
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
LCS 880-16102/2-A	Lab Control Sample	102	108
LCSD 880-16102/3-A	Lab Control Sample Dup	108	111
MB 880-16102/1-A	Method Blank	108	114

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16035/5-A
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16035

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/05/22 07:48	01/05/22 11:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/05/22 07:48	01/05/22 11:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/05/22 07:48	01/05/22 11:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/05/22 07:48	01/05/22 11:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/05/22 07:48	01/05/22 11:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/05/22 07:48	01/05/22 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*01/05/22 07:48*	*01/05/22 11:05*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/05/22 07:48*	*01/05/22 11:05*	*1*

Lab Sample ID: LCS 880-16035/1-A
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16035

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.07126		mg/Kg		71	70 - 130		
Toluene			0.100	0.07102		mg/Kg		71	70 - 130		
Ethylbenzene			0.100	0.07381		mg/Kg		74	70 - 130		
m-Xylene & p-Xylene			0.200	0.1596		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.08193		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-16035/2-A
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16035

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.07161		mg/Kg		72	70 - 130	0	35
Toluene			0.100	0.07438		mg/Kg		74	70 - 130	5	35
Ethylbenzene			0.100	0.08415		mg/Kg		84	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1740		mg/Kg		87	70 - 130	9	35
o-Xylene			0.100	0.08829		mg/Kg		88	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*128*		*70 - 130*

Lab Sample ID: 880-9832-A-1-B MS
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.100	0.07479		mg/Kg		74	70 - 130		
Toluene	<0.00200	U	0.100	0.06185	F1	mg/Kg		61	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

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

Lab Sample ID: 880-9832-A-1-B MS
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.100	0.04817	F1	mg/Kg		48	70 - 130
m-Xylene & p-Xylene	<0.00400	U	0.201	0.09237	F1	mg/Kg		45	70 - 130
o-Xylene	<0.00200	U	0.100	0.04840	F1	mg/Kg		48	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 880-9832-A-1-C MSD
Matrix: Solid
Analysis Batch: 16038

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16035

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	0.05117	F1 F2	mg/Kg		51	70 - 130	38	35
Toluene	<0.00200	U	0.0996	0.04211	F1 F2	mg/Kg		42	70 - 130	38	35
Ethylbenzene	<0.00200	U	0.0996	0.02536	F1 F2	mg/Kg		25	70 - 130	62	35
m-Xylene & p-Xylene	<0.00400	U	0.199	0.04725	F1 F2	mg/Kg		23	70 - 130	65	35
o-Xylene	<0.00200	U	0.0996	0.02367	F1 F2	mg/Kg		23	70 - 130	69	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

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

Lab Sample ID: MB 880-16102/1-A
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16102

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		01/05/22 16:34	01/06/22 10:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/05/22 16:34	01/06/22 10:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/05/22 16:34	01/06/22 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*01/05/22 16:34*	*01/06/22 10:03*	*1*
o-Terphenyl	*114*		*70 - 130*	*01/05/22 16:34*	*01/06/22 10:03*	*1*

Lab Sample ID: LCS 880-16102/2-A
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16102

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	968.7		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1021		mg/Kg		102	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

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

Lab Sample ID: LCS 880-16102/2-A
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16102

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

Lab Sample ID: LCSD 880-16102/3-A
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16102

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	945.6		mg/Kg		95	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	998.5		mg/Kg		100	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: 890-1792-2 MS
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 16102

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 F2	996	1189		mg/Kg		117	70 - 130		
Diesel Range Organics (Over C10-C28)	586		996	1713		mg/Kg		113	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	143	S1+	70 - 130

Lab Sample ID: 890-1792-2 MSD
Matrix: Solid
Analysis Batch: 16116

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 16102

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 F2	999	922.0	F2	mg/Kg		90	70 - 130	25	20
Diesel Range Organics (Over C10-C28)	586		999	1457		mg/Kg		87	70 - 130	16	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	119		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15959/1-A
Matrix: Solid
Analysis Batch: 16111

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			01/05/22 21:00	1

Lab Sample ID: LCS 880-15959/2-A
Matrix: Solid
Analysis Batch: 16111

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	246.0		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-15959/3-A
Matrix: Solid
Analysis Batch: 16111

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	246.1		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 880-9793-A-9-C MS
Matrix: Solid
Analysis Batch: 16111

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	36.6		248	288.7		mg/Kg		102	90 - 110		

Lab Sample ID: 880-9793-A-9-D MSD
Matrix: Solid
Analysis Batch: 16111

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	36.6		248	285.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1792-1
Project/Site: VGEU 30-01 FLOWLINE SDG: PENDING

GC VOA

Prep Batch: 16035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	5035	
890-1792-2	SS02	Total/NA	Solid	5035	
890-1792-3	SS03	Total/NA	Solid	5035	
890-1792-4	SS04	Total/NA	Solid	5035	
890-1792-5	SS05	Total/NA	Solid	5035	
890-1792-6	SS06	Total/NA	Solid	5035	
MB 880-16035/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16035/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16035/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9832-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-9832-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	8021B	16035
890-1792-2	SS02	Total/NA	Solid	8021B	16035
890-1792-3	SS03	Total/NA	Solid	8021B	16035
890-1792-4	SS04	Total/NA	Solid	8021B	16035
890-1792-5	SS05	Total/NA	Solid	8021B	16035
890-1792-6	SS06	Total/NA	Solid	8021B	16035
MB 880-16035/5-A	Method Blank	Total/NA	Solid	8021B	16035
LCS 880-16035/1-A	Lab Control Sample	Total/NA	Solid	8021B	16035
LCSD 880-16035/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16035
880-9832-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	16035
880-9832-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16035

Analysis Batch: 16308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	Total BTEX	
890-1792-2	SS02	Total/NA	Solid	Total BTEX	
890-1792-3	SS03	Total/NA	Solid	Total BTEX	
890-1792-4	SS04	Total/NA	Solid	Total BTEX	
890-1792-5	SS05	Total/NA	Solid	Total BTEX	
890-1792-6	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 16102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	8015NM Prep	
890-1792-2	SS02	Total/NA	Solid	8015NM Prep	
890-1792-3	SS03	Total/NA	Solid	8015NM Prep	
890-1792-4	SS04	Total/NA	Solid	8015NM Prep	
890-1792-5	SS05	Total/NA	Solid	8015NM Prep	
890-1792-6	SS06	Total/NA	Solid	8015NM Prep	
MB 880-16102/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16102/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16102/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1792-2 MS	SS02	Total/NA	Solid	8015NM Prep	
890-1792-2 MSD	SS02	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

GC Semi VOA

Analysis Batch: 16116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	8015B NM	16102
890-1792-2	SS02	Total/NA	Solid	8015B NM	16102
890-1792-3	SS03	Total/NA	Solid	8015B NM	16102
890-1792-4	SS04	Total/NA	Solid	8015B NM	16102
890-1792-5	SS05	Total/NA	Solid	8015B NM	16102
890-1792-6	SS06	Total/NA	Solid	8015B NM	16102
MB 880-16102/1-A	Method Blank	Total/NA	Solid	8015B NM	16102
LCS 880-16102/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16102
LCSD 880-16102/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16102
890-1792-2 MS	SS02	Total/NA	Solid	8015B NM	16102
890-1792-2 MSD	SS02	Total/NA	Solid	8015B NM	16102

Analysis Batch: 16174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Total/NA	Solid	8015 NM	
890-1792-2	SS02	Total/NA	Solid	8015 NM	
890-1792-3	SS03	Total/NA	Solid	8015 NM	
890-1792-4	SS04	Total/NA	Solid	8015 NM	

Analysis Batch: 16428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-5	SS05	Total/NA	Solid	8015 NM	
890-1792-6	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 15959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Soluble	Solid	DI Leach	
890-1792-2	SS02	Soluble	Solid	DI Leach	
890-1792-3	SS03	Soluble	Solid	DI Leach	
890-1792-4	SS04	Soluble	Solid	DI Leach	
890-1792-5	SS05	Soluble	Solid	DI Leach	
890-1792-6	SS06	Soluble	Solid	DI Leach	
MB 880-15959/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15959/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15959/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9793-A-9-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9793-A-9-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 16111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1792-1	SS01	Soluble	Solid	300.0	15959
890-1792-2	SS02	Soluble	Solid	300.0	15959
890-1792-3	SS03	Soluble	Solid	300.0	15959
890-1792-4	SS04	Soluble	Solid	300.0	15959
890-1792-5	SS05	Soluble	Solid	300.0	15959
890-1792-6	SS06	Soluble	Solid	300.0	15959
MB 880-15959/1-A	Method Blank	Soluble	Solid	300.0	15959
LCS 880-15959/2-A	Lab Control Sample	Soluble	Solid	300.0	15959
LCSD 880-15959/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15959

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1792-1
Project/Site: VGEU 30-01 FLOWLINE SDG: PENDING

HPLC/IC (Continued)

Analysis Batch: 16111 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9793-A-9-C MS	Matrix Spike	Soluble	Solid	300.0	15959
880-9793-A-9-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15959

Lab Chronicle

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS01

Date Collected: 01/03/22 12:21
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	16038	01/05/22 15:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID
Total/NA	Analysis	8015 NM		1			16174	01/06/22 15:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16116	01/07/22 11:36	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		20			16111	01/06/22 01:02	CH	XEN MID

Client Sample ID: SS02

Date Collected: 01/03/22 12:22
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-2
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	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	16038	01/05/22 16:12	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID
Total/NA	Analysis	8015 NM		1			16174	01/06/22 15:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16116	01/06/22 11:05	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		5			16111	01/06/22 01:10	CH	XEN MID

Client Sample ID: SS03

Date Collected: 01/03/22 12:24
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-3
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			5.00 g	5 mL	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	16038	01/05/22 16:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID
Total/NA	Analysis	8015 NM		1			16174	01/06/22 15:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16116	01/06/22 12:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		10			16111	01/06/22 01:18	CH	XEN MID

Client Sample ID: SS04

Date Collected: 01/03/22 12:26
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	16038	01/05/22 16:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID

Eurofins Xenco

Lab Chronicle

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Client Sample ID: SS04

Date Collected: 01/03/22 12:26
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-4

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			16174	01/06/22 15:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		5			16116	01/06/22 12:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		10			16111	01/06/22 01:26	CH	XEN MID

Client Sample ID: SS05

Date Collected: 01/03/22 12:28
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	16038	01/05/22 17:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID
Total/NA	Analysis	8015 NM		1			16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16116	01/06/22 13:33	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		1			16111	01/06/22 01:34	CH	XEN MID

Client Sample ID: SS06

Date Collected: 01/03/22 12:30
Date Received: 01/03/22 13:44

Lab Sample ID: 890-1792-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	16035	01/05/22 12:00	KL	XEN MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	16038	01/05/22 17:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16308	01/07/22 16:05	KL	XEN MID
Total/NA	Analysis	8015 NM		1			16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16102	01/05/22 16:34	DM	XEN MID
Total/NA	Analysis	8015B NM		5			16116	01/06/22 13:12	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	15959	01/05/22 08:48	CA	XEN MID
Soluble	Analysis	300.0		10			16111	01/06/22 01:41	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Laboratory: Eurofins Xenco

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

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: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

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

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

Sample Summary

Client: WSP USA Inc.
Project/Site: VGEU 30-01 FLOWLINE

Job ID: 890-1792-1
SDG: PENDING

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1792-1	SS01	Solid	01/03/22 12:21	01/03/22 13:44	0.25
890-1792-2	SS02	Solid	01/03/22 12:22	01/03/22 13:44	0.25
890-1792-3	SS03	Solid	01/03/22 12:24	01/03/22 13:44	0.25
890-1792-4	SS04	Solid	01/03/22 12:26	01/03/22 13:44	0.25
890-1792-5	SS05	Solid	01/03/22 12:28	01/03/22 13:44	0.25
890-1792-6	SS06	Solid	01/03/22 12:30	01/03/22 13:44	0.25

Chain of Custody

Work Order No: _____

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street Building 1, unit 222	Address:	3300 North A Street Building 1, unit 222
City, State ZIP:	Midland, Texas 79705	City, State ZIP:	Midland, Texas 79705
Phone:	817-683-2503	Email:	Kalei.jennings@wsp.com

Work Order Comments

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

Project Name:	VGEU 30-01 FLOWLINE	Turn Around	
Project Number:	Pending	Routine	☐
P.O. Number:		Rush:	
Sampler's Name:	Payton Benner	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4 | 1.2	Thermometer ID	T-NM-007	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	01/03/22	12:21	0.25	1	X	X	X
SS02	S	01/03/22	12:22	0.25	1	X	X	X
SS03	S	01/03/22	12:24	0.25	1	X	X	X
SS04	S	01/03/22	12:26	0.25	1	X	X	X
SS05	S	01/03/22	12:28	0.25	1	X	X	X
SS06	S	01/03/22	12:30	0.25	1	X	X	X

890-1792 Chain of Custody

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

DISCRETE
DISCRETE
DISCRETE
DISCRETE
DISCRETE
DISCRETE

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 P Benner	N. Ett	1/3/22 3:44			
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1792-1
SDG Number: PENDING

Login Number: 1792
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco

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: WSP USA Inc.

