ENSOLUM

February 2, 2023

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

Re: Closure Request
Redhead 31 Federal 001H
Incident Number NAPP2230442646
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request* to document assessment, remediation, and soil sampling activities performed at the Redhead 31 Federal 001H (Site; Figure 1). The purpose of the soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water off pad. The release was caused by corrosion of a flowline. Based on Site assessment, excavation activities, and laboratory analytical results from soil sampling events, COG is reqesting closure for Incident Number NAPP2230442646.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 18, Township 24 South, Range 32 East, in Lea County, New Mexico (32.2012°, -103.7225°) and is associated with oil and gas exploration and production operations on federally owned surface managed by the Bureau of Land Management (BLM).

On October 18, 2022, a release was discovered at the Site that had been caused by a hole in a salt-water disposal (SWD) line due to corrosion. Approximately 1.3 barrels (bbls) of produced water was released off pad. No free-standing fluids were recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on October 31, 2022. The release was assigned Incident Number NAPP2230442646.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Regional hydrologic data indicates depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest available groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office the State Engineer

(NMOSE) permitted well C-04576 POD 1, located approximately 8,748 feet west of the Site. The groundwater well has a reported depth to groundwater of 850 feet bgs and a total depth of 910 feet bgs. Ground surface elevation at the groundwater well location is 3,569 feet above mean sea level (amsl), which is approximately 6 feet lower in elevation than the Site. In addition, NMOSE permitted well number C-04388 POD 1, located 9,369 feet west of the Site has a reported depth to groundwater of 868 feet bgs and a total depth of 910 feet bgs. Both wells have been measured within the last five years. The next closest well is the NMOSE databse is permitted well C-04508 drilled in December of 2020 to a total depth of 110 feet bgs, which was dry. Nearby water wells used for depth to groundwater determination are presented on Figure 1. The referenced well record are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is an intermitent stream, located approximately 28,777 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum hydrocarbons (TPH): 2,500 mg/kg
- TPH-Gasoline Range Organics (GRO) + TPH-Desiel Range Organics (DRO): 1,000 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the release area on pad that was impacted by the release, per NMAC 19.15.29.13.D (1).

INITIAL SITE ASSESSMENT ACTIVITIES

On November 1, 2022, Ensolum evaluated the release based on information provided on the Form C-141 and visual observations. Onsite personnel documented the release and mapped the release extent (Figure 2). Ensolum collected delineation soil samples SS01, SS02, and SS03 within the release area to characterize impacted soil. Soil samples SS04 through SS07 were collected in each cardinal direction of the release to verify the lateal extent. All delineation soil samples were collected at a depth of 0.2 feet bgs.

All soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photograpgic log is included in Appendix C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were

transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for soil samples SS01, SS02, and SS03 indicated chloride concentrations exceeded the reclamation requirement. Laboratory analytical results for soil samples SS04 through SS07 indicated all COC concentrations were compliant with the most stringent Table 1 Closure Criteria and successfully define the lateral extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

EXCAVATION ACTIVITIES

On December 5 and 6, 2022, Ensolum oversaw the excavation of impacted soil from the release area as indicated by visible staining and laboratory analytical results from delineation soil samples SS01 through SS03. Excavation activities were performed via hand shoveling and back-hoe to a depth of 4 feet bgs. To direct excavation activities, soil was field screened for VOCs and chloride. Photographic documentation is included in Appendix C.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. Excavation floor composite soil samples FS01 through FS06 were collected from the terminal depth of the excavation (4 feet bgs). Sidewall composite soil samples SW01 through SW05 were collected from the sidewalls from the ground surface to the terminal depth to be representative of the vertical extent of the excavation. Confirmation soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples were handled and analyzed as previously described. The excavation extent and excavation soil samples locations were mapped utilizing a handheld GPS unit and are depicted on Figure 3.

Laboratory analytical results from the floor of the excavation (FS01 through FS06) were compliant with the reclamation requirement. Laboratory analytical results from confirmation soil sample SW05 indicated the chloride concentration exceeded the reclamation requirement and waste-containing soil was still present. All other confirmation excavation soil samples (SW01 through SW04) were compliant with the reclamation requirement.

Excavation activities at the Site resumed on January 9, 2023, to address residual waste-containing soil near SW05. Ensolum oversaw additional excavation activities and collected subsequent confirmation soil SW05A after additional waste-containing soil was removed. Laboratory analytical results from SW05A were compliant with the reclamation requirement.

Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

The total footprint of the excavation was approximately 1,150 square feet in size. A total of approximately 170 cubic yards of impacted soil were removed during the excavation. The impacted soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was backfilled.

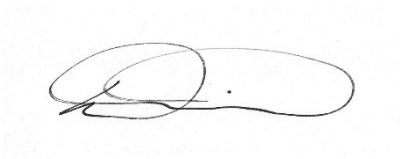
CLOSURE REQUEST

Based on confirmation soil sample laboratory analytical results compliant with the reclamation requirement, excavation activities have successfully remediated the produced water impacts at the Site. Delineation soil samples collected outside the release extent successfully define the edge of the release. COG believes these remedial actions have been protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2230442646. The Final C-141 is included in Appendix A and required notifications are included as Appendix E.

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

Sincerely,
Ensolum, LLC

Josh Adams, PG
Project Geologist



Daniel R. Moir, PG
Senior Managing Geologist

cc: Charles Beauvais, COG Operating, LLC
BLM

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Final C-141
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports
Appendix E	NMOCD Notifications

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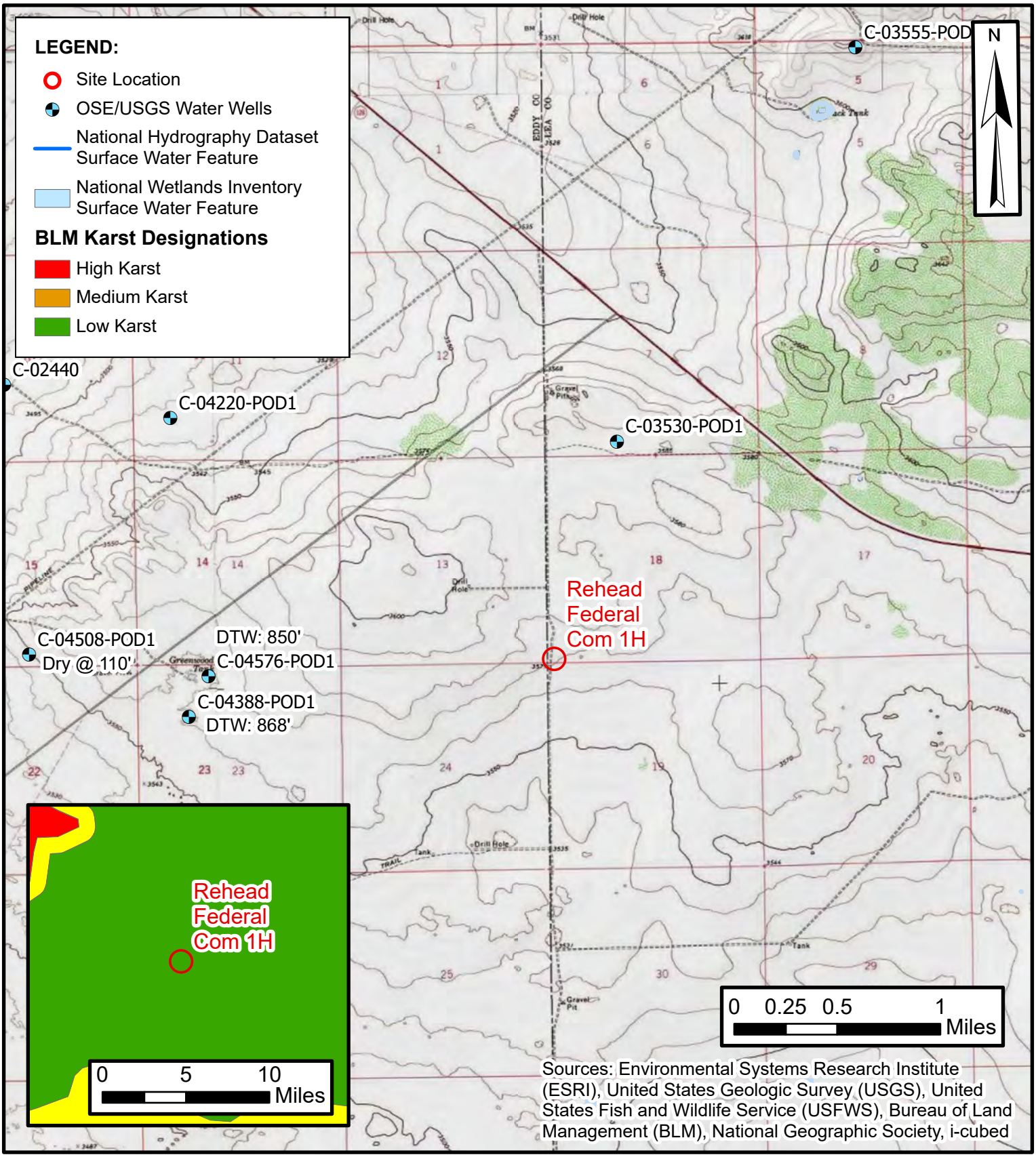
FIGURES