Job Number: 890-1792-1
SDG Number: PENDING

Login Number: 1792
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Xenco
List Creation: 01/05/22 11:47 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: 890-2796-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01
Revision: 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
9/13/2022 12:02:44 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-2796-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Qualifiers

GC VOA

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

GC Semi VOA

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

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: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Job ID: 890-2796-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2796-1

REVISION

The report being provided is a revision of the original report sent on 8/29/2022. The report (revision 1) is being revised due to Per client email, corrected sample depth.

Report revision history

Receipt
The samples were received on 8/23/2022 8:18 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

GC VOA
Method 8021B: The following samples were diluted due to <Had a strong odor>, such as color, odor, appearance, viscosity, etc.>>: PH01 (890-2796-1) and PH02 (890-2796-4). Elevated reporting limits (RL) are provided.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH02 (890-2796-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-32854/2-A) and (LCSD 880-32854/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-32854 and analytical batch 880-32892 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike duplicate (MSD) recoveries for preparation batch 880-32846 and 880-32846 and analytical batch 880-32879 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.The associated samples are: PH02 (890-2796-6), PH03 (890-2796-8) and (890-2796-A-6-C MSD).

Method 300_ORGFM_28D: The matrix spike duplicate (MSD) recoveries for preparation batch 880-32846 and analytical batch 880-32879 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.The associated samples are: PH03 (890-2796-7), PH03 (890-2796-8) and PH03 (890-2796-9).

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: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH01
Date Collected: 08/18/22 09:30
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2796-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U	0.0401		mg/Kg		08/24/22 11:34	08/26/22 04:49	20
Toluene	<0.0401	U	0.0401		mg/Kg		08/24/22 11:34	08/26/22 04:49	20
Ethylbenzene	<0.0401	U	0.0401		mg/Kg		08/24/22 11:34	08/26/22 04:49	20
m-Xylene & p-Xylene	<0.0802	U	0.0802		mg/Kg		08/24/22 11:34	08/26/22 04:49	20
o-Xylene	<0.0401	U	0.0401		mg/Kg		08/24/22 11:34	08/26/22 04:49	20
Xylenes, Total	<0.0802	U	0.0802		mg/Kg		08/24/22 11:34	08/26/22 04:49	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:49*	*20*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:49*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0802	U	0.0802		mg/Kg			08/26/22 09:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**51.7**		49.9		mg/Kg			08/25/22 17:39	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		08/24/22 13:47	08/25/22 12:58	1
Diesel Range Organics (Over C10-C28)	**51.7**	***+**	49.9		mg/Kg		08/24/22 13:47	08/25/22 12:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 13:47	08/25/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/24/22 13:47*	*08/25/22 12:58*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/24/22 13:47*	*08/25/22 12:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8380**		100		mg/Kg			08/25/22 02:56	20

Client Sample ID: PH01
Date Collected: 08/18/22 10:10
Date Received: 08/23/22 08:18
Sample Depth: 6'

Lab Sample ID: 890-2796-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:28	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:28	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:28	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/24/22 11:34	08/26/22 03:28	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:28	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/24/22 11:34	08/26/22 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:28*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH01
Date Collected: 08/18/22 10:10
Date Received: 08/23/22 08:18
Sample Depth: 6'

Lab Sample ID: 890-2796-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:28*	*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			08/26/22 09:35	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			08/25/22 17:39	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		08/24/22 13:47	08/25/22 11:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9	mg/Kg		08/24/22 13:47	08/25/22 11:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/24/22 13:47	08/25/22 11:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/24/22 13:47*	*08/25/22 11:55*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/24/22 13:47*	*08/25/22 11:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1430**		25.2	mg/Kg			08/25/22 03:05	5

Client Sample ID: PH01
Date Collected: 08/18/22 10:40
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2796-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/24/22 11:34	08/26/22 03:48	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/24/22 11:34	08/26/22 03:48	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/24/22 11:34	08/26/22 03:48	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		08/24/22 11:34	08/26/22 03:48	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		08/24/22 11:34	08/26/22 03:48	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		08/24/22 11:34	08/26/22 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:48*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:48*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			08/26/22 09:35	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			08/25/22 17:39	1

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Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH01
Date Collected: 08/18/22 10:40
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2796-3
Matrix: Solid

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		08/24/22 13:47	08/25/22 13:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		08/24/22 13:47	08/25/22 13:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/24/22 13:47*	*08/25/22 13:19*	*1*
o-Terphenyl	*88*		*70 - 130*	*08/24/22 13:47*	*08/25/22 13:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1020**		24.9		mg/Kg			08/25/22 03:14	5

Client Sample ID: PH02
Date Collected: 08/18/22 12:10
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2796-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399		mg/Kg		08/24/22 11:34	08/26/22 05:10	20
Toluene	<0.0399	U	0.0399		mg/Kg		08/24/22 11:34	08/26/22 05:10	20
Ethylbenzene	<0.0399	U	0.0399		mg/Kg		08/24/22 11:34	08/26/22 05:10	20
m-Xylene & p-Xylene	<0.0798	U	0.0798		mg/Kg		08/24/22 11:34	08/26/22 05:10	20
o-Xylene	<0.0399	U	0.0399		mg/Kg		08/24/22 11:34	08/26/22 05:10	20
Xylenes, Total	<0.0798	U	0.0798		mg/Kg		08/24/22 11:34	08/26/22 05:10	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*08/24/22 11:34*	*08/26/22 05:10*	*20*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*08/24/22 11:34*	*08/26/22 05:10*	*20*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0798	U	0.0798		mg/Kg			08/26/22 09:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**168**		49.9		mg/Kg			08/25/22 17:39	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		08/24/22 13:47	08/25/22 13:40	1
Diesel Range Organics (Over C10-C28)	**168**	***+**	49.9		mg/Kg		08/24/22 13:47	08/25/22 13:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 13:47	08/25/22 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/24/22 13:47*	*08/25/22 13:40*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/24/22 13:47*	*08/25/22 13:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH02
Date Collected: 08/18/22 12:10
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2796-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**		24.8		mg/Kg			08/25/22 03:23	5

Client Sample ID: PH02
Date Collected: 08/18/22 12:20
Date Received: 08/23/22 08:18
Sample Depth: 3'

Lab Sample ID: 890-2796-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0101	U	0.0101		mg/Kg		08/24/22 11:34	08/26/22 10:23	5
Toluene	<0.0101	U	0.0101		mg/Kg		08/24/22 11:34	08/26/22 10:23	5
Ethylbenzene	<0.0101	U	0.0101		mg/Kg		08/24/22 11:34	08/26/22 10:23	5
m-Xylene & p-Xylene	<0.0202	U	0.0202		mg/Kg		08/24/22 11:34	08/26/22 10:23	5
o-Xylene	<0.0101	U	0.0101		mg/Kg		08/24/22 11:34	08/26/22 10:23	5
Xylenes, Total	<0.0202	U	0.0202		mg/Kg		08/24/22 11:34	08/26/22 10:23	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*44*	*S1-*	*70 - 130*	*08/24/22 11:34*	*08/26/22 10:23*	*5*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/24/22 11:34*	*08/26/22 10:23*	*5*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0202	U	0.0202		mg/Kg			08/26/22 09:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**463**		50.0		mg/Kg			08/25/22 17:39	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		08/24/22 13:47	08/25/22 14:01	1
Diesel Range Organics (Over C10-C28)	**463**	***+**	50.0		mg/Kg		08/24/22 13:47	08/25/22 14:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:01*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3660**		24.8		mg/Kg			08/25/22 03:33	5

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 08/18/22 13:25
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2796-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 04:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:08*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:08*	*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			08/26/22 09:35	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			08/25/22 17:39	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		08/24/22 13:47	08/25/22 14:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		08/24/22 13:47	08/25/22 14:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 13:47	08/25/22 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:23*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**772**	**F1**	5.04		mg/Kg			08/25/22 03:42	1

Client Sample ID: PH03

Date Collected: 08/18/22 14:20
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2796-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 02:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 02:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 02:27	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/24/22 11:34	08/26/22 02:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 02:27	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/24/22 11:34	08/26/22 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/24/22 11:34*	*08/26/22 02:27*	*1*

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH03
Date Collected: 08/18/22 14:20
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2796-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/24/22 11:34*	*08/26/22 02:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			08/26/22 09:35	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			08/25/22 17:39	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		08/24/22 13:47	08/25/22 14:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0	mg/Kg		08/24/22 13:47	08/25/22 14:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/24/22 13:47	08/25/22 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:44*	*1*
o-Terphenyl	*82*		*70 - 130*	*08/24/22 13:47*	*08/25/22 14:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**84.5**		4.99	mg/Kg			08/25/22 22:49	1

Client Sample ID: PH03
Date Collected: 08/18/22 14:35
Date Received: 08/23/22 08:18
Sample Depth: 4'

Lab Sample ID: 890-2796-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/24/22 11:34	08/26/22 02:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/24/22 11:34	08/26/22 02:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/24/22 11:34	08/26/22 02:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/24/22 11:34	08/26/22 02:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/24/22 11:34	08/26/22 02:47	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/24/22 11:34	08/26/22 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/24/22 11:34*	*08/26/22 02:47*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/24/22 11:34*	*08/26/22 02:47*	*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			08/26/22 09:35	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			08/25/22 17:39	1

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Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH03
Date Collected: 08/18/22 14:35
Date Received: 08/23/22 08:18
Sample Depth: 4'

Lab Sample ID: 890-2796-8
Matrix: Solid

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		08/24/22 13:47	08/25/22 15:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+	50.0		mg/Kg		08/24/22 13:47	08/25/22 15:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:06*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:06*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**510**		4.99		mg/Kg			08/25/22 04:19	1

Client Sample ID: PH03
Date Collected: 08/18/22 14:50
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2796-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:07	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:07	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/24/22 11:34	08/26/22 03:07	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/24/22 11:34	08/26/22 03:07	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/24/22 11:34	08/26/22 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:07*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/24/22 11:34*	*08/26/22 03:07*	*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			08/26/22 09:35	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			08/25/22 17:39	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		08/24/22 13:47	08/25/22 15:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9		mg/Kg		08/24/22 13:47	08/25/22 15:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 13:47	08/25/22 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:27*	*1*
o-Terphenyl	*82*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:27*	*1*

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH03
Date Collected: 08/18/22 14:50
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2796-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	225		24.8		mg/Kg			08/25/22 04:46	5

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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)
890-2796-1	PH01	109	86
890-2796-2	PH01	80	113
890-2796-3	PH01	99	107
890-2796-4	PH02	107	86
890-2796-5	PH02	44 S1-	117
890-2796-6	PH02	95	105
890-2796-7	PH03	98	101
890-2796-7 MS	PH03	98	102
890-2796-7 MSD	PH03	97	104
890-2796-8	PH03	97	103
890-2796-9	PH03	101	105
LCS 880-32562/1-A	Lab Control Sample	98	99
LCSD 880-32562/2-A	Lab Control Sample Dup	98	105
MB 880-32562/5-B	Method Blank	79	115
MB 880-32567/5-A	Method Blank	77	119

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)
890-2796-1	PH01	103	97
890-2796-2	PH01	102	94
890-2796-2 MS	PH01	85	80
890-2796-2 MSD	PH01	83	77
890-2796-3	PH01	97	88
890-2796-4	PH02	101	93
890-2796-5	PH02	116	108
890-2796-6	PH02	109	102
890-2796-7	PH03	92	82
890-2796-8	PH03	119	106
890-2796-9	PH03	92	82
LCS 880-32854/2-A	Lab Control Sample	112	134 S1+
LCSD 880-32854/3-A	Lab Control Sample Dup	109	133 S1+
MB 880-32854/1-A	Method Blank	106	104

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-32562/5-B
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/24/22 11:34	08/26/22 01:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/24/22 11:34*	*08/26/22 01:58*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/24/22 11:34*	*08/26/22 01:58*	*1*

Lab Sample ID: LCS 880-32562/1-A
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1022		mg/Kg		102	70 - 130		
Toluene			0.100	0.1068		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.1045		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.1923		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.1026		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-32562/2-A
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1119		mg/Kg		112	70 - 130	9	35
Toluene			0.100	0.1095		mg/Kg		110	70 - 130	3	35
Ethylbenzene			0.100	0.1062		mg/Kg		106	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1941		mg/Kg		97	70 - 130	1	35
o-Xylene			0.100	0.1046		mg/Kg		105	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-2796-7 MS
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 32562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.08933		mg/Kg		90	70 - 130		
Toluene	<0.00200	U	0.0998	0.09212		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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

Lab Sample ID: 890-2796-7 MS
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 32562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.08660		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1576		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08318		mg/Kg		83	70 - 130

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

Lab Sample ID: 890-2796-7 MSD
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: PH03
Prep Type: Total/NA
Prep Batch: 32562

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	0.08851		mg/Kg		89	70 - 130	1	35
Toluene	<0.00200	U	0.0996	0.08898		mg/Kg		89	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0996	0.08354		mg/Kg		84	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1514		mg/Kg		76	70 - 130	4	35
o-Xylene	<0.00200	U	0.0996	0.07955		mg/Kg		80	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-32567/5-A
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32567

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/20/22 12:27	08/25/22 14:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/20/22 12:27*	*08/25/22 14:57*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*08/20/22 12:27*	*08/25/22 14:57*	*1*

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

Lab Sample ID: MB 880-32854/1-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32854

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		08/24/22 13:47	08/25/22 10:52	1

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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

Lab Sample ID: MB 880-32854/1-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32854

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 10:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 10:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*08/24/22 13:47*	*08/25/22 10:52*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/24/22 13:47*	*08/25/22 10:52*	*1*

Lab Sample ID: LCS 880-32854/2-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32854

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1158		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1315	*+	mg/Kg		132	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*134*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-32854/3-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32854

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1261		mg/Kg		126	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	1324	*+	mg/Kg		132	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*133*	*S1+*	*70 - 130*

Lab Sample ID: 890-2796-2 MS
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 32854

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	822.1		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *+	999	897.2		mg/Kg		88	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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

Lab Sample ID: 890-2796-2 MSD
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 32854

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	998	830.1		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U *+	998	879.7		mg/Kg		86	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32846/1-A
Matrix: Solid
Analysis Batch: 32879

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			08/25/22 01:05	1

Lab Sample ID: LCS 880-32846/2-A
Matrix: Solid
Analysis Batch: 32879

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	226.5		mg/Kg		91	90 - 110		

Lab Sample ID: LCSD 880-32846/3-A
Matrix: Solid
Analysis Batch: 32879

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	228.3		mg/Kg		91	90 - 110	1	20

Lab Sample ID: 890-2796-6 MS
Matrix: Solid
Analysis Batch: 32879

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	772	F1	252	997.8		mg/Kg		90	90 - 110		

Lab Sample ID: 890-2796-6 MSD
Matrix: Solid
Analysis Batch: 32879

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	772	F1	252	968.4	F1	mg/Kg		78	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

GC VOA

Prep Batch: 32562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	5035	
890-2796-2	PH01	Total/NA	Solid	5035	
890-2796-3	PH01	Total/NA	Solid	5035	
890-2796-4	PH02	Total/NA	Solid	5035	
890-2796-5	PH02	Total/NA	Solid	5035	
890-2796-6	PH02	Total/NA	Solid	5035	
890-2796-7	PH03	Total/NA	Solid	5035	
890-2796-8	PH03	Total/NA	Solid	5035	
890-2796-9	PH03	Total/NA	Solid	5035	
MB 880-32562/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-32562/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-32562/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2796-7 MS	PH03	Total/NA	Solid	5035	
890-2796-7 MSD	PH03	Total/NA	Solid	5035	

Prep Batch: 32567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-32567/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 32930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	8021B	32562
890-2796-2	PH01	Total/NA	Solid	8021B	32562
890-2796-3	PH01	Total/NA	Solid	8021B	32562
890-2796-4	PH02	Total/NA	Solid	8021B	32562
890-2796-5	PH02	Total/NA	Solid	8021B	32562
890-2796-6	PH02	Total/NA	Solid	8021B	32562
890-2796-7	PH03	Total/NA	Solid	8021B	32562
890-2796-8	PH03	Total/NA	Solid	8021B	32562
890-2796-9	PH03	Total/NA	Solid	8021B	32562
MB 880-32562/5-B	Method Blank	Total/NA	Solid	8021B	32562
MB 880-32567/5-A	Method Blank	Total/NA	Solid	8021B	32567
LCS 880-32562/1-A	Lab Control Sample	Total/NA	Solid	8021B	32562
LCSD 880-32562/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	32562
890-2796-7 MS	PH03	Total/NA	Solid	8021B	32562
890-2796-7 MSD	PH03	Total/NA	Solid	8021B	32562

Analysis Batch: 33037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	Total BTEX	
890-2796-2	PH01	Total/NA	Solid	Total BTEX	
890-2796-3	PH01	Total/NA	Solid	Total BTEX	
890-2796-4	PH02	Total/NA	Solid	Total BTEX	
890-2796-5	PH02	Total/NA	Solid	Total BTEX	
890-2796-6	PH02	Total/NA	Solid	Total BTEX	
890-2796-7	PH03	Total/NA	Solid	Total BTEX	
890-2796-8	PH03	Total/NA	Solid	Total BTEX	
890-2796-9	PH03	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

GC Semi VOA

Prep Batch: 32854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	8015NM Prep	
890-2796-2	PH01	Total/NA	Solid	8015NM Prep	
890-2796-3	PH01	Total/NA	Solid	8015NM Prep	
890-2796-4	PH02	Total/NA	Solid	8015NM Prep	
890-2796-5	PH02	Total/NA	Solid	8015NM Prep	
890-2796-6	PH02	Total/NA	Solid	8015NM Prep	
890-2796-7	PH03	Total/NA	Solid	8015NM Prep	
890-2796-8	PH03	Total/NA	Solid	8015NM Prep	
890-2796-9	PH03	Total/NA	Solid	8015NM Prep	
MB 880-32854/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32854/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32854/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2796-2 MS	PH01	Total/NA	Solid	8015NM Prep	
890-2796-2 MSD	PH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 32892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	8015B NM	32854
890-2796-2	PH01	Total/NA	Solid	8015B NM	32854
890-2796-3	PH01	Total/NA	Solid	8015B NM	32854
890-2796-4	PH02	Total/NA	Solid	8015B NM	32854
890-2796-5	PH02	Total/NA	Solid	8015B NM	32854
890-2796-6	PH02	Total/NA	Solid	8015B NM	32854
890-2796-7	PH03	Total/NA	Solid	8015B NM	32854
890-2796-8	PH03	Total/NA	Solid	8015B NM	32854
890-2796-9	PH03	Total/NA	Solid	8015B NM	32854
MB 880-32854/1-A	Method Blank	Total/NA	Solid	8015B NM	32854
LCS 880-32854/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32854
LCSD 880-32854/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32854
890-2796-2 MS	PH01	Total/NA	Solid	8015B NM	32854
890-2796-2 MSD	PH01	Total/NA	Solid	8015B NM	32854

Analysis Batch: 33005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Total/NA	Solid	8015 NM	
890-2796-2	PH01	Total/NA	Solid	8015 NM	
890-2796-3	PH01	Total/NA	Solid	8015 NM	
890-2796-4	PH02	Total/NA	Solid	8015 NM	
890-2796-5	PH02	Total/NA	Solid	8015 NM	
890-2796-6	PH02	Total/NA	Solid	8015 NM	
890-2796-7	PH03	Total/NA	Solid	8015 NM	
890-2796-8	PH03	Total/NA	Solid	8015 NM	
890-2796-9	PH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 32846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Soluble	Solid	DI Leach	
890-2796-2	PH01	Soluble	Solid	DI Leach	
890-2796-3	PH01	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 32846 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-4	PH02	Soluble	Solid	DI Leach	
890-2796-5	PH02	Soluble	Solid	DI Leach	
890-2796-6	PH02	Soluble	Solid	DI Leach	
890-2796-7	PH03	Soluble	Solid	DI Leach	
890-2796-8	PH03	Soluble	Solid	DI Leach	
890-2796-9	PH03	Soluble	Solid	DI Leach	
MB 880-32846/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32846/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32846/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2796-6 MS	PH02	Soluble	Solid	DI Leach	
890-2796-6 MSD	PH02	Soluble	Solid	DI Leach	

Analysis Batch: 32879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2796-1	PH01	Soluble	Solid	300.0	32846
890-2796-2	PH01	Soluble	Solid	300.0	32846
890-2796-3	PH01	Soluble	Solid	300.0	32846
890-2796-4	PH02	Soluble	Solid	300.0	32846
890-2796-5	PH02	Soluble	Solid	300.0	32846
890-2796-6	PH02	Soluble	Solid	300.0	32846
890-2796-7	PH03	Soluble	Solid	300.0	32846
890-2796-8	PH03	Soluble	Solid	300.0	32846
890-2796-9	PH03	Soluble	Solid	300.0	32846
MB 880-32846/1-A	Method Blank	Soluble	Solid	300.0	32846
LCS 880-32846/2-A	Lab Control Sample	Soluble	Solid	300.0	32846
LCSD 880-32846/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32846
890-2796-6 MS	PH02	Soluble	Solid	300.0	32846
890-2796-6 MSD	PH02	Soluble	Solid	300.0	32846

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH01
Date Collected: 08/18/22 09:30
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	32930	08/26/22 04:49	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 12:58	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		20			32879	08/25/22 02:56	SMC	EET MID

Client Sample ID: PH01
Date Collected: 08/18/22 10:10
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 03:28	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 11:55	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		5			32879	08/25/22 03:05	SMC	EET MID

Client Sample ID: PH01
Date Collected: 08/18/22 10:40
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-3
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			4.95 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 03:48	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 13:19	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		5			32879	08/25/22 03:14	SMC	EET MID

Client Sample ID: PH02
Date Collected: 08/18/22 12:10
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	32930	08/26/22 05:10	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH02
Date Collected: 08/18/22 12:10
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-4
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			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 13:40	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		5			32879	08/25/22 03:23	SMC	EET MID

Client Sample ID: PH02
Date Collected: 08/18/22 12:20
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		5	5 mL	5 mL	32930	08/26/22 10:23	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 14:01	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		5			32879	08/25/22 03:33	SMC	EET MID

Client Sample ID: PH02
Date Collected: 08/18/22 13:25
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 04:08	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 14:23	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		1			32879	08/25/22 03:42	SMC	EET MID

Client Sample ID: PH03
Date Collected: 08/18/22 14:20
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 02:27	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 14:44	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Client Sample ID: PH03
Date Collected: 08/18/22 14:20
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-7
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	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32879	08/25/22 22:49	SMC	EET MID

Client Sample ID: PH03
Date Collected: 08/18/22 14:35
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 02:47	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 15:06	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		1			32879	08/25/22 04:19	SMC	EET MID

Client Sample ID: PH03
Date Collected: 08/18/22 14:50
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2796-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 03:07	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33037	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			33005	08/25/22 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 15:27	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	32846	08/24/22 11:07	SMC	EET MID
Soluble	Analysis	300.0		5	0 mL	0 mL	32879	08/25/22 04:46	SMC	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: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-2796-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2796-1	PH01	Solid	08/18/22 09:30	08/23/22 08:18	1'
890-2796-2	PH01	Solid	08/18/22 10:10	08/23/22 08:18	6'
890-2796-3	PH01	Solid	08/18/22 10:40	08/23/22 08:18	12'
890-2796-4	PH02	Solid	08/18/22 12:10	08/23/22 08:18	1'
890-2796-5	PH02	Solid	08/18/22 12:20	08/23/22 08:18	3'
890-2796-6	PH02	Solid	08/18/22 13:25	08/23/22 08:18	12'
890-2796-7	PH03	Solid	08/18/22 14:20	08/23/22 08:18	1'
890-2796-8	PH03	Solid	08/18/22 14:35	08/23/22 08:18	4'
890-2796-9	PH03	Solid	08/18/22 14:50	08/23/22 08:18	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 Jennigns
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	VGEU 30-01	Turn Around	
Project Number:	03D2057005	☐ Routine ☑ Rush	
Project Location:		Due Date:	3 DAY
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:	THM-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

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

890-2796 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH01	S	8.18.22	930	1'	G	1		x	x	x	NAPP2200643457
PH01	S	8.18.22	1010	6'	G	1		x	x	x	
PH01	S	8.18.22	1040	12'	G	1		x	x	x	
PH02	S	8.18.22	1210	1'	G	1		x	x	x	
PH02	S	8.18.22	1220	3'	G	1		x	x	x	
PH02	S	8.18.22	1325	12'	G	1		x	x	x	
PH03	S	8.18.22	1420	1'	G	1		x	x	x	
PH03	S	8.18.22	1435	4'	G	1		x	x	x	
PH03	S	8.18.22	1450	6'	G	1		x	x	x	
						CST					

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	Cloe Cuf	8.23.22 8:18	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020 2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2796-1
SDG Number: 03D2057005

Login Number: 2796
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.	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: 890-2796-1
SDG Number: 03D2057005

Login Number: 2796
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/24/22 10:58 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: 890-2797-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

For:
Ensolum
705 W. Wadley
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Attn: Kalei Jennings

JKramer

Authorized for release by:
8/29/2022 8:33:34 AM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-2797-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Qualifiers

GC VOA

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

GC Semi VOA

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

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: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Job ID: 890-2797-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2797-1

Receipt
The samples were received on 8/23/2022 8:18 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

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 samples were outside control limits: (LCS 880-32854/2-A) and (LCSD 880-32854/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-32854 and analytical batch 880-32892 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC
Method 300_ORGFM_28D: The associated samples are: PH04 (890-2797-1), PH04 (890-2797-2), PH05 (890-2797-3), PH05 (890-2797-4), PH06 (890-2797-5), PH06 (890-2797-6), PH07 (890-2797-7), PH07 (890-2797-8), (890-2797-A-1-D MS) and (890-2797-A-1-E MSD).The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-32849 and 880-32849 and analytical batch 880-32881 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.