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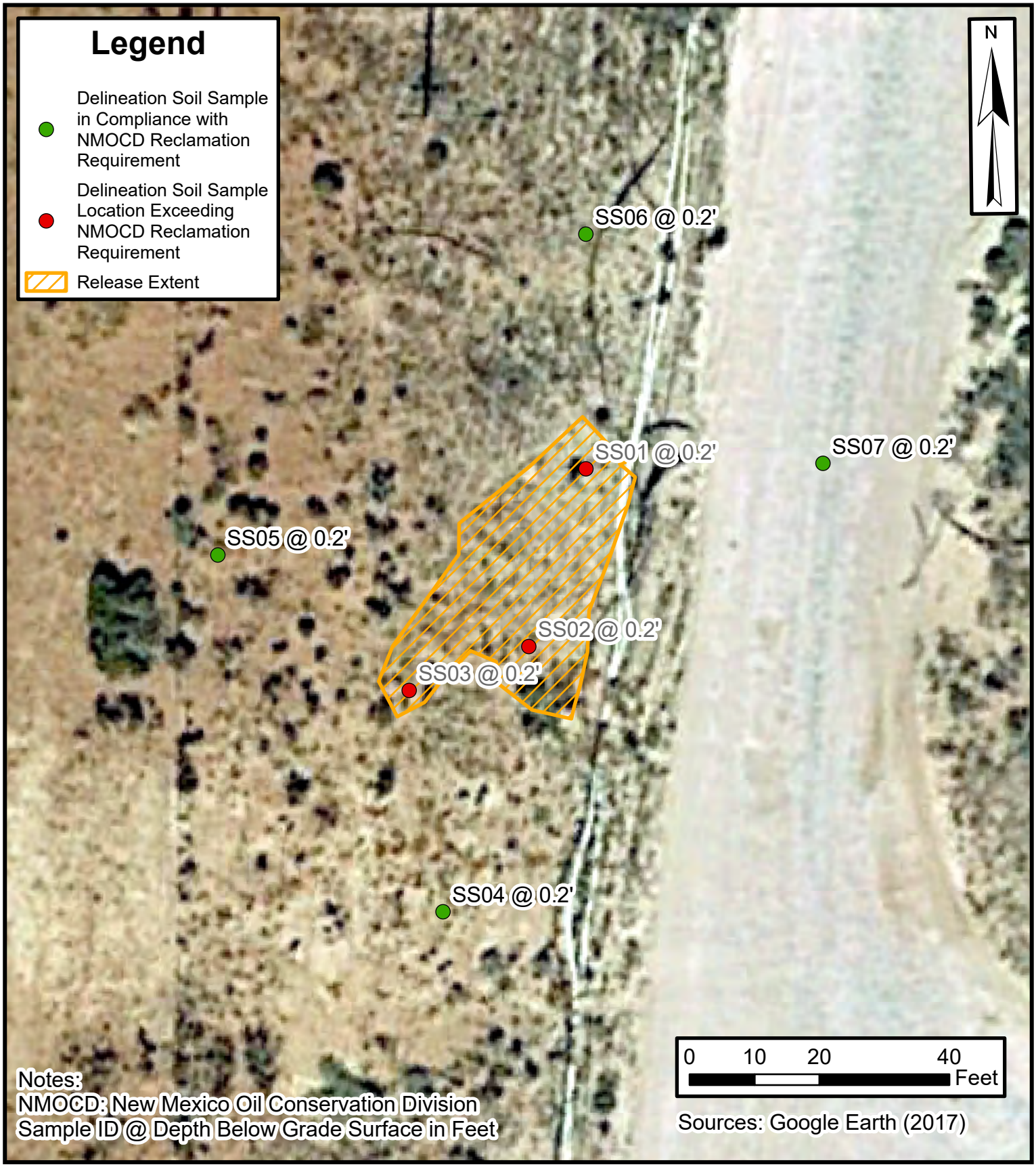
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

COG Operating, LLC
Redhead 31 Federal 001H
Incident Number: NAPP2230442646

Unit M, Sec 18, T24S, R32E
Lea County, New Mexico

FIGURE
1



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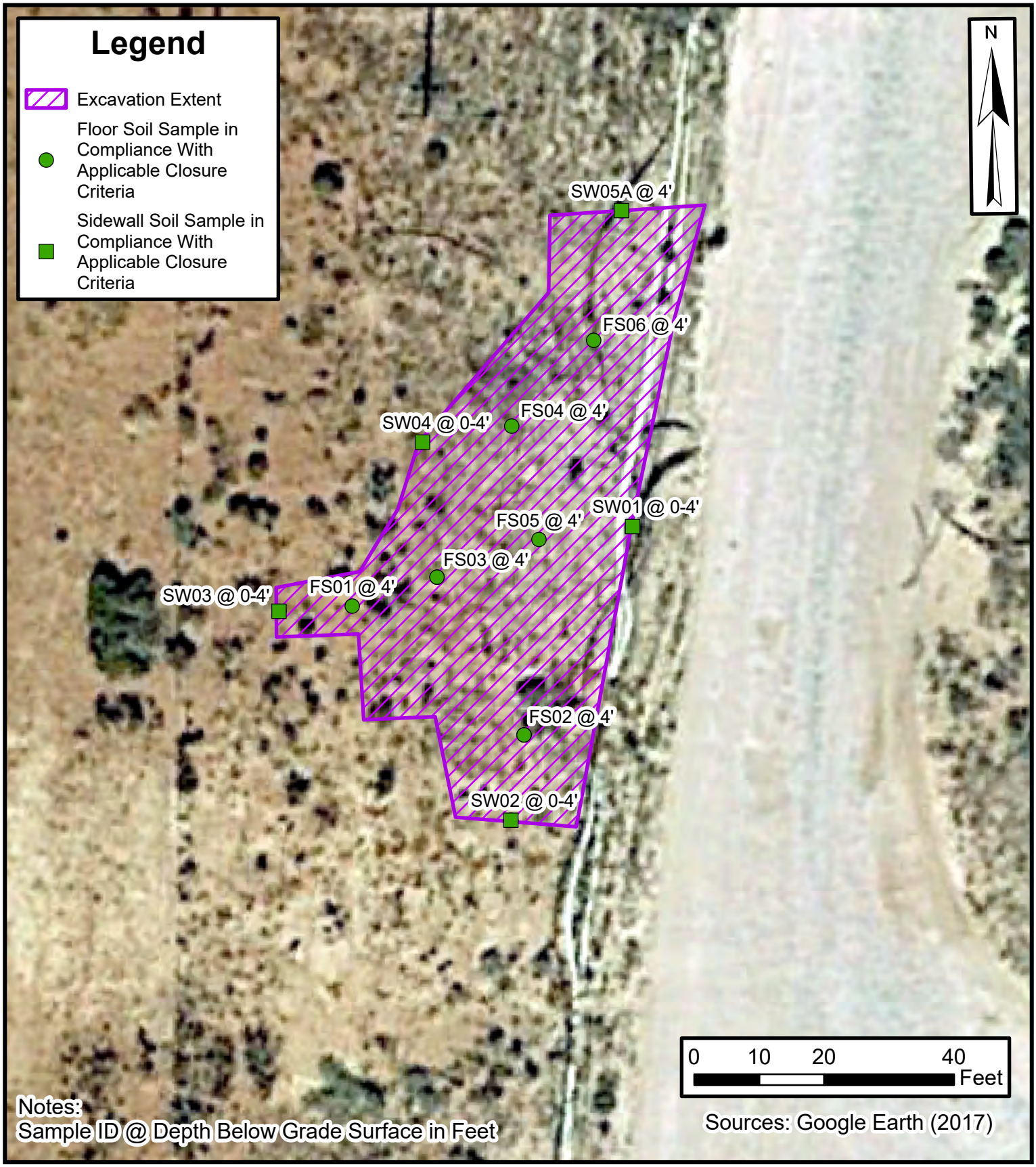
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

COG Operating, LLC
Redhead 31 Federal 001H

Incident Number: NAPP2230442646
Unit M, SEC 18, T24S, R32E
Lea County, New Mexico

FIGURE
2



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Excavation Soil Sample Locations

COG Operating, LLC
Redhead 31 Federal 001H

Incident Number: NAPP2230442646
Unit M, SEC 18, T24S, R32E
Lea County, New Mexico

FIGURE
3

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Redhead 31 Federal 001H
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01*	11/01/2022	0.2	0.269	0.269	<50.0	76.0	<50.0	76.0	76.0	**6,980**
SS02*	11/01/2022	0.2	<0.00199	0.0181	<50.0	<50.0	<50.0	<50.0	<50.0	**4,190**
SS03*	11/01/2022	0.2	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	**4,600**
SS04*	11/01/2022	0.2	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	48.9
SS05*	11/01/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	37.2
SS06*	11/01/2022	0.2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	215
SS07*	11/01/2022	0.2	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	64.1
Excavation Samples										
FS01*	12/05/2022	4	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	78.0
FS02*	12/06/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	97.6
FS03*	12/06/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	209
FS04*	12/06/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	515
FS05*	12/06/2022	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	546
FS06*	12/06/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	499
SW01*	12/05/2022	0-4	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	20.2
SW03*	12/05/2022	0-4	<0.0199	<0.0398	<50.0	<50.0	<50.0	<50.0	<50.0	22.1
SW04*	12/05/2022	0-4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	80.0
SW05*	12/06/2022	0-4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	**913**
SW05A*	01/09/2023	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	146

Notes:

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

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APPENDIX A

Final C141

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	NAPP2230442646
District RP	
Facility ID	fAPP2203841419
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2230442646
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.2102 Longitude -103.7225

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Redhead 31 Federal 001H	Site Type	Flowline
Date Release Discovered	October 18, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
M	18	24S	32E	Lea

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 1.3	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 that developed in the SWD line due to corrosion.
The release was off the pad.
Evaluation will be made of the spill area to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2230442646
District RP	
Facility ID	fAPP2203841419
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 10/31/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 10/31/2022

L48 Spill Volume Estimate Form

NAPP2230442646

Facility Name & Number:	AD 31 FED 1H
Asset Area:	NDBE
Release Discovery Date & Time:	10/17/2022 10:30
Release Type:	Produced Water
Provide any known details about the event:	FLOWLINE TO SWD GOT A HOLE IN IT

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
t rained at least a half inch in the last 24 hours?	See reference table below

Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
14.0	13.0	0.50	11.55%	1.350	0.156
				0.000	0.000
				0.000	0.000
				0.000	0.000
				#VALUE!	#VALUE!
				0.000	0.000
				0.000	0.000
				0.000	0.000
				0.000	0.000
				0.000	0.000
				Total Volume Release:	1.350

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

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

CONDITIONS

Action 154957

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 154957
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	10/31/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2230442646
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?	>100 ft bgs
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2230442646
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: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 02/02/2023

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: Jocelyn Harimon Date: 02/03/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2230442646
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 02/02/2023

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: Jocelyn Harimon Date: 02/03/2023

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

Closure Approved by: Jennifer Nobui Date: 02/21/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

ENSOLUM

APPENDIX B

Referenced Well Record

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
NA	C 04576 POD1	1	2	1	23	24S	31E	617700	3564324

Driller License: 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

Driller Name: GARY KEY

Drill Start Date: 10/21/2021 **Drill Finish Date:** 01/19/2022 **Plug Date:**

Log File Date: 01/20/2022 **PCW Rcv Date:** **Source:** Artesian

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 35 GPM

Casing Size: **Depth Well:** 910 feet **Depth Water:** 850 feet

Water Bearing Stratifications:	Top	Bottom	Description
	850	875	Sandstone/Gravel/Conglomerate
	885	905	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	794	910

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
22333	C 04388 POD1	3	2	1	23	24S	31E	617546	3564006

Driller License: 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

Driller Name: KEY, GARYR.S AICHARDDENAS

Drill Start Date:	12/18/2019	**Drill Finish Date:**	02/22/2020	**Plug Date:**	
Log File Date:	02/27/2020	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	60 GPM
Casing Size:	4.50	**Depth Well:**	910 feet	**Depth Water:**	868 feet

Water Bearing Stratifications:	Top	Bottom	Description
	866	868	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	850	910

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04508 POD1	4	4	3	15	24S	31E	616298	3564493

Driller License: 1249 **Driller Company:** ATKINS ENGINEERING ASSOC. INC.

Driller Name: ATKINS, JACKIE D.UELENER

Drill Start Date: 12/29/2020 **Drill Finish Date:** 12/29/2020 **Plug Date:** 01/19/2021

Log File Date: 02/12/2021 **PCW Rcv Date:** **Source:**

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

Casing Size: **Depth Well:** 110 feet **Depth Water:**

ENSOLUM

APPENDIX C

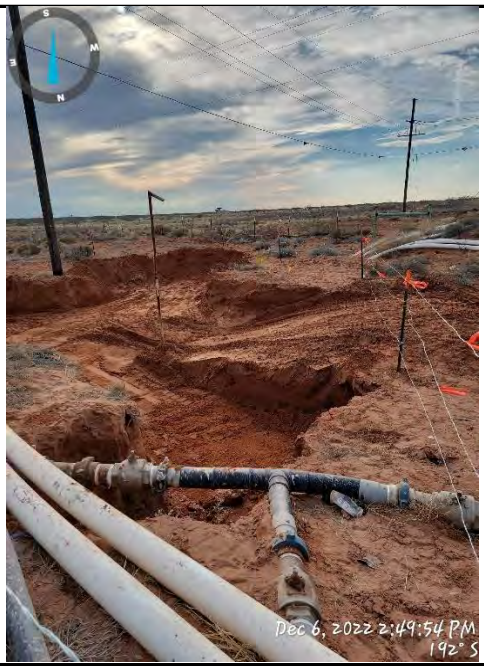
Photographic Log

ENSOLUM

Photographic Log
COG Operating, LLC
Redhead 31 Federal 001H
NAPP2230442646

Photograph 1 Date: 11/4/2022
Description: Release extent facing south.

Photograph 2 Date: 12/5/2022
Description: View of on-going excavation facing north.



Photograph 3 Date: 12/6/2022
Description: View of completed excavation facing south.

Photograph 4 Date: 12/6/2022
Description: View of completed excavation facing east.

ENSOLUM

APPENDIX D

Laboratory Analytical Report

ENSOLUM

APPENDIX D

Laboratory Analytical Report

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3357-1
Laboratory Sample Delivery Group: 03D2024104
Client Project/Site: REDHEAD 31 FEDCOM 1H

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

Attn: Josh Adams

JKramer

Authorized for release by:
11/9/2022 11:43:15 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.

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

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Laboratory Job ID: 890-3357-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Job ID: 890-3357-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3357-1

Receipt
The samples were received on 11/1/2022 3:05 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 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3357-1), SS02 (890-3357-2) and SS03 (890-3357-3).

GC VOA
Method 8021B: The following sample was diluted due to the nature of the sample matrix: (880-21092-A-6-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Client Sample ID: SS01

Date Collected: 11/01/22 10:35
Date Received: 11/01/22 15:05
Sample Depth: 0.2

Lab Sample ID: 890-3357-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.269**		0.100		mg/Kg		11/07/22 08:38	11/09/22 04:00	50
Toluene	<0.100	U	0.100		mg/Kg		11/07/22 08:38	11/09/22 04:00	50
Ethylbenzene	<0.100	U	0.100		mg/Kg		11/07/22 08:38	11/09/22 04:00	50
m-Xylene & p-Xylene	<0.200	U	0.200		mg/Kg		11/07/22 08:38	11/09/22 04:00	50
o-Xylene	<0.100	U	0.100		mg/Kg		11/07/22 08:38	11/09/22 04:00	50
Xylenes, Total	<0.200	U	0.200		mg/Kg		11/07/22 08:38	11/09/22 04:00	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*11/07/22 08:38*	*11/09/22 04:00*	*50*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*11/07/22 08:38*	*11/09/22 04:00*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.269**		0.200		mg/Kg			11/09/22 11:30	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**76.0**		50.0		mg/Kg			11/07/22 11:43	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		11/03/22 14:00	11/04/22 23:26	1
Diesel Range Organics (Over C10-C28)	**76.0**		50.0		mg/Kg		11/03/22 14:00	11/04/22 23:26	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 14:00	11/04/22 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*11/03/22 14:00*	*11/04/22 23:26*	*1*
o-Terphenyl	*88*		*70 - 130*	*11/03/22 14:00*	*11/04/22 23:26*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6980**		49.9		mg/Kg			11/04/22 21:12	10

Client Sample ID: SS02

Date Collected: 11/01/22 10:40
Date Received: 11/01/22 15:05
Sample Depth: 0.2

Lab Sample ID: 890-3357-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/22 08:38	11/09/22 01:37	1
Toluene	**0.00199**		0.00199		mg/Kg		11/07/22 08:38	11/09/22 01:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/22 08:38	11/09/22 01:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/22 08:38	11/09/22 01:37	1
o-Xylene	**0.0161**		0.00199		mg/Kg		11/07/22 08:38	11/09/22 01:37	1
Xylenes, Total	**0.0161**		0.00398		mg/Kg		11/07/22 08:38	11/09/22 01:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/07/22 08:38*	*11/09/22 01:37*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Client Sample ID: SS02

Lab Sample ID: 890-3357-2
Matrix: Solid
Date Collected: 11/01/22 10:40
Date Received: 11/01/22 15:05
Sample Depth: 0.2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*11/07/22 08:38*	*11/09/22 01:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0181**		0.00398	mg/Kg			11/09/22 11:30	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			11/07/22 11:43	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		11/03/22 14:00	11/04/22 23:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/03/22 14:00	11/04/22 23:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/03/22 14:00	11/04/22 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*11/03/22 14:00*	*11/04/22 23:48*	*1*
o-Terphenyl	*100*		*70 - 130*	*11/03/22 14:00*	*11/04/22 23:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4190**		50.2	mg/Kg			11/04/22 21:27	10