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH04

Date Collected: 08/19/22 09:05
Date Received: 08/23/22 08:18
Sample Depth: 3'

Lab Sample ID: 890-2797-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 07:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 07:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 07:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 07:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 07:19	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 07:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*08/24/22 11:34*	*08/26/22 07:19*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*08/24/22 11:34*	*08/26/22 07:19*	*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			08/26/22 09:35	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			08/24/22 21:20	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		08/24/22 08:40	08/24/22 18:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 18:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/24/22 08:40*	*08/24/22 18:35*	*1*
o-Terphenyl	*92*		*70 - 130*	*08/24/22 08:40*	*08/24/22 18:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**526**	**F1**	4.96		mg/Kg			08/25/22 18:45	1

Client Sample ID: PH04

Date Collected: 08/19/22 11:50
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2797-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 07:40	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 07:40	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 07:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/24/22 11:34	08/26/22 07:40	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 07:40	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/24/22 11:34	08/26/22 07:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/24/22 11:34*	*08/26/22 07:40*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH04

Date Collected: 08/19/22 11:50
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2797-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/24/22 11:34*	*08/26/22 07:40*	*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			08/26/22 09:35	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			08/24/22 21:20	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		08/24/22 08:40	08/24/22 18:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/24/22 08:40	08/24/22 18:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/24/22 08:40	08/24/22 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*08/24/22 08:40*	*08/24/22 18:56*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/24/22 08:40*	*08/24/22 18:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**526**		5.04	mg/Kg			08/25/22 19:13	1

Client Sample ID: PH05

Date Collected: 08/19/22 12:15
Date Received: 08/23/22 08:18
Sample Depth: 6'

Lab Sample ID: 890-2797-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		08/24/22 11:34	08/26/22 08:00	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/24/22 11:34	08/26/22 08:00	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/24/22 11:34	08/26/22 08:00	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		08/24/22 11:34	08/26/22 08:00	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		08/24/22 11:34	08/26/22 08:00	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		08/24/22 11:34	08/26/22 08:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:00*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:00*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			08/26/22 09:35	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			08/24/22 21:20	1

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH05

Lab Sample ID: 890-2797-3
Matrix: Solid
Date Collected: 08/19/22 12:15
Date Received: 08/23/22 08:18
Sample Depth: 6'

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		08/24/22 08:40	08/24/22 19:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 19:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*08/24/22 08:40*	*08/24/22 19:18*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/24/22 08:40*	*08/24/22 19:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**259**		5.04		mg/Kg			08/25/22 19:22	1

Client Sample ID: PH05

Lab Sample ID: 890-2797-4
Matrix: Solid
Date Collected: 08/19/22 13:15
Date Received: 08/23/22 08:18
Sample Depth: 12'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 08:21	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 08:21	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 08:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/24/22 11:34	08/26/22 08:21	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/24/22 11:34	08/26/22 08:21	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/24/22 11:34	08/26/22 08:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:21*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:21*	*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			08/26/22 09:35	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			08/24/22 21:20	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		08/24/22 08:40	08/24/22 19:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/24/22 08:40	08/24/22 19:39	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/24/22 08:40	08/24/22 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/24/22 08:40*	*08/24/22 19:39*	*1*
o-Terphenyl	*101*		*70 - 130*	*08/24/22 08:40*	*08/24/22 19:39*	*1*

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH05

Lab Sample ID: 890-2797-4
Matrix: Solid
Date Collected: 08/19/22 13:15
Date Received: 08/23/22 08:18
Sample Depth: 12'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.1		4.98		mg/Kg			08/25/22 19:32	1

Client Sample ID: PH06

Lab Sample ID: 890-2797-5
Matrix: Solid
Date Collected: 08/19/22 13:30
Date Received: 08/23/22 08:18
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/24/22 11:34	08/26/22 08:41	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/24/22 11:34	08/26/22 08:41	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/24/22 11:34	08/26/22 08:41	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/24/22 11:34	08/26/22 08:41	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/24/22 11:34	08/26/22 08:41	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/24/22 11:34	08/26/22 08:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:41*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*08/24/22 11:34*	*08/26/22 08:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/26/22 09:35	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			08/24/22 21:20	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		08/24/22 08:38	08/24/22 18:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 18:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*08/24/22 08:38*	*08/24/22 18:56*	*1*
o-Terphenyl	*88*		*70 - 130*	*08/24/22 08:38*	*08/24/22 18:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		5.02		mg/Kg			08/25/22 19:41	1

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH06

Lab Sample ID: 890-2797-6
Matrix: Solid
Date Collected: 08/19/22 14:00
Date Received: 08/23/22 08:18
Sample Depth: 12'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 09:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 09:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 09:02	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 09:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 09:02	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 09:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*08/24/22 11:34*	*08/26/22 09:02*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*08/24/22 11:34*	*08/26/22 09:02*	*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			08/26/22 09:35	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			08/24/22 21:20	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		08/24/22 08:38	08/24/22 19:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 19:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*08/24/22 08:38*	*08/24/22 19:18*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/24/22 08:38*	*08/24/22 19:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**233**		5.05		mg/Kg			08/25/22 20:08	1

Client Sample ID: PH07

Lab Sample ID: 890-2797-7
Matrix: Solid
Date Collected: 08/19/22 14:05
Date Received: 08/23/22 08:18
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:29	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 04:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 04:29	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/24/22 11:34	08/26/22 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:29*	*1*

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH07

Date Collected: 08/19/22 14:05
Date Received: 08/23/22 08:18
Sample Depth: 1'

Lab Sample ID: 890-2797-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*08/24/22 11:34*	*08/26/22 04:29*	*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			08/26/22 09:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.2**		50.0	mg/Kg			08/24/22 21:20	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		08/24/22 13:47	08/25/22 15:49	1
Diesel Range Organics (Over C10-C28)	**53.2**	***+**	50.0	mg/Kg		08/24/22 13:47	08/25/22 15:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/24/22 13:47	08/25/22 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:49*	*1*
o-Terphenyl	*87*		*70 - 130*	*08/24/22 13:47*	*08/25/22 15:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**593**		4.97	mg/Kg			08/25/22 20:18	1

Client Sample ID: PH07

Date Collected: 08/19/22 15:40
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2797-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		08/24/22 11:34	08/26/22 05:30	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/24/22 11:34	08/26/22 05:30	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/24/22 11:34	08/26/22 05:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		08/24/22 11:34	08/26/22 05:30	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		08/24/22 11:34	08/26/22 05:30	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		08/24/22 11:34	08/26/22 05:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*08/24/22 11:34*	*08/26/22 05:30*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/24/22 11:34*	*08/26/22 05:30*	*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			08/26/22 09:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			08/24/22 21:20	1

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Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH07

Date Collected: 08/19/22 15:40
Date Received: 08/23/22 08:18
Sample Depth: 12'

Lab Sample ID: 890-2797-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/24/22 13:47	08/25/22 16:31	1
Diesel Range Organics (Over C10-C28)	<49.8	U *+	49.8		mg/Kg		08/24/22 13:47	08/25/22 16:31	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/24/22 13:47	08/25/22 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/24/22 13:47*	*08/25/22 16:31*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/24/22 13:47*	*08/25/22 16:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**254**		4.96		mg/Kg			08/25/22 20:27	1

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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)
890-2796-A-7-B MS	Matrix Spike	98	102
890-2796-A-7-C MSD	Matrix Spike Duplicate	97	104
890-2797-1	PH04	97	104
890-2797-2	PH04	92	106
890-2797-3	PH05	92	103
890-2797-4	PH05	102	107
890-2797-5	PH06	93	104
890-2797-6	PH06	98	107
890-2797-7	PH07	101	102
890-2797-8	PH07	93	99
LCS 880-32562/1-A	Lab Control Sample	98	99
LCSD 880-32562/2-A	Lab Control Sample Dup	98	105
MB 880-32562/5-B	Method Blank	79	115
MB 880-32567/5-A	Method Blank	77	119

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)
880-18436-A-1-E MS	Matrix Spike	82	81
880-18436-A-1-F MSD	Matrix Spike Duplicate	83	82
890-2794-A-1-C MS	Matrix Spike	101	94
890-2794-A-1-D MSD	Matrix Spike Duplicate	87	83
890-2796-A-2-D MS	Matrix Spike	85	80
890-2796-A-2-E MSD	Matrix Spike Duplicate	83	77
890-2797-1	PH04	88	92
890-2797-2	PH04	91	98
890-2797-3	PH05	89	93
890-2797-4	PH05	92	101
890-2797-5	PH06	82	88
890-2797-6	PH06	91	99
890-2797-7	PH07	94	87
890-2797-8	PH07	110	98
LCS 880-32816/2-A	Lab Control Sample	95	104
LCS 880-32817/2-A	Lab Control Sample	81	97
LCS 880-32854/2-A	Lab Control Sample	112	134 S1+
LCSD 880-32816/3-A	Lab Control Sample Dup	105	117
LCSD 880-32817/3-A	Lab Control Sample Dup	78	94
LCSD 880-32854/3-A	Lab Control Sample Dup	109	133 S1+
MB 880-32816/1-A	Method Blank	93	107
MB 880-32817/1-A	Method Blank	95	102
MB 880-32854/1-A	Method Blank	106	104

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-32562/5-B
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/24/22 11:34	08/26/22 01:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/24/22 11:34	08/26/22 01:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/24/22 11:34*	*08/26/22 01:58*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/24/22 11:34*	*08/26/22 01:58*	*1*

Lab Sample ID: LCS 880-32562/1-A
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1022		mg/Kg		102	70 - 130		
Toluene			0.100	0.1068		mg/Kg		107	70 - 130		
Ethylbenzene			0.100	0.1045		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.1923		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.1026		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-32562/2-A
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1119		mg/Kg		112	70 - 130	9	35
Toluene			0.100	0.1095		mg/Kg		110	70 - 130	3	35
Ethylbenzene			0.100	0.1062		mg/Kg		106	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1941		mg/Kg		97	70 - 130	1	35
o-Xylene			0.100	0.1046		mg/Kg		105	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-2796-A-7-B MS
Matrix: Solid
Analysis Batch: 32930

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.08933		mg/Kg		90	70 - 130		
Toluene	<0.00200	U	0.0998	0.09212		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: 890-2796-A-7-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32930 — **Prep Batch: 32562**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.08660		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1576		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08318		mg/Kg		83	70 - 130

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

Lab Sample ID: 890-2796-A-7-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32930 — **Prep Batch: 32562**

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	0.08851		mg/Kg		89	70 - 130	1	35
Toluene	<0.00200	U	0.0996	0.08898		mg/Kg		89	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0996	0.08354		mg/Kg		84	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1514		mg/Kg		76	70 - 130	4	35
o-Xylene	<0.00200	U	0.0996	0.07955		mg/Kg		80	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-32567/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32930 — **Prep Batch: 32567**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/20/22 12:27	08/25/22 14:57	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/20/22 12:27	08/25/22 14:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/20/22 12:27*	*08/25/22 14:57*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*08/20/22 12:27*	*08/25/22 14:57*	*1*

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

Lab Sample ID: MB 880-32816/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32812 — **Prep Batch: 32816**

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		08/24/22 08:38	08/24/22 10:43	1

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: MB 880-32816/1-A
Matrix: Solid
Analysis Batch: 32812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32816

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:38	08/24/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/24/22 08:38*	*08/24/22 10:43*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/24/22 08:38*	*08/24/22 10:43*	*1*

Lab Sample ID: LCS 880-32816/2-A
Matrix: Solid
Analysis Batch: 32812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32816

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1002		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	880.5		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-32816/3-A
Matrix: Solid
Analysis Batch: 32812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32816

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1106		mg/Kg		111	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1016		mg/Kg		102	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: 880-18436-A-1-E MS
Matrix: Solid
Analysis Batch: 32812

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32816

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	1040		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	743.4		mg/Kg		70	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: 880-18436-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32812 — **Prep Batch: 32816**

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	998	1139		mg/Kg		112	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	744.0		mg/Kg		70	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: MB 880-32817/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32810 — **Prep Batch: 32817**

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		08/24/22 08:40	08/24/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 08:40	08/24/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*08/24/22 08:40*	*08/24/22 10:43*	*1*
o-Terphenyl	*102*		*70 - 130*	*08/24/22 08:40*	*08/24/22 10:43*	*1*

Lab Sample ID: LCS 880-32817/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32810 — **Prep Batch: 32817**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	979.2		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	786.3		mg/Kg		79	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-32817/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 32810 — **Prep Batch: 32817**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.0		mg/Kg		93	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	765.3		mg/Kg		77	70 - 130	3	20

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: LCSD 880-32817/3-A
Matrix: Solid
Analysis Batch: 32810

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32817

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 890-2794-A-1-C MS
Matrix: Solid
Analysis Batch: 32810

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32817

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	1138		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	853.2		mg/Kg		85	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 890-2794-A-1-D MSD
Matrix: Solid
Analysis Batch: 32810

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32817

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	998	956.7		mg/Kg		96	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	760.2		mg/Kg		76	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: MB 880-32854/1-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32854

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		08/24/22 13:47	08/25/22 10:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 10:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/24/22 13:47	08/25/22 10:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	08/24/22 13:47	08/25/22 10:52	1
o-Terphenyl	104		70 - 130	08/24/22 13:47	08/25/22 10:52	1

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-32854/2-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32854

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1158		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1315	*+	mg/Kg		132	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*134*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-32854/3-A
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32854

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1261		mg/Kg		126	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	1324	*+	mg/Kg		132	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*133*	*S1+*	*70 - 130*

Lab Sample ID: 890-2796-A-2-D MS
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 32854