Client Sample ID: SS03

Lab Sample ID: 890-3357-3
Matrix: Solid
Date Collected: 11/01/22 10:45
Date Received: 11/01/22 15:05
Sample Depth: 0.2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/07/22 08:38	11/09/22 02:59	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/07/22 08:38	11/09/22 02:59	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/07/22 08:38	11/09/22 02:59	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/07/22 08:38	11/09/22 02:59	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/07/22 08:38	11/09/22 02:59	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/07/22 08:38	11/09/22 02:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*11/07/22 08:38*	*11/09/22 02:59*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*11/07/22 08:38*	*11/09/22 02:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/09/22 11:30	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			11/07/22 11:43	1

Client Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Client Sample ID: SS03

Date Collected: 11/01/22 10:45
Date Received: 11/01/22 15:05
Sample Depth: 0.2

Lab Sample ID: 890-3357-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/03/22 14:00	11/05/22 00:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 14:00	11/05/22 00:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 14:00	11/05/22 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*11/03/22 14:00*	*11/05/22 00:09*	*1*
o-Terphenyl	*97*		*70 - 130*	*11/03/22 14:00*	*11/05/22 00:09*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4600**		49.8		mg/Kg			11/04/22 21:31	10

Surrogate Summary

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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)
880-21092-A-6-C MS	Matrix Spike	113	96
880-21092-A-6-D MSD	Matrix Spike Duplicate	103	106
890-3357-1	SS01	124	86
890-3357-2	SS02	105	94
890-3357-3	SS03	100	90
LCS 880-38813/1-A	Lab Control Sample	105	90
LCSD 880-38813/2-A	Lab Control Sample Dup	106	107
MB 880-38813/5-A	Method Blank	89	88
MB 880-38884/5-A	Method Blank	88	92

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-21004-A-5-F MS	Matrix Spike	91	71
880-21004-A-5-G MSD	Matrix Spike Duplicate	91	71
890-3357-1	SS01	94	88
890-3357-2	SS02	108	100
890-3357-3	SS03	105	97
LCS 880-38644/2-A	Lab Control Sample	93	89
LCSD 880-38644/3-A	Lab Control Sample Dup	92	89
MB 880-38644/1-A	Method Blank	93	91

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38813/5-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38813

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*

Lab Sample ID: LCS 880-38813/1-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1086		mg/Kg		109	70 - 130		
Toluene			0.100	0.09645		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09317		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1923		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09506		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-38813/2-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1093		mg/Kg		109	70 - 130	1	35
Toluene			0.100	0.09461		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09193		mg/Kg		92	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1905		mg/Kg		95	70 - 130	1	35
o-Xylene			0.100	0.09425		mg/Kg		94	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-21092-A-6-C MS
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 F2	0.101	0.1037		mg/Kg		103	70 - 130		
Toluene	<0.00201	U F1 F2	0.101	0.09297		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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

Lab Sample ID: 880-21092-A-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38813**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.101	0.09137		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.202	0.1883		mg/Kg		93	70 - 130
o-Xylene	<0.00201	U F1 F2	0.101	0.09231		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-21092-A-6-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38813**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0994	0.02368	F1 F2	mg/Kg		24	70 - 130	126	35
Toluene	<0.00201	U F1 F2	0.0994	0.02194	F1 F2	mg/Kg		21	70 - 130	124	35
Ethylbenzene	<0.00201	U F1 F2	0.0994	0.02200	F1 F2	mg/Kg		22	70 - 130	122	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.02035	F1 F2	mg/Kg		10	70 - 130	161	35
o-Xylene	<0.00201	U F1 F2	0.0994	0.02229	F1 F2	mg/Kg		22	70 - 130	122	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-38884/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38884**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*

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

Lab Sample ID: MB 880-38644/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

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		11/03/22 14:00	11/04/22 21:14	1

QC Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-38644/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

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		11/03/22 14:00	11/04/22 21:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 14:00	11/04/22 21:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*11/03/22 14:00*	*11/04/22 21:14*	*1*
o-Terphenyl	*91*		*70 - 130*	*11/03/22 14:00*	*11/04/22 21:14*	*1*

Lab Sample ID: LCS 880-38644/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	828.5		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	996.4		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-38644/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	836.1		mg/Kg		84	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	984.0		mg/Kg		98	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: 880-21004-A-5-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	838.6		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	809.5		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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

Lab Sample ID: 880-21004-A-5-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38690 — **Prep Batch: 38644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	833.8		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	813.8		mg/Kg		81	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38610/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/04/22 20:57	1

Lab Sample ID: LCS 880-38610/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.1		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38610/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.5		mg/Kg		101	90 - 110	3	20

Lab Sample ID: 890-3357-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	6980		2500	9523		mg/Kg		102	90 - 110		

Lab Sample ID: 890-3357-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6980		2500	9610		mg/Kg		106	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

GC VOA

Prep Batch: 38813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	5035	
890-3357-2	SS02	Total/NA	Solid	5035	
890-3357-3	SS03	Total/NA	Solid	5035	
MB 880-38813/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	5035	
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38884/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	8021B	38813
890-3357-2	SS02	Total/NA	Solid	8021B	38813
890-3357-3	SS03	Total/NA	Solid	8021B	38813
MB 880-38813/5-A	Method Blank	Total/NA	Solid	8021B	38813
MB 880-38884/5-A	Method Blank	Total/NA	Solid	8021B	38884
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	8021B	38813
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38813
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	8021B	38813
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38813

Analysis Batch: 39090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	Total BTEX	
890-3357-2	SS02	Total/NA	Solid	Total BTEX	
890-3357-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 38644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	8015NM Prep	
890-3357-2	SS02	Total/NA	Solid	8015NM Prep	
890-3357-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-38644/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38644/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38644/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21004-A-5-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21004-A-5-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	8015B NM	38644
890-3357-2	SS02	Total/NA	Solid	8015B NM	38644
890-3357-3	SS03	Total/NA	Solid	8015B NM	38644
MB 880-38644/1-A	Method Blank	Total/NA	Solid	8015B NM	38644
LCS 880-38644/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38644

QC Association Summary

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

GC Semi VOA (Continued)

Analysis Batch: 38690 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-38644/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38644
880-21004-A-5-F MS	Matrix Spike	Total/NA	Solid	8015B NM	38644
880-21004-A-5-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38644

Analysis Batch: 38869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Total/NA	Solid	8015 NM	
890-3357-2	SS02	Total/NA	Solid	8015 NM	
890-3357-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Soluble	Solid	DI Leach	
890-3357-2	SS02	Soluble	Solid	DI Leach	
890-3357-3	SS03	Soluble	Solid	DI Leach	
MB 880-38610/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3357-1 MS	SS01	Soluble	Solid	DI Leach	
890-3357-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 38766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3357-1	SS01	Soluble	Solid	300.0	38610
890-3357-2	SS02	Soluble	Solid	300.0	38610
890-3357-3	SS03	Soluble	Solid	300.0	38610
MB 880-38610/1-A	Method Blank	Soluble	Solid	300.0	38610
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	300.0	38610
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38610
890-3357-1 MS	SS01	Soluble	Solid	300.0	38610
890-3357-1 MSD	SS01	Soluble	Solid	300.0	38610

Lab Chronicle

Client: Ensolum
Project/Site: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Client Sample ID: SS01

Lab Sample ID: 890-3357-1

Date Collected: 11/01/22 10:35
Matrix: Solid
Date Received: 11/01/22 15:05

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	38813	11/07/22 08:38	EL	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	38953	11/09/22 04:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39090	11/09/22 11:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38869	11/07/22 11:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38644	11/03/22 14:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38690	11/04/22 23:26	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38610	11/03/22 10:30	CH	EET MID
Soluble	Analysis	300.0		10			38766	11/04/22 21:12	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-3357-2

Date Collected: 11/01/22 10:40
Matrix: Solid
Date Received: 11/01/22 15:05

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	38813	11/07/22 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38953	11/09/22 01:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39090	11/09/22 11:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38869	11/07/22 11:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38644	11/03/22 14:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38690	11/04/22 23:48	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	38610	11/03/22 10:30	CH	EET MID
Soluble	Analysis	300.0		10			38766	11/04/22 21:27	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-3357-3

Date Collected: 11/01/22 10:45
Matrix: Solid
Date Received: 11/01/22 15:05

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	38813	11/07/22 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38953	11/09/22 02:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39090	11/09/22 11:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38869	11/07/22 11:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38644	11/03/22 14:00	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38690	11/05/22 00:09	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38610	11/03/22 10:30	CH	EET MID
Soluble	Analysis	300.0		10			38766	11/04/22 21:31	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: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

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: REDHEAD 31 FEDCOM 1H

Job ID: 890-3357-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3357-1	SS01	Solid	11/01/22 10:35	11/01/22 15:05	0.2
890-3357-2	SS02	Solid	11/01/22 10:40	11/01/22 15:05	0.2
890-3357-3	SS03	Solid	11/01/22 10:45	11/01/22 15:05	0.2

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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:	JOSH ADAMS	Bill to: (if different)	Ch. Co.
Company Name:	Ensolum, LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM, 88220	City, State ZIP:	
Phone:	303-517-8431	Email:	jadams@ensolum.com/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:	Redhead 31 Fed Com 1H	Turn Around	✓ Routine ☐ Rush
Project Number:	08D2024104	Due Date:	
Project Location:	32.2108, -103.7125	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.8
Total Containers:		Corrected Temperature:	1.6

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
NaHSO $_4$: NABIS
$Na_2S_2O_3$: NaSO $_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Chlorides	Sample Comments
SS01	S	11-1-22	1035	.2'	C	1		✓	✓	✓	
SS02	S	11-1-22	1040	.2'	C	1		✓	✓	✓	
SS03	S	11-1-22	1045	.2'	C	1		✓	✓	✓	

890-3357 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

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		11-1-22 1505	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3357-1
SDG Number: 03D2024104

Login Number: 3357
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: 890-3357-1
SDG Number: 03D2024104

Login Number: 3357
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/03/22 10:17 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

PREPARED FOR

Attn: Josh Adams
Ensolum
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/16/2022 2:39:18 PM Revision 1

JOB DESCRIPTION

Redhead 31 FedCom 1H
SDG NUMBER 03d2024104

JOB NUMBER

890-3355-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM88220

my EOL

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Laboratory Job ID: 890-3355-1
SDG: 03d2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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, low 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: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Job ID: 890-3355-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3355-1

REVISION

The report being provided is a revision of the original report sent on 11/14/2022. The report (revision 1) is being revised due to Per client email, requesting sample depth correction.