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	822.1		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *+	999	897.2		mg/Kg		88	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 890-2796-A-2-E MSD
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32854

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	998	830.1		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U *+	998	879.7		mg/Kg		86	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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

Lab Sample ID: 890-2796-A-2-E MSD
Matrix: Solid
Analysis Batch: 32892

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 32854

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	*77*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32849/1-A
Matrix: Solid
Analysis Batch: 32881

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			08/25/22 18:18	1

Lab Sample ID: LCS 880-32849/2-A
Matrix: Solid
Analysis Batch: 32881

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	236.9		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-32849/3-A
Matrix: Solid
Analysis Batch: 32881

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	237.4		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 890-2797-1 MS
Matrix: Solid
Analysis Batch: 32881

Client Sample ID: PH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	526	F1	248	728.4	F1	mg/Kg		82	90 - 110		

Lab Sample ID: 890-2797-1 MSD
Matrix: Solid
Analysis Batch: 32881

Client Sample ID: PH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	526	F1	248	729.2	F1	mg/Kg		82	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

GC VOA

Prep Batch: 32562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	5035	
890-2797-2	PH04	Total/NA	Solid	5035	
890-2797-3	PH05	Total/NA	Solid	5035	
890-2797-4	PH05	Total/NA	Solid	5035	
890-2797-5	PH06	Total/NA	Solid	5035	
890-2797-6	PH06	Total/NA	Solid	5035	
890-2797-7	PH07	Total/NA	Solid	5035	
890-2797-8	PH07	Total/NA	Solid	5035	
MB 880-32562/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-32562/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-32562/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2796-A-7-B MS	Matrix Spike	Total/NA	Solid	5035	
890-2796-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 32567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-32567/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 32930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	8021B	32562
890-2797-2	PH04	Total/NA	Solid	8021B	32562
890-2797-3	PH05	Total/NA	Solid	8021B	32562
890-2797-4	PH05	Total/NA	Solid	8021B	32562
890-2797-5	PH06	Total/NA	Solid	8021B	32562
890-2797-6	PH06	Total/NA	Solid	8021B	32562
890-2797-7	PH07	Total/NA	Solid	8021B	32562
890-2797-8	PH07	Total/NA	Solid	8021B	32562
MB 880-32562/5-B	Method Blank	Total/NA	Solid	8021B	32562
MB 880-32567/5-A	Method Blank	Total/NA	Solid	8021B	32567
LCS 880-32562/1-A	Lab Control Sample	Total/NA	Solid	8021B	32562
LCSD 880-32562/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	32562
890-2796-A-7-B MS	Matrix Spike	Total/NA	Solid	8021B	32562
890-2796-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	32562

Analysis Batch: 33038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	Total BTEX	
890-2797-2	PH04	Total/NA	Solid	Total BTEX	
890-2797-3	PH05	Total/NA	Solid	Total BTEX	
890-2797-4	PH05	Total/NA	Solid	Total BTEX	
890-2797-5	PH06	Total/NA	Solid	Total BTEX	
890-2797-6	PH06	Total/NA	Solid	Total BTEX	
890-2797-7	PH07	Total/NA	Solid	Total BTEX	
890-2797-8	PH07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 32810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	8015B NM	32817

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

GC Semi VOA (Continued)

Analysis Batch: 32810 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-2	PH04	Total/NA	Solid	8015B NM	32817
890-2797-3	PH05	Total/NA	Solid	8015B NM	32817
890-2797-4	PH05	Total/NA	Solid	8015B NM	32817
MB 880-32817/1-A	Method Blank	Total/NA	Solid	8015B NM	32817
LCS 880-32817/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32817
LCSD 880-32817/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32817
890-2794-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	32817
890-2794-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	32817

Analysis Batch: 32812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-5	PH06	Total/NA	Solid	8015B NM	32816
890-2797-6	PH06	Total/NA	Solid	8015B NM	32816
MB 880-32816/1-A	Method Blank	Total/NA	Solid	8015B NM	32816
LCS 880-32816/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32816
LCSD 880-32816/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32816
880-18436-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	32816
880-18436-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	32816

Prep Batch: 32816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-5	PH06	Total/NA	Solid	8015NM Prep	
890-2797-6	PH06	Total/NA	Solid	8015NM Prep	
MB 880-32816/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32816/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32816/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-18436-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-18436-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 32817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	8015NM Prep	
890-2797-2	PH04	Total/NA	Solid	8015NM Prep	
890-2797-3	PH05	Total/NA	Solid	8015NM Prep	
890-2797-4	PH05	Total/NA	Solid	8015NM Prep	
MB 880-32817/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32817/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32817/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2794-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2794-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 32854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-7	PH07	Total/NA	Solid	8015NM Prep	
890-2797-8	PH07	Total/NA	Solid	8015NM Prep	
MB 880-32854/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-32854/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-32854/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2796-A-2-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2796-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

GC Semi VOA

Analysis Batch: 32878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Total/NA	Solid	8015 NM	
890-2797-2	PH04	Total/NA	Solid	8015 NM	
890-2797-3	PH05	Total/NA	Solid	8015 NM	
890-2797-4	PH05	Total/NA	Solid	8015 NM	
890-2797-5	PH06	Total/NA	Solid	8015 NM	
890-2797-6	PH06	Total/NA	Solid	8015 NM	
890-2797-7	PH07	Total/NA	Solid	8015 NM	
890-2797-8	PH07	Total/NA	Solid	8015 NM	

Analysis Batch: 32892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-7	PH07	Total/NA	Solid	8015B NM	32854
890-2797-8	PH07	Total/NA	Solid	8015B NM	32854
MB 880-32854/1-A	Method Blank	Total/NA	Solid	8015B NM	32854
LCS 880-32854/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	32854
LCSD 880-32854/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	32854
890-2796-A-2-D MS	Matrix Spike	Total/NA	Solid	8015B NM	32854
890-2796-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	32854

HPLC/IC

Leach Batch: 32849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Soluble	Solid	DI Leach	
890-2797-2	PH04	Soluble	Solid	DI Leach	
890-2797-3	PH05	Soluble	Solid	DI Leach	
890-2797-4	PH05	Soluble	Solid	DI Leach	
890-2797-5	PH06	Soluble	Solid	DI Leach	
890-2797-6	PH06	Soluble	Solid	DI Leach	
890-2797-7	PH07	Soluble	Solid	DI Leach	
890-2797-8	PH07	Soluble	Solid	DI Leach	
MB 880-32849/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32849/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32849/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2797-1 MS	PH04	Soluble	Solid	DI Leach	
890-2797-1 MSD	PH04	Soluble	Solid	DI Leach	

Analysis Batch: 32881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1	PH04	Soluble	Solid	300.0	32849
890-2797-2	PH04	Soluble	Solid	300.0	32849
890-2797-3	PH05	Soluble	Solid	300.0	32849
890-2797-4	PH05	Soluble	Solid	300.0	32849
890-2797-5	PH06	Soluble	Solid	300.0	32849
890-2797-6	PH06	Soluble	Solid	300.0	32849
890-2797-7	PH07	Soluble	Solid	300.0	32849
890-2797-8	PH07	Soluble	Solid	300.0	32849
MB 880-32849/1-A	Method Blank	Soluble	Solid	300.0	32849
LCS 880-32849/2-A	Lab Control Sample	Soluble	Solid	300.0	32849
LCSD 880-32849/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32849
890-2797-1 MS	PH04	Soluble	Solid	300.0	32849

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

HPLC/IC (Continued)

Analysis Batch: 32881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2797-1 MSD	PH04	Soluble	Solid	300.0	32849

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH04
Date Collected: 08/19/22 09:05
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-1
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	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 07:19	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32817	08/24/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1			32810	08/24/22 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 18:45	SMC	EET MID

Client Sample ID: PH04
Date Collected: 08/19/22 11:50
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-2
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	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 07:40	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32817	08/24/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1			32810	08/24/22 18:56	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 19:13	SMC	EET MID

Client Sample ID: PH05
Date Collected: 08/19/22 12:15
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-3
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			5.04 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 08:00	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32817	08/24/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1			32810	08/24/22 19:18	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 19:22	SMC	EET MID

Client Sample ID: PH05
Date Collected: 08/19/22 13:15
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-4
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			5.02 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 08:21	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH05
Date Collected: 08/19/22 13:15
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-4
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			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	32817	08/24/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1			32810	08/24/22 19:39	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 19:32	SMC	EET MID

Client Sample ID: PH06
Date Collected: 08/19/22 13:30
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 08:41	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32816	08/24/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1			32812	08/24/22 18:56	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 19:41	SMC	EET MID

Client Sample ID: PH06
Date Collected: 08/19/22 14:00
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 09:02	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32816	08/24/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1			32812	08/24/22 19:18	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 20:08	SMC	EET MID

Client Sample ID: PH07
Date Collected: 08/19/22 14:05
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 04:29	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 15:49	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Client Sample ID: PH07
Date Collected: 08/19/22 14:05
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-7
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			5.03 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 20:18	SMC	EET MID

Client Sample ID: PH07
Date Collected: 08/19/22 15:40
Date Received: 08/23/22 08:18

Lab Sample ID: 890-2797-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	32562	08/24/22 11:34	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	32930	08/26/22 05:30	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33038	08/26/22 09:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			32878	08/24/22 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	32854	08/24/22 13:47	DM	EET MID
Total/NA	Analysis	8015B NM		1			32892	08/25/22 16:31	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	32849	08/24/22 11:15	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	0 mL	32881	08/25/22 20:27	SMC	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: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-2797-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2797-1	PH04	Solid	08/19/22 09:05	08/23/22 08:18	3'
890-2797-2	PH04	Solid	08/19/22 11:50	08/23/22 08:18	12'
890-2797-3	PH05	Solid	08/19/22 12:15	08/23/22 08:18	6'
890-2797-4	PH05	Solid	08/19/22 13:15	08/23/22 08:18	12'
890-2797-5	PH06	Solid	08/19/22 13:30	08/23/22 08:18	1'
890-2797-6	PH06	Solid	08/19/22 14:00	08/23/22 08:18	12'
890-2797-7	PH07	Solid	08/19/22 14:05	08/23/22 08:18	1'
890-2797-8	PH07	Solid	08/19/22 15:40	08/23/22 08:18	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 Jennigns
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	VGEU 30-01	Turn Around	☐ Routine ☒ Rush
Project Number:	03D2057005	Due Date:	3Day
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No		Thermometer ID:	IR-007	
Cooler Custody Seals:	Yes No N/A		Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A		Temperature Reading:	1-3	
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	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
PH04	S	8.19.22	905	3'	G	1		x	x	x	NAPP2200643457
PH04	S	8.19.22	1150	12'	G	12		x	x	x	
PH05	S	8.19.22	1215	6'	G	18		x	x	x	
PH05	S	8.19.22	1315	12'	G	14		x	x	x	
PH06	S	8.19.22	1330	1'	G	15		x	x	x	
PH06	S	8.19.22	1400	12'	G	16		x	x	x	
PH07	S	8.19.22	1405	1'	G	17		x	x	x	
PH07	S	8.19.22	1540	6.5'	G	18		x	x	x	
						CST					

890-2797 Chain of Custody

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		8.23.22 818	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2797-1
SDG Number: 03D2057005

Login Number: 2797
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.	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: 890-2797-1
SDG Number: 03D2057005

Login Number: 2797
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/24/22 10:58 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: 890-3215-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/19/2022 11:33:07 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3215-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Job ID: 890-3215-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3215-1

Receipt
The sample was received on 10/17/2022 2:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

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 880-37188 and analytical batch 880-37190 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-37188 and analytical batch 880-37190 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37170 and analytical batch 880-37231 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: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 14:20
Date Received: 10/17/22 14:09
Sample Depth: 16

Lab Sample ID: 890-3215-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/18/22 11:00	10/18/22 13:12	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/18/22 11:00	10/18/22 13:12	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/18/22 11:00	10/18/22 13:12	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/18/22 11:00	10/18/22 13:12	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/18/22 11:00	10/18/22 13:12	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/18/22 11:00	10/18/22 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/18/22 11:00*	*10/18/22 13:12*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*10/18/22 11:00*	*10/18/22 13:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			10/18/22 15:39	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			10/19/22 09:56	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 *- *1	50.0		mg/Kg		10/18/22 08:38	10/18/22 13:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 13:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*10/18/22 08:38*	*10/18/22 13:54*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/18/22 08:38*	*10/18/22 13:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**706**	**F1**	5.05		mg/Kg			10/19/22 11:26	1

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

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)
880-20420-A-11-D MS	Matrix Spike	91	107
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106
890-3215-1	PH02	100	99
LCS 880-37187/1-A	Lab Control Sample	108	101
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112
MB 880-37187/5-A	Method Blank	82	95

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)
880-20421-A-41-F MS	Matrix Spike	108	85
880-20421-A-41-G MSD	Matrix Spike Duplicate	85	72
890-3215-1	PH02	110	98
LCS 880-37188/2-A	Lab Control Sample	91	101
LCSD 880-37188/3-A	Lab Control Sample Dup	95	86
MB 880-37188/1-A	Method Blank	133 S1+	124