Report revision history

Receipt
The sample was received on 11/1/2022 3:05 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 1.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS04 (890-3355-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39027 and analytical batch 880-39341 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: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Client Sample ID: SS04

Date Collected: 11/01/22 10:50
Date Received: 11/01/22 15:05
Sample Depth: 0.2'bs

Lab Sample ID: 890-3355-1

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		11/08/22 16:11	11/12/22 13:27	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/08/22 16:11	11/12/22 13:27	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/08/22 16:11	11/12/22 13:27	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/08/22 16:11	11/12/22 13:27	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/08/22 16:11	11/12/22 13:27	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/08/22 16:11	11/12/22 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/08/22 16:11*	*11/12/22 13:27*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/08/22 16:11*	*11/12/22 13:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/14/22 11:06	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/04/22 11:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 04:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 04:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 04:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*11/03/22 08:35*	*11/04/22 04:30*	*1*
o-Terphenyl	*81*		*70 - 130*	*11/03/22 08:35*	*11/04/22 04:30*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.9**		5.00		mg/Kg			11/07/22 17:43	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21091-A-1-B MS	Matrix Spike	102	106
880-21091-A-1-C MSD	Matrix Spike Duplicate	95	107
890-3355-1	SS04	105	109
LCS 880-39027/1-A	Lab Control Sample	106	95
LCSD 880-39027/2-A	Lab Control Sample Dup	105	92
MB 880-39027/5-A	Method Blank	78	107
MB 880-39319/5-A	Method Blank	83	104

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)
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
890-3355-1	SS04	85	81
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39027/5-A
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39027

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 16:11	11/12/22 07:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*11/08/22 16:11*	*11/12/22 07:03*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/08/22 16:11*	*11/12/22 07:03*	*1*

Lab Sample ID: LCS 880-39027/1-A
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39027

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07571		mg/Kg		76	70 - 130		
Toluene			0.100	0.09356		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09403		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1772		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.08717		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-39027/2-A
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39027

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07849		mg/Kg		78	70 - 130	4	35
Toluene			0.100	0.09571		mg/Kg		96	70 - 130	2	35
Ethylbenzene			0.100	0.09765		mg/Kg		98	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1832		mg/Kg		92	70 - 130	3	35
o-Xylene			0.100	0.09148		mg/Kg		91	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-21091-A-1-B MS
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39027

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.100	0.06156	F1	mg/Kg		61	70 - 130		
Toluene	<0.00201	U F1	0.100	0.04801	F1	mg/Kg		48	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

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

Lab Sample ID: 880-21091-A-1-B MS
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39027

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.100	0.02010	F1	mg/Kg		20	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.07030	F1	mg/Kg		35	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.04233	F1	mg/Kg		42	70 - 130

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

Lab Sample ID: 880-21091-A-1-C MSD
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39027

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0996	0.06863	F1	mg/Kg		69	70 - 130	11	35
Toluene	<0.00201	U F1	0.0996	0.05319	F1	mg/Kg		53	70 - 130	10	35
Ethylbenzene	<0.00201	U F1	0.0996	0.02587	F1	mg/Kg		26	70 - 130	25	35
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.07210	F1	mg/Kg		36	70 - 130	3	35
o-Xylene	<0.00201	U F1	0.0996	0.04135	F1	mg/Kg		42	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: MB 880-39319/5-A
Matrix: Solid
Analysis Batch: 39341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39319

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/22 10:54	11/11/22 19:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*11/11/22 10:54*	*11/11/22 19:27*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/11/22 10:54*	*11/11/22 19:27*	*1*

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

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

Lab Sample ID: MB 880-38586/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*67*	*S1-*	*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

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

Lab Sample ID: 890-3350-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38521/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/05/22 18:57	1

Lab Sample ID: LCS 880-38521/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.8		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38521/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-21018-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	97.7		249	343.7		mg/Kg		99	90 - 110		

Lab Sample ID: 880-21018-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	97.7		249	340.4		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

GC VOA

Prep Batch: 39027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	5035	
MB 880-39027/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39027/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39027/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21091-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-21091-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 39319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39319/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	8021B	39027
MB 880-39027/5-A	Method Blank	Total/NA	Solid	8021B	39027
MB 880-39319/5-A	Method Blank	Total/NA	Solid	8021B	39319
LCS 880-39027/1-A	Lab Control Sample	Total/NA	Solid	8021B	39027
LCSD 880-39027/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39027
880-21091-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	39027
880-21091-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39027

Analysis Batch: 39431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

HPLC/IC

Leach Batch: 38521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Soluble	Solid	DI Leach	
MB 880-38521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3355-1	SS04	Soluble	Solid	300.0	38521
MB 880-38521/1-A	Method Blank	Soluble	Solid	300.0	38521
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	300.0	38521
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38521
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	38521
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38521

Lab Chronicle

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Client Sample ID: SS04
Date Collected: 11/01/22 10:50
Date Received: 11/01/22 15:05

Lab Sample ID: 890-3355-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	39027	11/08/22 16:11	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39341	11/12/22 13:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39431	11/14/22 11:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			38726	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 04:30	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38521	11/04/22 11:58	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38782	11/07/22 17:43	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: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3355-1
SDG: 03d2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3355-1	SS04	Solid	11/01/22 10:50	11/01/22 15:05	0.2'bs

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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:	Josh ADAMS	Bill to: (if different)	a.a.
Company Name:	Ensolum LLC	Company Name:	
Address:	3122 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jadams@ensolum.com / hjennings@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:	Redhead 31 Federal 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.21028, -103.7275	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	IWM007	
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_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

890-3355 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	TPH	Chlorides	Sample Comments
SS01	S	11-1-22	1050	.2'	C	1	✓	✓	✓	

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		11-1-22 1505			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3355-1
SDG Number: 03d2024104

Login Number: 3355
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: 890-3355-1
SDG Number: 03d2024104

Login Number: 3355
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/03/22 10:17 AM

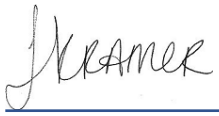
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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	

Eurofins Carlsbad

Job Notes

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

Authorization



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11/16/2022 2:39:18 PM
Revision 1

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3356-1
Laboratory Sample Delivery Group: 03D2024104
Client Project/Site: Redhead 31 FedCom 1H

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

Attn: Josh Adams

JKramer

Authorized for release by:
11/14/2022 11:58:26 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.

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

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Laboratory Job ID: 890-3356-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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, low 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: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Job ID: 890-3356-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3356-1

Receipt
The sample was received on 11/1/2022 3:05 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 1.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3356-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39027 and analytical batch 880-39341 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: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Client Sample ID: SS05

Date Collected: 11/01/22 10:55
Date Received: 11/01/22 15:05
Sample Depth: 0.2'

Lab Sample ID: 890-3356-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/08/22 16:11	11/12/22 13:47	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/08/22 16:11	11/12/22 13:47	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/08/22 16:11	11/12/22 13:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/08/22 16:11	11/12/22 13:47	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/08/22 16:11	11/12/22 13:47	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/08/22 16:11	11/12/22 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*11/08/22 16:11*	*11/12/22 13:47*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/08/22 16:11*	*11/12/22 13:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/14/22 11:06	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			11/04/22 11:08	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		11/03/22 08:35	11/04/22 04:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 04:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*11/03/22 08:35*	*11/04/22 04:52*	*1*
o-Terphenyl	*93*		*70 - 130*	*11/03/22 08:35*	*11/04/22 04:52*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**37.2**		5.00		mg/Kg			11/07/22 17:50	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21091-A-1-B MS	Matrix Spike	102	106
880-21091-A-1-C MSD	Matrix Spike Duplicate	95	107
890-3356-1	SS05	102	110
LCS 880-39027/1-A	Lab Control Sample	106	95
LCSD 880-39027/2-A	Lab Control Sample Dup	105	92
MB 880-39027/5-A	Method Blank	78	107
MB 880-39319/5-A	Method Blank	83	104