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37187

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*

Lab Sample ID: LCS 880-37187/1-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.1059		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1126		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2390		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1175		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-37187/2-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1219		mg/Kg		122	70 - 130	13	35
Toluene			0.100	0.1041		mg/Kg		104	70 - 130	2	35
Ethylbenzene			0.100	0.09897		mg/Kg		99	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2004		mg/Kg		100	70 - 130	18	35
o-Xylene			0.100	0.09840		mg/Kg		98	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-20420-A-11-D MS
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130		
Toluene	<0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

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

Lab Sample ID: 880-20420-A-11-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-20420-A-11-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-37188/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37190 — **Prep Batch: 37188**

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		10/18/22 08:38	10/18/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*10/18/22 08:38*	*10/18/22 10:43*	*1*
o-Terphenyl	*124*		*70 - 130*	*10/18/22 08:38*	*10/18/22 10:43*	*1*

Lab Sample ID: LCS 880-37188/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37190 — **Prep Batch: 37188**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	814.2		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)			1000	943.3		mg/Kg		94	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37188/2-A
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37188

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-37188/3-A
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	566.2	*- *1	mg/Kg		57	70 - 130	36	20
Diesel Range Organics (Over C10-C28)			1000	862.6		mg/Kg		86	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 880-20421-A-41-F MS
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37188

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 *- *1	999	1067		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1033		mg/Kg		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-20421-A-41-G MSD
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37188

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 *- *1	997	933.4		mg/Kg		94	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	903.4		mg/Kg		91	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	72		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37170/1-A
Matrix: Solid
Analysis Batch: 37231

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			10/18/22 21:40	1

Lab Sample ID: LCS 880-37170/2-A
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-37170/3-A
Matrix: Solid
Analysis Batch: 37231

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	246.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-3215-1 MS
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	706	F1	253	925.9	F1	mg/Kg		87	90 - 110		

Lab Sample ID: 890-3215-1 MSD
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: PH02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	706	F1	253	927.1	F1	mg/Kg		88	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	8015NM Prep	
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	8015B NM	37188
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015B NM	37188
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37188
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37188
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	37188
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37188

Analysis Batch: 37283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Soluble	Solid	DI Leach	
MB 880-37170/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1 MS	PH02	Soluble	Solid	DI Leach	
890-3215-1 MSD	PH02	Soluble	Solid	DI Leach	

Analysis Batch: 37231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3215-1	PH02	Soluble	Solid	300.0	37170
MB 880-37170/1-A	Method Blank	Soluble	Solid	300.0	37170
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	300.0	37170
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37170
890-3215-1 MS	PH02	Soluble	Solid	300.0	37170
890-3215-1 MSD	PH02	Soluble	Solid	300.0	37170

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 14:20
Date Received: 10/17/22 14:09

Lab Sample ID: 890-3215-1

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			4.96 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 13:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37245	10/18/22 15:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			37283	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 13:54	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	37170	10/18/22 12:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37231	10/19/22 11:26	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: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3215-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3215-1	PH02	Solid	10/14/22 14:20	10/17/22 14:09	16

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	Company Name:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-887-2946	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:	VGEU 30-01	Turn Around	
Project Number:	03D2057005	☐ Routine ☑ Rush	
Project Location:	32.78639, -103.4953	Due Date:	24hr
Sampler's Name:	Kase Parker	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:	IR-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

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	10/14/2022	14:20	16'	g	1		x	x	x

Parameters

890-3215 Chain of Custody

Sample Comments

Incident ID:
NAPP2200643457
Cost Center:
AFE:

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuf	10/17/22 1400	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3215-1
SDG Number: 03D2057005

Login Number: 3215
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: 890-3215-1
SDG Number: 03D2057005

Login Number: 3215
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/18/22 10:45 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").	True	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3216-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/19/2022 11:33:27 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3216-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Job ID: 890-3216-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3216-1

Receipt
The sample was received on 10/17/2022 2:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following samples analyzed were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3216-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37188 and analytical batch 880-37190 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-37188 and analytical batch 880-37190 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 10:40
Date Received: 10/17/22 14:09
Sample Depth: 6

Lab Sample ID: 890-3216-1

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		10/18/22 11:00	10/18/22 13:33	1
Toluene	**0.00242**		0.00200		mg/Kg		10/18/22 11:00	10/18/22 13:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 11:00	10/18/22 13:33	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/18/22 11:00	10/18/22 13:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 11:00	10/18/22 13:33	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/18/22 11:00	10/18/22 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/18/22 11:00*	*10/18/22 13:33*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*10/18/22 11:00*	*10/18/22 13:33*	*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			10/18/22 15:39	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			10/19/22 09:56	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 *- *1	50.0		mg/Kg		10/18/22 08:38	10/18/22 14:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 14:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*10/18/22 08:38*	*10/18/22 14:15*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/18/22 08:38*	*10/18/22 14:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1230**		24.9		mg/Kg			10/18/22 22:09	5

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

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)
880-20420-A-11-D MS	Matrix Spike	91	107
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106
890-3216-1	PH02	106	87
LCS 880-37187/1-A	Lab Control Sample	108	101
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112
MB 880-37187/5-A	Method Blank	82	95

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)
880-20421-A-41-F MS	Matrix Spike	108	85
880-20421-A-41-G MSD	Matrix Spike Duplicate	85	72
890-3216-1	PH02	103	92
LCS 880-37188/2-A	Lab Control Sample	91	101
LCSD 880-37188/3-A	Lab Control Sample Dup	95	86
MB 880-37188/1-A	Method Blank	133 S1+	124

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37187

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*

Lab Sample ID: LCS 880-37187/1-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.1059		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1126		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2390		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1175		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-37187/2-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1219		mg/Kg		122	70 - 130	13	35
Toluene			0.100	0.1041		mg/Kg		104	70 - 130	2	35
Ethylbenzene			0.100	0.09897		mg/Kg		99	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2004		mg/Kg		100	70 - 130	18	35
o-Xylene			0.100	0.09840		mg/Kg		98	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-20420-A-11-D MS
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130		
Toluene	<0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

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

Lab Sample ID: 880-20420-A-11-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-20420-A-11-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-37188/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37190 — **Prep Batch: 37188**

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		10/18/22 08:38	10/18/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:38	10/18/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*10/18/22 08:38*	*10/18/22 10:43*	*1*
o-Terphenyl	*124*		*70 - 130*	*10/18/22 08:38*	*10/18/22 10:43*	*1*

Lab Sample ID: LCS 880-37188/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37190 — **Prep Batch: 37188**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	814.2		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)			1000	943.3		mg/Kg		94	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37188/2-A
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37188

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-37188/3-A
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	566.2	*- *1	mg/Kg		57	70 - 130	36	20
Diesel Range Organics (Over C10-C28)			1000	862.6		mg/Kg		86	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 880-20421-A-41-F MS
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37188

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 *- *1	999	1067		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1033		mg/Kg		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-20421-A-41-G MSD
Matrix: Solid
Analysis Batch: 37190

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37188

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 *- *1	997	933.4		mg/Kg		94	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	903.4		mg/Kg		91	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	72		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37170/1-A
Matrix: Solid
Analysis Batch: 37231

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			10/18/22 21:40	1

Lab Sample ID: LCS 880-37170/2-A
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-37170/3-A
Matrix: Solid
Analysis Batch: 37231

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	246.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-20460-A-4-B MS
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	14.5		251	273.9		mg/Kg		103	90 - 110		

Lab Sample ID: 880-20460-A-4-C MSD
Matrix: Solid
Analysis Batch: 37231

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	14.5		251	272.9		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	8015NM Prep	
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	8015B NM	37188
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015B NM	37188
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37188
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37188
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	37188
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37188

Analysis Batch: 37284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Soluble	Solid	DI Leach	
MB 880-37170/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3216-1	PH02	Soluble	Solid	300.0	37170
MB 880-37170/1-A	Method Blank	Soluble	Solid	300.0	37170
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	300.0	37170
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37170
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	37170
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37170

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 10:40
Date Received: 10/17/22 14:09

Lab Sample ID: 890-3216-1

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	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 13:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37246	10/18/22 15:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			37284	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 14:15	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37170	10/18/22 12:00	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37231	10/18/22 22:09	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: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3216-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3216-1	PH02	Solid	10/14/22 10:40	10/17/22 14:09	6

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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:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-887-2946	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:	VGEU 30-01	Turn Around	
Project Number:	03D2057005	☐ Routine ☑ Rush	
Project Location:	32.78639, -103.4953	Due Date:	24hr
Sampler's Name:	Kase Parker	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:	5.8
Total Containers:		Corrected Temperature:	5.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH02	S	10/14/2022	10:40	6'	g	1		x	x	x

Parameters

890-3216 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 ID:
NAPP2200643457
Cost Center:
AFE:

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		10/17/22 1409			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3216-1
SDG Number: 03D2057005

Login Number: 3216
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: 890-3216-1
SDG Number: 03D2057005

Login Number: 3216
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/18/22 10:45 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: 890-3218-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/19/2022 11:33:55 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3218-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Job ID: 890-3218-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3218-1

Receipt
The sample was received on 10/17/2022 2:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following samples analyzed for were received and analyzed from an unpreserved bulk soil jar: PH05 (890-3218-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Client Sample ID: PH05

Date Collected: 10/14/22 10:30
Date Received: 10/17/22 14:09
Sample Depth: 3

Lab Sample ID: 890-3218-1

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		10/18/22 11:00	10/18/22 14:14	1
Toluene	**0.00551**		0.00201		mg/Kg		10/18/22 11:00	10/18/22 14:14	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/18/22 11:00	10/18/22 14:14	1
m-Xylene & p-Xylene	**0.00443**		0.00402		mg/Kg		10/18/22 11:00	10/18/22 14:14	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/18/22 11:00	10/18/22 14:14	1
Xylenes, Total	**0.00443**		0.00402		mg/Kg		10/18/22 11:00	10/18/22 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*10/18/22 11:00*	*10/18/22 14:14*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/18/22 11:00*	*10/18/22 14:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00994**		0.00402		mg/Kg			10/18/22 15:39	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			10/19/22 10:33	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		10/18/22 08:41	10/18/22 13:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 13:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/18/22 08:41*	*10/18/22 13:54*	*1*
o-Terphenyl	*103*		*70 - 130*	*10/18/22 08:41*	*10/18/22 13:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**40.3**		5.03		mg/Kg			10/18/22 22:19	1

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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)
880-20420-A-11-D MS	Matrix Spike	91	107
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106
890-3218-1	PH05	117	94
LCS 880-37187/1-A	Lab Control Sample	108	101
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112
MB 880-37187/5-A	Method Blank	82	95

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)
880-20421-A-45-D MS	Matrix Spike	91	90
880-20421-A-45-E MSD	Matrix Spike Duplicate	91	89
890-3218-1	PH05	91	103
LCS 880-37189/2-A	Lab Control Sample	96	110
LCSD 880-37189/3-A	Lab Control Sample Dup	97	113
MB 880-37189/1-A	Method Blank	114	132 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37187

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*

Lab Sample ID: LCS 880-37187/1-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.1059		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1126		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2390		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1175		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-37187/2-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1219		mg/Kg		122	70 - 130	13	35
Toluene			0.100	0.1041		mg/Kg		104	70 - 130	2	35
Ethylbenzene			0.100	0.09897		mg/Kg		99	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2004		mg/Kg		100	70 - 130	18	35
o-Xylene			0.100	0.09840		mg/Kg		98	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-20420-A-11-D MS
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130		
Toluene	<0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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

Lab Sample ID: 880-20420-A-11-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-20420-A-11-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-37189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37192 — **Prep Batch: 37189**

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		10/18/22 08:41	10/18/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*10/18/22 08:41*	*10/18/22 10:43*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*10/18/22 08:41*	*10/18/22 10:43*	*1*

Lab Sample ID: LCS 880-37189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37192 — **Prep Batch: 37189**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	917.8		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	861.0		mg/Kg		86	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37189/2-A
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37189

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-37189/3-A
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	899.3		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	878.4		mg/Kg		88	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 880-20421-A-45-D MS
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37189

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	1087		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1026		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 880-20421-A-45-E MSD
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37189

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	1182		mg/Kg		117	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1034		mg/Kg		100	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37170/1-A
Matrix: Solid
Analysis Batch: 37231

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			10/18/22 21:40	1

Lab Sample ID: LCS 880-37170/2-A
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-37170/3-A
Matrix: Solid
Analysis Batch: 37231

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	246.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-20460-A-4-B MS
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	14.5		251	273.9		mg/Kg		103	90 - 110		

Lab Sample ID: 880-20460-A-4-C MSD
Matrix: Solid
Analysis Batch: 37231

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	14.5		251	272.9		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

Analysis Batch: 37297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Soluble	Solid	DI Leach	
MB 880-37170/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3218-1	PH05	Soluble	Solid	300.0	37170
MB 880-37170/1-A	Method Blank	Soluble	Solid	300.0	37170
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	300.0	37170
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37170
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	37170
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37170

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Client Sample ID: PH05

Date Collected: 10/14/22 10:30
Date Received: 10/17/22 14:09

Lab Sample ID: 890-3218-1

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	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 14:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37248	10/18/22 15:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			37297	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 13:54	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37170	10/18/22 12:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37231	10/18/22 22:19	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: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3218-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3218-1	PH05	Solid	10/14/22 10:30	10/17/22 14:09	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	Company Name:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-887-2946	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:	VGEU 30-01	Turn Around	☐ Routine ☑ Rush
Project Number:	03D2057005	Due Date:	24hr
Project Location:	32.78639, -103.4953	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Kase Parker		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TN1009
Cooler Custody Seals:	Yes No N/A	Correction Factor:	0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.8
Total Containers:		Corrected Temperature:	5.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH05	S	10/14/2022	10:30	3'	g	1		x	x	x

Parameters

890-3218 Chain of Custody

Sample Comments

Incident ID:
NAPP2200643457
Cost Center:
AFE:

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		10.17.22 1409			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3218-1
SDG Number: 03D2057005

Login Number: 3218
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: 890-3218-1
SDG Number: 03D2057005

Login Number: 3218
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/18/22 10:45 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: 890-3219-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/19/2022 11:34:21 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3219-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Job ID: 890-3219-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3219-1

Receipt
The sample was received on 10/17/2022 2:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions
The following samples analyzedwere received and analyzed from an unpreserved bulk soil jar: PH02 (890-3219-1).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 14:30
Date Received: 10/17/22 14:09
Sample Depth: 18

Lab Sample ID: 890-3219-1

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		10/18/22 11:00	10/18/22 14:34	1
Toluene	**0.00520**		0.00200		mg/Kg		10/18/22 11:00	10/18/22 14:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 11:00	10/18/22 14:34	1
m-Xylene & p-Xylene	**0.00537**		0.00399		mg/Kg		10/18/22 11:00	10/18/22 14:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 11:00	10/18/22 14:34	1
Xylenes, Total	**0.00537**		0.00399		mg/Kg		10/18/22 11:00	10/18/22 14:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/18/22 11:00*	*10/18/22 14:34*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/18/22 11:00*	*10/18/22 14:34*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0106**		0.00399		mg/Kg			10/18/22 15:39	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			10/19/22 10:33	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		10/18/22 08:41	10/18/22 14:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/18/22 08:41	10/18/22 14:15	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/18/22 08:41	10/18/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*10/18/22 08:41*	*10/18/22 14:15*	*1*
o-Terphenyl	*124*		*70 - 130*	*10/18/22 08:41*	*10/18/22 14:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**274**		5.00		mg/Kg			10/18/22 22:24	1

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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)										
880-20420-A-11-D MS	Matrix Spike	91	107										
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106										
890-3219-1	PH02	96	104										
LCS 880-37187/1-A	Lab Control Sample	108	101										
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112										
MB 880-37187/5-A	Method Blank	82	95										

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)										
880-20421-A-45-D MS	Matrix Spike	91	90										
880-20421-A-45-E MSD	Matrix Spike Duplicate	91	89										
890-3219-1	PH02	109	124										
LCS 880-37189/2-A	Lab Control Sample	96	110										
LCSD 880-37189/3-A	Lab Control Sample Dup	97	113										
MB 880-37189/1-A	Method Blank	114	132 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37187

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/18/22 08:29	10/18/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/18/22 08:29*	*10/18/22 10:54*	*1*

Lab Sample ID: LCS 880-37187/1-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1065		mg/Kg		107	70 - 130		
Toluene			0.100	0.1059		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1126		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2390		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1175		mg/Kg		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-37187/2-A
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1219		mg/Kg		122	70 - 130	13	35
Toluene			0.100	0.1041		mg/Kg		104	70 - 130	2	35
Ethylbenzene			0.100	0.09897		mg/Kg		99	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2004		mg/Kg		100	70 - 130	18	35
o-Xylene			0.100	0.09840		mg/Kg		98	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-20420-A-11-D MS
Matrix: Solid
Analysis Batch: 37185

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130		
Toluene	<0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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

Lab Sample ID: 880-20420-A-11-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-20420-A-11-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37185 — **Prep Batch: 37187**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-37189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37192 — **Prep Batch: 37189**

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		10/18/22 08:41	10/18/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/18/22 08:41	10/18/22 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*10/18/22 08:41*	*10/18/22 10:43*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*10/18/22 08:41*	*10/18/22 10:43*	*1*

Lab Sample ID: LCS 880-37189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37192 — **Prep Batch: 37189**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	917.8		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	861.0		mg/Kg		86	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37189/2-A
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37189

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-37189/3-A
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	899.3		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	878.4		mg/Kg		88	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 880-20421-A-45-D MS
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37189

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	1087		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1026		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 880-20421-A-45-E MSD
Matrix: Solid
Analysis Batch: 37192

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37189

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	1182		mg/Kg		117	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1034		mg/Kg		100	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37170/1-A
Matrix: Solid
Analysis Batch: 37231

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			10/18/22 21:40	1

Lab Sample ID: LCS 880-37170/2-A
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-37170/3-A
Matrix: Solid
Analysis Batch: 37231

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	246.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-20460-A-4-B MS
Matrix: Solid
Analysis Batch: 37231

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	14.5		251	273.9		mg/Kg		103	90 - 110		

Lab Sample ID: 880-20460-A-4-C MSD
Matrix: Solid
Analysis Batch: 37231

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	14.5		251	272.9		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

Analysis Batch: 37298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Soluble	Solid	DI Leach	
MB 880-37170/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3219-1	PH02	Soluble	Solid	300.0	37170
MB 880-37170/1-A	Method Blank	Soluble	Solid	300.0	37170
LCS 880-37170/2-A	Lab Control Sample	Soluble	Solid	300.0	37170
LCSD 880-37170/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37170
880-20460-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	37170
880-20460-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37170

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Client Sample ID: PH02

Date Collected: 10/14/22 14:30
Date Received: 10/17/22 14:09

Lab Sample ID: 890-3219-1

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	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 14:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37249	10/18/22 15:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			37298	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 14:15	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	37170	10/18/22 12:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37231	10/18/22 22:24	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: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3219-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3219-1	PH02	Solid	10/14/22 14:30	10/17/22 14:09	18

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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:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-887-2946	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:	VGEU 30-01	Turn Around	
Project Number:	03D2057005	☐ Routine ☑ Rush	
Project Location:	32.78639, -103.4953	Due Date:	24hr
Sampler's Name:	Kase Parker	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:	TMM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.8	
Total Containers:		Corrected Temperature:	5.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Parameters
PH02	S	10/14/2022	14:30	18'	g	1		x	x	x	

890-3219 Chain of Custody

Sample Comments

Incident ID:
NAPP2200643457
Cost Center:
AFE:

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Stup	10/12/22 1409			
3				4		
5				6		

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3219-1
SDG Number: 03D2057005

Login Number: 3219
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: 890-3219-1
SDG Number: 03D2057005

Login Number: 3219
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/18/22 10:45 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: 890-3223-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/20/2022 4:33:19 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3223-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Job ID: 890-3223-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3223-1

Receipt
The sample was received on 10/18/2022 3:13 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH01 D (890-3223-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-37275 and analytical batch 880-37353 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 surrogate recovery for the blank associated with preparation batch 880-37354 and analytical batch 880-37357 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37354 and analytical batch 880-37357 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Client Sample ID: PH01 D

Date Collected: 10/18/22 12:25
Date Received: 10/18/22 15:13
Sample Depth: 19'

Lab Sample ID: 890-3223-1

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		10/19/22 13:31	10/20/22 13:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/19/22 13:31	10/20/22 13:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/19/22 13:31	10/20/22 13:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/19/22 13:31	10/20/22 13:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/19/22 13:31	10/20/22 13:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/19/22 13:31	10/20/22 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/19/22 13:31*	*10/20/22 13:12*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/19/22 13:31*	*10/20/22 13:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			10/20/22 14:57	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			10/20/22 17:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/20/22 09:00	10/20/22 13:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/20/22 09:00	10/20/22 13:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/20/22 09:00	10/20/22 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/20/22 09:00*	*10/20/22 13:34*	*1*
o-Terphenyl	*82*		*70 - 130*	*10/20/22 09:00*	*10/20/22 13:34*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**527**		5.02		mg/Kg			10/20/22 15:15	1

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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)
880-20476-A-1-C MS	Matrix Spike	98	91
880-20476-A-1-D MSD	Matrix Spike Duplicate	102	90
890-3223-1	PH01 D	96	94
LCS 880-37275/1-A	Lab Control Sample	93	97
LCSD 880-37275/2-A	Lab Control Sample Dup	94	98
MB 880-37275/5-A	Method Blank	102	97

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)
880-20551-A-1-C MS	Matrix Spike	86	72
880-20551-A-1-D MSD	Matrix Spike Duplicate	78	75
890-3223-1	PH01 D	82	82
LCS 880-37354/2-A	Lab Control Sample	83	82
LCSD 880-37354/3-A	Lab Control Sample Dup	90	77
MB 880-37354/1-A	Method Blank	133 S1+	137 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37275/5-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37275

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/19/22 09:33	10/20/22 11:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/19/22 09:33*	*10/20/22 11:10*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/19/22 09:33*	*10/20/22 11:10*	*1*

Lab Sample ID: LCS 880-37275/1-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37275

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09208		mg/Kg		92	70 - 130		
Toluene			0.100	0.09381		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.08671		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1765		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08900		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-37275/2-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37275

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08470		mg/Kg		85	70 - 130	8	35
Toluene			0.100	0.08822		mg/Kg		88	70 - 130	6	35
Ethylbenzene			0.100	0.08067		mg/Kg		81	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08249		mg/Kg		82	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-20476-A-1-C MS
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F2 F1	0.100	0.03080	F1	mg/Kg		31	70 - 130		
Toluene	<0.00202	U F2 F1	0.100	0.02409	F1	mg/Kg		24	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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

Lab Sample ID: 880-20476-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37353 — **Prep Batch: 37275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F2 F1	0.100	0.01854	F1	mg/Kg		19	70 - 130
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.200	0.03755	F1	mg/Kg		19	70 - 130
o-Xylene	<0.00202	U F2 F1	0.100	0.02118	F1	mg/Kg		21	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 880-20476-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37353 — **Prep Batch: 37275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F2 F1	0.101	0.04417	F2 F1	mg/Kg		44	70 - 130	36	35
Toluene	<0.00202	U F2 F1	0.101	0.03562	F2 F1	mg/Kg		35	70 - 130	39	35
Ethylbenzene	<0.00202	U F2 F1	0.101	0.02986	F2 F1	mg/Kg		30	70 - 130	47	35
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.202	0.06356	F2 F1	mg/Kg		32	70 - 130	51	35
o-Xylene	<0.00202	U F2 F1	0.101	0.03595	F2 F1	mg/Kg		35	70 - 130	52	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

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

Lab Sample ID: MB 880-37354/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37357 — **Prep Batch: 37354**

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		10/20/22 08:19	10/20/22 11:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/20/22 08:19	10/20/22 11:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/20/22 08:19	10/20/22 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*10/20/22 08:19*	*10/20/22 11:03*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*10/20/22 08:19*	*10/20/22 11:03*	*1*

Lab Sample ID: LCS 880-37354/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37357 — **Prep Batch: 37354**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	900.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	843.9		mg/Kg		84	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37354/2-A
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37354

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: LCSD 880-37354/3-A
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37354

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	904.5		mg/Kg		90	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	846.0		mg/Kg		85	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: 880-20551-A-1-C MS
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37354

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 F2	998	703.0	F1	mg/Kg		69	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	830.9		mg/Kg		83	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 880-20551-A-1-D MSD
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37354

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 F2	998	927.0	F2	mg/Kg		91	70 - 130	27	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	894.0		mg/Kg		90	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	75		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37268/1-A
Matrix: Solid
Analysis Batch: 37411

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			10/20/22 13:09	1

Lab Sample ID: LCS 880-37268/2-A
Matrix: Solid
Analysis Batch: 37411

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.5		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-37268/3-A
Matrix: Solid
Analysis Batch: 37411

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	249.1		mg/Kg		100	90 - 110	5	20

Lab Sample ID: 880-20475-A-1-B MS
Matrix: Solid
Analysis Batch: 37411

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	625		251	863.6		mg/Kg		95	90 - 110		

Lab Sample ID: 880-20475-A-1-C MSD
Matrix: Solid
Analysis Batch: 37411

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	625		251	857.6		mg/Kg		93	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

GC VOA

Prep Batch: 37275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	5035	
MB 880-37275/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37275/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37275/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20476-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-20476-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	8021B	37275
MB 880-37275/5-A	Method Blank	Total/NA	Solid	8021B	37275
LCS 880-37275/1-A	Lab Control Sample	Total/NA	Solid	8021B	37275
LCSD 880-37275/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37275
880-20476-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	37275
880-20476-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37275

Analysis Batch: 37416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	8015NM Prep	
MB 880-37354/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37354/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37354/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20551-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20551-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	8015B NM	37354
MB 880-37354/1-A	Method Blank	Total/NA	Solid	8015B NM	37354
LCS 880-37354/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37354
LCSD 880-37354/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37354
880-20551-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	37354
880-20551-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37354

Analysis Batch: 37434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Soluble	Solid	DI Leach	
MB 880-37268/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37268/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37268/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37268 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-20475-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20475-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3223-1	PH01 D	Soluble	Solid	300.0	37268
MB 880-37268/1-A	Method Blank	Soluble	Solid	300.0	37268
LCS 880-37268/2-A	Lab Control Sample	Soluble	Solid	300.0	37268
LCSD 880-37268/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37268
880-20475-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	37268
880-20475-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37268