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)
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
890-3356-1	SS05	102	93
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39027/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 16:11	11/12/22 07:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 16:11	11/12/22 07:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*11/08/22 16:11*	*11/12/22 07:03*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/08/22 16:11*	*11/12/22 07:03*	*1*

Lab Sample ID: LCS 880-39027/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07571		mg/Kg		76	70 - 130		
Toluene			0.100	0.09356		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09403		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1772		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.08717		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-39027/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07849		mg/Kg		78	70 - 130	4	35
Toluene			0.100	0.09571		mg/Kg		96	70 - 130	2	35
Ethylbenzene			0.100	0.09765		mg/Kg		98	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1832		mg/Kg		92	70 - 130	3	35
o-Xylene			0.100	0.09148		mg/Kg		91	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-21091-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.100	0.06156	F1	mg/Kg		61	70 - 130		
Toluene	<0.00201	U F1	0.100	0.04801	F1	mg/Kg		48	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

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

Lab Sample ID: 880-21091-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.100	0.02010	F1	mg/Kg		20	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.07030	F1	mg/Kg		35	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.04233	F1	mg/Kg		42	70 - 130

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

Lab Sample ID: 880-21091-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39027**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0996	0.06863	F1	mg/Kg		69	70 - 130	11	35
Toluene	<0.00201	U F1	0.0996	0.05319	F1	mg/Kg		53	70 - 130	10	35
Ethylbenzene	<0.00201	U F1	0.0996	0.02587	F1	mg/Kg		26	70 - 130	25	35
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.07210	F1	mg/Kg		36	70 - 130	3	35
o-Xylene	<0.00201	U F1	0.0996	0.04135	F1	mg/Kg		42	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: MB 880-39319/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39341 — **Prep Batch: 39319**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/22 10:54	11/11/22 19:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/22 10:54	11/11/22 19:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*11/11/22 10:54*	*11/11/22 19:27*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/11/22 10:54*	*11/11/22 19:27*	*1*

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

Lab Sample ID: MB 880-38586/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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		11/03/22 08:35	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*67*	*S1-*	*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

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

Lab Sample ID: 890-3350-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38521/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/05/22 18:57	1

Lab Sample ID: LCS 880-38521/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.8		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38521/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-21018-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	97.7		249	343.7		mg/Kg		99	90 - 110		

Lab Sample ID: 880-21018-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	97.7		249	340.4		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

GC VOA

Prep Batch: 39027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	5035	
MB 880-39027/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39027/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39027/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21091-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-21091-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 39319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39319/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	8021B	39027
MB 880-39027/5-A	Method Blank	Total/NA	Solid	8021B	39027
MB 880-39319/5-A	Method Blank	Total/NA	Solid	8021B	39319
LCS 880-39027/1-A	Lab Control Sample	Total/NA	Solid	8021B	39027
LCSD 880-39027/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39027
880-21091-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	39027
880-21091-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39027

Analysis Batch: 39432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

HPLC/IC

Leach Batch: 38521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Soluble	Solid	DI Leach	
MB 880-38521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3356-1	SS05	Soluble	Solid	300.0	38521
MB 880-38521/1-A	Method Blank	Soluble	Solid	300.0	38521
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	300.0	38521
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38521
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	38521
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38521

Lab Chronicle

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Client Sample ID: SS05

Date Collected: 11/01/22 10:55
Date Received: 11/01/22 15:05

Lab Sample ID: 890-3356-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	39027	11/08/22 16:11	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39341	11/12/22 13:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39432	11/14/22 11:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			38727	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 04:52	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38521	11/04/22 11:58	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38782	11/07/22 17:50	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: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3356-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3356-1	SS05	Solid	11/01/22 10:55	11/01/22 15:05	0.2'

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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:	JOSH ADAMS	Bill to: (if different)	a a.
Company Name:	Ensolum LLC	Company Name:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	jcadams@ensolum.com/ 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:	Redhead 31 Fed Com 1H	Turn Around	
Project Number:	03D2024104	☑ Routine ☐ Rush	
Project Location:	32.21078, -103.7125	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

ANALYSIS REQUEST

Pres. Code

Parameters: BTEX, TPH, Chlorides

890-3356 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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Sample Comments
SS05	S	11-1-22	1055	.2'	C	1	

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 Stiff	11/1/22 1503			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3356-1
SDG Number: 03D2024104

Login Number: 3356
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: 890-3356-1
SDG Number: 03D2024104

Login Number: 3356
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/03/22 10:17 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: 890-3358-1
Laboratory Sample Delivery Group: 03D2024104
Client Project/Site: Redhead 31 FedCom 1H

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

Attn: Josh Adams

JKramer

Authorized for release by:
11/9/2022 11:43:15 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.

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

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Laboratory Job ID: 890-3358-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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

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: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Job ID: 890-3358-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3358-1

Receipt
The sample was received on 11/1/2022 3:05 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 1.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3358-1).

GC VOA
Method 8021B: The following sample was diluted due to the nature of the sample matrix: (880-21092-A-6-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Client Sample ID: SS06

Date Collected: 11/01/22 11:00
Date Received: 11/01/22 15:05
Sample Depth: 0.2'

Lab Sample ID: 890-3358-1

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		11/07/22 08:38	11/09/22 03:19	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:19	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:19	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/22 08:38	11/09/22 03:19	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:19	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/22 08:38	11/09/22 03:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*11/07/22 08:38*	*11/09/22 03:19*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*11/07/22 08:38*	*11/09/22 03:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/09/22 11:30	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			11/04/22 11:08	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		11/03/22 08:35	11/04/22 05:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 05:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 05:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/03/22 08:35*	*11/04/22 05:13*	*1*
o-Terphenyl	*83*		*70 - 130*	*11/03/22 08:35*	*11/04/22 05:13*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**215**		5.01		mg/Kg			11/04/22 21:36	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21092-A-6-C MS	Matrix Spike	113	96
880-21092-A-6-D MSD	Matrix Spike Duplicate	103	106
890-3358-1	SS06	104	89
LCS 880-38813/1-A	Lab Control Sample	105	90
LCSD 880-38813/2-A	Lab Control Sample Dup	106	107
MB 880-38813/5-A	Method Blank	89	88
MB 880-38884/5-A	Method Blank	88	92

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
890-3358-1	SS06	89	83
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38813/5-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38813

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*

Lab Sample ID: LCS 880-38813/1-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1086		mg/Kg		109	70 - 130		
Toluene			0.100	0.09645		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09317		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1923		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09506		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-38813/2-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1093		mg/Kg		109	70 - 130	1	35
Toluene			0.100	0.09461		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09193		mg/Kg		92	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1905		mg/Kg		95	70 - 130	1	35
o-Xylene			0.100	0.09425		mg/Kg		94	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-21092-A-6-C MS
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 F2	0.101	0.1037		mg/Kg		103	70 - 130		
Toluene	<0.00201	U F1 F2	0.101	0.09297		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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

Lab Sample ID: 880-21092-A-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38813**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.101	0.09137		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.202	0.1883		mg/Kg		93	70 - 130
o-Xylene	<0.00201	U F1 F2	0.101	0.09231		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-21092-A-6-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38813**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0994	0.02368	F1 F2	mg/Kg		24	70 - 130	126	35
Toluene	<0.00201	U F1 F2	0.0994	0.02194	F1 F2	mg/Kg		21	70 - 130	124	35
Ethylbenzene	<0.00201	U F1 F2	0.0994	0.02200	F1 F2	mg/Kg		22	70 - 130	122	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.02035	F1 F2	mg/Kg		10	70 - 130	161	35
o-Xylene	<0.00201	U F1 F2	0.0994	0.02229	F1 F2	mg/Kg		22	70 - 130	122	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-38884/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38953 — **Prep Batch: 38884**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*

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

Lab Sample ID: MB 880-38586/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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		11/03/22 08:35	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

Surrogate			*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane			*99*		*70 - 130*
o-Terphenyl			*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130		

Surrogate			*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane			*67*	*S1-*	*70 - 130*
o-Terphenyl			*61*	*S1-*	*70 - 130*

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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

Lab Sample ID: 890-3350-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38610/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/04/22 20:57	1

Lab Sample ID: LCS 880-38610/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.1		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38610/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.5		mg/Kg		101	90 - 110	3	20

Lab Sample ID: 890-3361-A-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46.6		249	295.1		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3361-A-6-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46.6		249	288.6		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

GC VOA

Prep Batch: 38813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	5035	
MB 880-38813/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	5035	
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38884/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	8021B	38813
MB 880-38813/5-A	Method Blank	Total/NA	Solid	8021B	38813
MB 880-38884/5-A	Method Blank	Total/NA	Solid	8021B	38884
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	8021B	38813
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38813
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	8021B	38813
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38813

Analysis Batch: 39091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

HPLC/IC

Leach Batch: 38610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Soluble	Solid	DI Leach	
MB 880-38610/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3361-A-6-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3361-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3358-1	SS06	Soluble	Solid	300.0	38610
MB 880-38610/1-A	Method Blank	Soluble	Solid	300.0	38610
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	300.0	38610
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38610
890-3361-A-6-C MS	Matrix Spike	Soluble	Solid	300.0	38610
890-3361-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38610

Lab Chronicle

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Client Sample ID: SS06

Date Collected: 11/01/22 11:00
Date Received: 11/01/22 15:05

Lab Sample ID: 890-3358-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38813	11/07/22 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38953	11/09/22 03:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39091	11/09/22 11:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38728	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 05:13	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	38610	11/03/22 10:30	CH	EET MID
Soluble	Analysis	300.0		1			38766	11/04/22 21:36	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: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3358-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3358-1	SS06	Solid	11/01/22 11:00	11/01/22 15:05	0.2'

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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:	Josh Adams	Bill to: (if different)	Ar. Ar
Company Name:	Ensolum LLC	Company Name:	
Address:	322 Natl Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-517-9431	Email:	jadams@ensolum.com/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:	Redhead 31 Fed Com 3H	Turn Around	
Project Number:	03D2024104	☑ Routine ☐ Rush	
Project Location:	32.21028, -103.7725	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	Tam-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.8
Total Containers:		Corrected Temperature:	4.6

ANALYSIS REQUEST

Pres. Code

Parameters: BTEX, TPH, Chlorides

890-3358 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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Sample Comments
SS06	S	11-1-22	1100	12'	C	1	

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 Sluta	11/1/22 1505			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3358-1
SDG Number: 03D2024104

Login Number: 3358
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: 890-3358-1
SDG Number: 03D2024104

Login Number: 3358
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/03/22 10:17 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: 890-3359-1
Laboratory Sample Delivery Group: 03D2024104
Client Project/Site: Redhead 31 FedCom 1H

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

Attn: Josh Adams

JKramer

Authorized for release by:
11/9/2022 11:48:19 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.

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

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Laboratory Job ID: 890-3359-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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

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: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Job ID: 890-3359-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3359-1

Receipt
The sample was received on 11/1/2022 3:05 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 1.6°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS07 (890-3359-1).

GC VOA
Method 8021B: The following sample was diluted due to the nature of the sample matrix: (880-21092-A-6-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Client Sample ID: SS07

Date Collected: 11/01/22 11:05
Date Received: 11/01/22 15:05
Sample Depth: 0.2'

Lab Sample ID: 890-3359-1

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		11/07/22 08:38	11/09/22 03:40	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:40	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/22 08:38	11/09/22 03:40	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/22 08:38	11/09/22 03:40	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/22 08:38	11/09/22 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*11/07/22 08:38*	*11/09/22 03:40*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*11/07/22 08:38*	*11/09/22 03:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/09/22 11:30	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/04/22 11:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 05:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 05:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/03/22 08:35	11/04/22 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*11/03/22 08:35*	*11/04/22 05:35*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/04/22 05:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.1**		4.99		mg/Kg			11/04/22 21:41	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21092-A-6-C MS	Matrix Spike	113	96
880-21092-A-6-D MSD	Matrix Spike Duplicate	103	106
890-3359-1	SS07	109	89
LCS 880-38813/1-A	Lab Control Sample	105	90
LCSD 880-38813/2-A	Lab Control Sample Dup	106	107
MB 880-38813/5-A	Method Blank	89	88
MB 880-38884/5-A	Method Blank	88	92

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
890-3359-1	SS07	84	80
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38813/5-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38813

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/22 08:38	11/08/22 22:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/22 08:38	11/08/22 22:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 08:38*	*11/08/22 22:11*	*1*

Lab Sample ID: LCS 880-38813/1-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1086		mg/Kg		109	70 - 130		
Toluene			0.100	0.09645		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09317		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1923		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09506		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-38813/2-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38813

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1093		mg/Kg		109	70 - 130	1	35
Toluene			0.100	0.09461		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09193		mg/Kg		92	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1905		mg/Kg		95	70 - 130	1	35
o-Xylene			0.100	0.09425		mg/Kg		94	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-21092-A-6-C MS
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 F2	0.101	0.1037		mg/Kg		103	70 - 130		
Toluene	<0.00201	U F1 F2	0.101	0.09297		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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

Lab Sample ID: 880-21092-A-6-C MS
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38813

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.101	0.09137		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.202	0.1883		mg/Kg		93	70 - 130
o-Xylene	<0.00201	U F1 F2	0.101	0.09231		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-21092-A-6-D MSD
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38813

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0994	0.02368	F1 F2	mg/Kg		24	70 - 130	126	35
Toluene	<0.00201	U F1 F2	0.0994	0.02194	F1 F2	mg/Kg		21	70 - 130	124	35
Ethylbenzene	<0.00201	U F1 F2	0.0994	0.02200	F1 F2	mg/Kg		22	70 - 130	122	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.199	0.02035	F1 F2	mg/Kg		10	70 - 130	161	35
o-Xylene	<0.00201	U F1 F2	0.0994	0.02229	F1 F2	mg/Kg		22	70 - 130	122	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-38884/5-A
Matrix: Solid
Analysis Batch: 38953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38884

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/07/22 13:51	11/08/22 10:48	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/07/22 13:51	11/08/22 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*11/07/22 13:51*	*11/08/22 10:48*	*1*

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-38586/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

Surrogate		*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane		*99*		*70 - 130*
o-Terphenyl		*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130		

Surrogate		*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane		*67*	*S1-*	*70 - 130*
o-Terphenyl		*61*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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

Lab Sample ID: 890-3350-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38610/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/04/22 20:57	1

Lab Sample ID: LCS 880-38610/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.1		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38610/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.5		mg/Kg		101	90 - 110	3	20

Lab Sample ID: 890-3361-A-6-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46.6		249	295.1		mg/Kg		100	90 - 110		

Lab Sample ID: 890-3361-A-6-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38766

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46.6		249	288.6		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

GC VOA

Prep Batch: 38813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	5035	
MB 880-38813/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	5035	
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38884/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 38953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	8021B	38813
MB 880-38813/5-A	Method Blank	Total/NA	Solid	8021B	38813
MB 880-38884/5-A	Method Blank	Total/NA	Solid	8021B	38884
LCS 880-38813/1-A	Lab Control Sample	Total/NA	Solid	8021B	38813
LCSD 880-38813/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38813
880-21092-A-6-C MS	Matrix Spike	Total/NA	Solid	8021B	38813
880-21092-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38813

Analysis Batch: 39092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

HPLC/IC

Leach Batch: 38610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Soluble	Solid	DI Leach	
MB 880-38610/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3361-A-6-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3361-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3359-1	SS07	Soluble	Solid	300.0	38610
MB 880-38610/1-A	Method Blank	Soluble	Solid	300.0	38610
LCS 880-38610/2-A	Lab Control Sample	Soluble	Solid	300.0	38610
LCSD 880-38610/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38610
890-3361-A-6-C MS	Matrix Spike	Soluble	Solid	300.0	38610
890-3361-A-6-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38610

Lab Chronicle

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Client Sample ID: SS07

Date Collected: 11/01/22 11:05
Date Received: 11/01/22 15:05

Lab Sample ID: 890-3359-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38813	11/07/22 08:38	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38953	11/09/22 03:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39092	11/09/22 11:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38729	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 05:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38610	11/03/22 10:30	CH	EET MID
Soluble	Analysis	300.0		1			38766	11/04/22 21:41	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

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: Redhead 31 FedCom 1H

Job ID: 890-3359-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3359-1	SS07	Solid	11/01/22 11:05	11/01/22 15:05	0.2'

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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:	Josh Adams	Bill to: (if different)	
Company Name:	Ensolum LLC	Company Name:	
Address:	522 Nat'l Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM, 88220	City, State ZIP:	
Phone:	303-517-8437	Email:	

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:	Reddhead 31 Federal 7H	Turn Around	
Project Number:	03D2024104	☑ Routine ☐ Rush	
Project Location:	32.21079, -103.7725	Due Date:	
Sampler's Name:	Julianna Falconata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH	Chlorides	Sample Comments
SS01	S	11-1-22	1105	.2'	C	1		✓	✓	✓	

890-3359 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

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 Salinas	11/1/22 1525	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3359-1
SDG Number: 03D2024104

Login Number: 3359
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: 890-3359-1
SDG Number: 03D2024104

Login Number: 3359
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/03/22 10:17 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

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/21/2022 2:18:13 PM

JOB DESCRIPTION

Redhead Fed Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3580-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

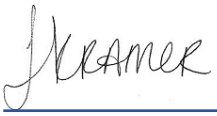
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/21/2022 2:18:13 PM

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

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Laboratory Job ID: 890-3580-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Job ID: 890-3580-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3580-1

Receipt
The samples were received on 12/5/2022 4:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3580-1), SW01 (890-3580-2), SW02 (890-3580-3), SW03 (890-3580-4) and SW04 (890-3580-5).

The following sample was listed on the Chain of Custody (COC); however, no sample was received: SW02 (890-3580-3).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-41898 and analytical batch 880-41994 was outside the control limits.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-41898 and analytical batch 880-41994 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW03 (890-3580-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42103 and analytical batch 880-42128 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The following sample(s) was analyzed outside of analytical holding time due to instrument malfunction.SW03 (890-3580-4).