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Client Sample ID: PH01 D

Date Collected: 10/18/22 12:25
Date Received: 10/18/22 15:13

Lab Sample ID: 890-3223-1

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			5.00 g	5 mL	37275	10/19/22 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37353	10/20/22 13:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37416	10/20/22 14:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			37434	10/20/22 17:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37354	10/20/22 09:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37357	10/20/22 13:34	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37268	10/20/22 12:00	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37411	10/20/22 15:15	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: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3223-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3223-1	PH01 D	Solid	10/18/22 12:25	10/18/22 15:13	19'

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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)	
Company Name:	ENSOLUM LLC	Company Name:	
Address:	3122 NATL PARKS HWY	Address:	
City, State ZIP:	CARLSBAD NM, 88220	City, State ZIP:	
Phone:	817 683 2503	Email:	K jennings@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:	VIKEN 32-01	Turn Around	
Project Number:	03D2057005	☐ Routine ☑ Rush	
Project Location:		Due Date:	24HR
Sampler's Name:	CONNER SITTER	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:	-0.3	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.2	
Total Containers:		Corrected Temperature:	3.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides
PH01 D	S	10.18.22	1335	19'	G	2		X	X	X

890-3223 Chain of Custody

Preservative Codes

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

Sample Comments

10 18.22

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stutz	10/18/22 1553	3		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3223-1
SDG Number: 03D2057005

Login Number: 3223
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: 890-3223-1
SDG Number: 03D2057005

Login Number: 3223
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/20/22 10:49 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: 890-3225-1
Laboratory Sample Delivery Group: 03D2057005
Client Project/Site: VGEU 30-01

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
10/20/2022 4:34:15 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: VGEU 30-01

Laboratory Job ID: 890-3225-1
SDG: 03D2057005

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Job ID: 890-3225-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3225-1

Receipt
The sample was received on 10/18/2022 3:13 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH01 C (890-3225-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-37275 and analytical batch 880-37353 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 surrogate recovery for the blank associated with preparation batch 880-37354 and analytical batch 880-37357 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37354 and analytical batch 880-37357 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Client Sample ID: PH01 C

Date Collected: 10/18/22 10:35
Date Received: 10/18/22 15:13
Sample Depth: 14'

Lab Sample ID: 890-3225-1

Matrix: Solid

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		10/20/22 09:33	10/20/22 13:53	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/20/22 09:33	10/20/22 13:53	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/20/22 09:33	10/20/22 13:53	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		10/20/22 09:33	10/20/22 13:53	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/20/22 09:33	10/20/22 13:53	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		10/20/22 09:33	10/20/22 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/20/22 09:33*	*10/20/22 13:53*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/20/22 09:33*	*10/20/22 13:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			10/20/22 14:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**74.5**		50.0		mg/Kg			10/20/22 17:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/20/22 09:00	10/20/22 14:17	1
Diesel Range Organics (Over C10-C28)	**74.5**		50.0		mg/Kg		10/20/22 09:00	10/20/22 14:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/20/22 09:00	10/20/22 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*10/20/22 09:00*	*10/20/22 14:17*	*1*
o-Terphenyl	*90*		*70 - 130*	*10/20/22 09:00*	*10/20/22 14:17*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3320**		49.6		mg/Kg			10/20/22 15:31	10

Surrogate Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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)
880-20476-A-1-C MS	Matrix Spike	98	91
880-20476-A-1-D MSD	Matrix Spike Duplicate	102	90
890-3225-1	PH01 C	95	94
LCS 880-37275/1-A	Lab Control Sample	93	97
LCSD 880-37275/2-A	Lab Control Sample Dup	94	98
MB 880-37275/5-A	Method Blank	102	97

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)
880-20551-A-1-C MS	Matrix Spike	86	72
880-20551-A-1-D MSD	Matrix Spike Duplicate	78	75
890-3225-1	PH01 C	87	90
LCS 880-37354/2-A	Lab Control Sample	83	82
LCSD 880-37354/3-A	Lab Control Sample Dup	90	77
MB 880-37354/1-A	Method Blank	133 S1+	137 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37275/5-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37275

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/19/22 09:33	10/20/22 11:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/19/22 09:33	10/20/22 11:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/19/22 09:33*	*10/20/22 11:10*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/19/22 09:33*	*10/20/22 11:10*	*1*

Lab Sample ID: LCS 880-37275/1-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37275

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09208		mg/Kg		92	70 - 130		
Toluene			0.100	0.09381		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.08671		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1765		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08900		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-37275/2-A
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37275

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08470		mg/Kg		85	70 - 130	8	35
Toluene			0.100	0.08822		mg/Kg		88	70 - 130	6	35
Ethylbenzene			0.100	0.08067		mg/Kg		81	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1641		mg/Kg		82	70 - 130	7	35
o-Xylene			0.100	0.08249		mg/Kg		82	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-20476-A-1-C MS
Matrix: Solid
Analysis Batch: 37353

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F2 F1	0.100	0.03080	F1	mg/Kg		31	70 - 130		
Toluene	<0.00202	U F2 F1	0.100	0.02409	F1	mg/Kg		24	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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

Lab Sample ID: 880-20476-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37353 — **Prep Batch: 37275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F2 F1	0.100	0.01854	F1	mg/Kg		19	70 - 130
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.200	0.03755	F1	mg/Kg		19	70 - 130
o-Xylene	<0.00202	U F2 F1	0.100	0.02118	F1	mg/Kg		21	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

Lab Sample ID: 880-20476-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37353 — **Prep Batch: 37275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F2 F1	0.101	0.04417	F2 F1	mg/Kg		44	70 - 130	36	35
Toluene	<0.00202	U F2 F1	0.101	0.03562	F2 F1	mg/Kg		35	70 - 130	39	35
Ethylbenzene	<0.00202	U F2 F1	0.101	0.02986	F2 F1	mg/Kg		30	70 - 130	47	35
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.202	0.06356	F2 F1	mg/Kg		32	70 - 130	51	35
o-Xylene	<0.00202	U F2 F1	0.101	0.03595	F2 F1	mg/Kg		35	70 - 130	52	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

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

Lab Sample ID: MB 880-37354/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37357 — **Prep Batch: 37354**

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		10/20/22 08:19	10/20/22 11:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/20/22 08:19	10/20/22 11:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/20/22 08:19	10/20/22 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*10/20/22 08:19*	*10/20/22 11:03*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*10/20/22 08:19*	*10/20/22 11:03*	*1*

Lab Sample ID: LCS 880-37354/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37357 — **Prep Batch: 37354**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	900.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	843.9		mg/Kg		84	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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

Lab Sample ID: LCS 880-37354/2-A
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37354

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: LCSD 880-37354/3-A
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37354

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	904.5		mg/Kg		90	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	846.0		mg/Kg		85	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: 880-20551-A-1-C MS
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37354

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 F2	998	703.0	F1	mg/Kg		69	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	830.9		mg/Kg		83	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 880-20551-A-1-D MSD
Matrix: Solid
Analysis Batch: 37357

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37354

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U F1 F2	998	927.0	F2	mg/Kg		91	70 - 130	27	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	894.0		mg/Kg		90	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	75		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37268/1-A
Matrix: Solid
Analysis Batch: 37411

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			10/20/22 13:09	1

Lab Sample ID: LCS 880-37268/2-A
Matrix: Solid
Analysis Batch: 37411

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.5		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-37268/3-A
Matrix: Solid
Analysis Batch: 37411

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	249.1		mg/Kg		100	90 - 110	5	20

Lab Sample ID: 890-3225-1 MS
Matrix: Solid
Analysis Batch: 37411

Client Sample ID: PH01 C
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3320		2480	5711		mg/Kg		96	90 - 110		

Lab Sample ID: 890-3225-1 MSD
Matrix: Solid
Analysis Batch: 37411

Client Sample ID: PH01 C
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3320		2480	5747		mg/Kg		98	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

GC VOA

Prep Batch: 37275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	5035	
MB 880-37275/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37275/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37275/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20476-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-20476-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	8021B	37275
MB 880-37275/5-A	Method Blank	Total/NA	Solid	8021B	37275
LCS 880-37275/1-A	Lab Control Sample	Total/NA	Solid	8021B	37275
LCSD 880-37275/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37275
880-20476-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	37275
880-20476-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37275

Analysis Batch: 37418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	8015NM Prep	
MB 880-37354/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37354/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37354/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20551-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20551-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	8015B NM	37354
MB 880-37354/1-A	Method Blank	Total/NA	Solid	8015B NM	37354
LCS 880-37354/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37354
LCSD 880-37354/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37354
880-20551-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	37354
880-20551-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37354

Analysis Batch: 37436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Soluble	Solid	DI Leach	
MB 880-37268/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37268/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37268/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

HPLC/IC (Continued)

Leach Batch: 37268 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1 MS	PH01 C	Soluble	Solid	DI Leach	
890-3225-1 MSD	PH01 C	Soluble	Solid	DI Leach	

Analysis Batch: 37411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3225-1	PH01 C	Soluble	Solid	300.0	37268
MB 880-37268/1-A	Method Blank	Soluble	Solid	300.0	37268
LCS 880-37268/2-A	Lab Control Sample	Soluble	Solid	300.0	37268
LCSD 880-37268/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37268
890-3225-1 MS	PH01 C	Soluble	Solid	300.0	37268
890-3225-1 MSD	PH01 C	Soluble	Solid	300.0	37268

Lab Chronicle

Client: Ensolum
Project/Site: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Client Sample ID: PH01 C
Date Collected: 10/18/22 10:35
Date Received: 10/18/22 15:13

Lab Sample ID: 890-3225-1
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			5.04 g	5 mL	37275	10/20/22 09:33	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37353	10/20/22 13:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37418	10/20/22 14:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			37436	10/20/22 17:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37354	10/20/22 09:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37357	10/20/22 14:17	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	37268	10/20/22 12:00	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	37411	10/20/22 15:31	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: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

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: VGEU 30-01

Job ID: 890-3225-1
SDG: 03D2057005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3225-1	PH01 C	Solid	10/18/22 10:35	10/18/22 15:13	14'

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)	
Company Name:	ENSOLUM LLC	Company Name:	
Address:	3122 NATL. PARKS HWY	Address:	
City, State ZIP:	CARLSBAD NM	City, State ZIP:	
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:~~	~~VGEU 30-01~~	Turn Around	
Project Number:	03D205 7005	☐ Routine ☑ Rush	
Project Location:		Due Date:	24 HR.
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:	3.2	
Total Containers:		Corrected Temperature:	3.0	

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

ANALYSIS REQUEST

890-3225 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	Chlorides	Sample Comments
PHOIC	S	10/18/22	1035	14'	G	1		X	X	X	

10/18/22

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 Stutz	10/18/22 1513	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3225-1
SDG Number: 03D2057005

Login Number: 3225
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: 890-3225-1
SDG Number: 03D2057005

Login Number: 3225
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/20/22 10:49 AM

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

ENSOLUM

APPENDIX D

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	NAPP2200643457
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	217817
Contact Name	Kelsy Waggaman	Contact Telephone	(432) 688 - 9057
Contact email	Kelsy.Waggaman@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2200643457
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.786389 Longitude -103.495278
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	VGEU 30-01	Site Type	FlowLine
Date Release Discovered	December 21, 2021	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
O	31	17S	35E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 7.4	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 66.4	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 hole in the poly flowline.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. ConocoPhillips will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200643457
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? The release was 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)?
N/A

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 1/6/2022

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

OCD Only

Received by: Ramona Marcus Date: 1/6/2022

L48 Spill Volume Estimate Form

Facility Name & Number:	VGEU 30-01
Asset Area:	Buckeye
Release Discovery Date & Time:	12/21/2021 8:30am
Release Type:	Oil Mixture
Provide any known details about the event:	Hole in 3in poly flowline. Closed 2in ball valve on tubing, casing and header to isolate fluids

NAPP2200643457

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
Has it rained at least a half inch in the last 24 hours?	See reference table below

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	102.0	45.0	5.00	15.32%	340.425	52.153	10.00%	5.215	46.938
Rectangle B	12.0	54.0	6.00	15.32%	57.672	8.835	10.00%	0.884	7.952
Rectangle C	54.0	9.0	2.00	15.32%	14.418	2.209	10.00%	0.221	1.988
Rectangle D	78.0	12.0	5.00	15.32%	69.420	10.635	10.00%	1.064	9.572
Rectangle E					0.000	0.000		0.000	0.000
Rectangle F					0.000	0.000		0.000	0.000
Rectangle G					0.000	0.000		0.000	0.000
Rectangle H					0.000	0.000		0.000	0.000
Rectangle I					0.000	0.000		0.000	0.000
Rectangle J					0.000	0.000		0.000	0.000
					Total Volume Release:	73.832		7.383	66.449

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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

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 70862
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	1/6/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200643457
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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

HSE Specialist

Incident ID	NAPP2200643457
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: 10/21/2022

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200643457
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: 10/21/2022_____

email: _Bryce.Wagoner@mavresources.com_____ Telephone: __928-241-1862_____

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 11/17/2022

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

CONDITIONS

Action 152705

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 152705
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved.	11/17/2022