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 880-41325 and analytical batch 880-41523 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW01 (890-3580-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
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: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: FS01

Lab Sample ID: 890-3580-1
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 4

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		12/15/22 10:12	12/16/22 17:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 17:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 17:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 10:12	12/16/22 17:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 17:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 10:12	12/16/22 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*12/15/22 10:12*	*12/16/22 17:36*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*12/15/22 10:12*	*12/16/22 17:36*	*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			12/19/22 16:02	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			12/12/22 12:52	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		12/08/22 09:35	12/12/22 02:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/12/22 02:58	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/12/22 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*12/08/22 09:35*	*12/12/22 02:58*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/08/22 09:35*	*12/12/22 02:58*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.0**		4.99		mg/Kg			12/11/22 19:45	1

Client Sample ID: SW01

Lab Sample ID: 890-3580-2
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

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		12/15/22 10:12	12/16/22 17:57	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/15/22 10:12	12/16/22 17:57	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/15/22 10:12	12/16/22 17:57	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/15/22 10:12	12/16/22 17:57	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/15/22 10:12	12/16/22 17:57	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/15/22 10:12	12/16/22 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*12/15/22 10:12*	*12/16/22 17:57*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: SW01

Lab Sample ID: 890-3580-2
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*12/15/22 10:12*	*12/16/22 17:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			12/19/22 16:02	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			12/12/22 12:52	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		12/08/22 09:35	12/12/22 03:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/08/22 09:35	12/12/22 03:20	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/08/22 09:35	12/12/22 03:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*138*	*S1+*	*70 - 130*	*12/08/22 09:35*	*12/12/22 03:20*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*12/08/22 09:35*	*12/12/22 03:20*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.2**		5.03	mg/Kg			12/11/22 19:50	1

Client Sample ID: SW03

Lab Sample ID: 890-3580-4
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0199	U H	0.0199	mg/Kg		12/17/22 17:17	12/21/22 10:49	10
Toluene	**0.0204**	**H**	0.0199	mg/Kg		12/17/22 17:17	12/21/22 10:49	10
Ethylbenzene	<0.0199	U H	0.0199	mg/Kg		12/17/22 17:17	12/21/22 10:49	10
m-Xylene & p-Xylene	<0.0398	U H	0.0398	mg/Kg		12/17/22 17:17	12/21/22 10:49	10
o-Xylene	<0.0199	U H	0.0199	mg/Kg		12/17/22 17:17	12/21/22 10:49	10
Xylenes, Total	<0.0398	U H	0.0398	mg/Kg		12/17/22 17:17	12/21/22 10:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*54*	*S1-*	*70 - 130*	*12/17/22 17:17*	*12/21/22 10:49*	*10*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/17/22 17:17*	*12/21/22 10:49*	*10*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0398	U	0.0398	mg/Kg			12/21/22 14:43	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			12/12/22 12:52	1

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: SW03

Lab Sample ID: 890-3580-4
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

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		12/08/22 09:35	12/12/22 03:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/12/22 03:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/12/22 03:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*12/08/22 09:35*	*12/12/22 03:41*	*1*
o-Terphenyl	*119*		*70 - 130*	*12/08/22 09:35*	*12/12/22 03:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.1**		5.04		mg/Kg			12/11/22 19:56	1

Client Sample ID: SW04

Lab Sample ID: 890-3580-5
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

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		12/15/22 10:12	12/16/22 18:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 18:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 18:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/15/22 10:12	12/16/22 18:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 18:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/15/22 10:12	12/16/22 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*12/15/22 10:12*	*12/16/22 18:38*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*12/15/22 10:12*	*12/16/22 18:38*	*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			12/19/22 16:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/12/22 12:52	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 09:35	12/12/22 04:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 09:35	12/12/22 04:03	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 09:35	12/12/22 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*12/08/22 09:35*	*12/12/22 04:03*	*1*
o-Terphenyl	*114*		*70 - 130*	*12/08/22 09:35*	*12/12/22 04:03*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: SW04
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38
Sample Depth: 0 - 4

Lab Sample ID: 890-3580-5
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.0		4.99		mg/Kg			12/11/22 20:13	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-22507-A-1-C MS	Matrix Spike	122	116
880-22507-A-1-D MSD	Matrix Spike Duplicate	128	115
890-3580-1	FS01	95	116
890-3580-2	SW01	94	115
890-3580-4	SW03	54 S1-	106
890-3580-5	SW04	94	113
890-3585-A-1-E MS	Matrix Spike	91	100
890-3585-A-1-F MSD	Matrix Spike Duplicate	108	96
LCS 880-41898/1-A	Lab Control Sample	92	97
LCS 880-42103/1-A	Lab Control Sample	111	117
LCSD 880-41898/2-A	Lab Control Sample Dup	94	100
LCSD 880-42103/2-A	Lab Control Sample Dup	107	112
MB 880-41898/5-A	Method Blank	62 S1-	106
MB 880-42103/5-A	Method Blank	81	104
MB 880-42128/101	Method Blank	86	104

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)
890-3574-A-1-E MS	Matrix Spike	116	96
890-3574-A-1-F MSD	Matrix Spike Duplicate	100	96
890-3580-1	FS01	119	116
890-3580-2	SW01	138 S1+	135 S1+
890-3580-4	SW03	126	119
890-3580-5	SW04	118	114
LCS 880-41325/2-A	Lab Control Sample	115	127
LCSD 880-41325/3-A	Lab Control Sample Dup	112	125
MB 880-41325/1-A	Method Blank	119	160 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41898/5-A
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41898

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 11:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 11:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 11:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 10:12	12/16/22 11:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:12	12/16/22 11:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 10:12	12/16/22 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*12/15/22 10:12*	*12/16/22 11:19*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/15/22 10:12*	*12/16/22 11:19*	*1*

Lab Sample ID: LCS 880-41898/1-A
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41898

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08131		mg/Kg		81	70 - 130		
Toluene			0.100	0.07940		mg/Kg		79	70 - 130		
Ethylbenzene			0.100	0.07946		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1750		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08570		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-41898/2-A
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41898

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08847		mg/Kg		88	70 - 130	8	35
Toluene			0.100	0.08281		mg/Kg		83	70 - 130	4	35
Ethylbenzene			0.100	0.08020		mg/Kg		80	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1730		mg/Kg		87	70 - 130	1	35
o-Xylene			0.100	0.08494		mg/Kg		85	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3585-A-1-E MS
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.07767		mg/Kg		76	70 - 130		
Toluene	<0.00201	U F1	0.101	0.07022	F1	mg/Kg		68	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

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

Lab Sample ID: 890-3585-A-1-E MS
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.101	0.07059	F1	mg/Kg		69	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1525		mg/Kg		75	70 - 130
o-Xylene	<0.00201	U	0.101	0.07419		mg/Kg		73	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3585-A-1-F MSD
Matrix: Solid
Analysis Batch: 41994

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.07985		mg/Kg		79	70 - 130	3	35
Toluene	<0.00201	U F1	0.0996	0.08279		mg/Kg		82	70 - 130	16	35
Ethylbenzene	<0.00201	U F1	0.0996	0.08282		mg/Kg		83	70 - 130	16	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1833		mg/Kg		91	70 - 130	18	35
o-Xylene	<0.00201	U	0.0996	0.09074		mg/Kg		90	70 - 130	20	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: MB 880-42103/5-A
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42103

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/17/22 17:17	12/21/22 06:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/17/22 17:17	12/21/22 06:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/17/22 17:17	12/21/22 06:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/17/22 17:17	12/21/22 06:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/17/22 17:17	12/21/22 06:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/17/22 17:17	12/21/22 06:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*12/17/22 17:17*	*12/21/22 06:00*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/17/22 17:17*	*12/21/22 06:00*	*1*

Lab Sample ID: LCS 880-42103/1-A
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42103

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.08922		mg/Kg		89	70 - 130
Toluene			0.100	0.08758		mg/Kg		88	70 - 130
Ethylbenzene			0.100	0.09205		mg/Kg		92	70 - 130
m-Xylene & p-Xylene			0.200	0.1948		mg/Kg		97	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-42103/1-A
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42103

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.09878		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: LCSD 880-42103/2-A
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42103

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08903		mg/Kg		89	70 - 130	0	35
Toluene			0.100	0.09082		mg/Kg		91	70 - 130	4	35
Ethylbenzene			0.100	0.09375		mg/Kg		94	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1988		mg/Kg		99	70 - 130	2	35
o-Xylene			0.100	0.1011		mg/Kg		101	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-22507-A-1-C MS
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42103

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.09416		mg/Kg		94	70 - 130		
Toluene	0.00217	F1	0.0998	0.07971		mg/Kg		78	70 - 130		
Ethylbenzene	0.0148	F1	0.0998	0.07934	F1	mg/Kg		65	70 - 130		
m-Xylene & p-Xylene	0.0454	F1	0.200	0.1607	F1	mg/Kg		58	70 - 130		
o-Xylene	0.0250	F1	0.0998	0.08158	F1	mg/Kg		57	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: 880-22507-A-1-D MSD
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42103

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	0.08584		mg/Kg		86	70 - 130	9	35
Toluene	0.00217	F1	0.0996	0.06563	F1	mg/Kg		64	70 - 130	19	35
Ethylbenzene	0.0148	F1	0.0996	0.07065	F1	mg/Kg		56	70 - 130	12	35
m-Xylene & p-Xylene	0.0454	F1	0.199	0.1464	F1	mg/Kg		51	70 - 130	9	35
o-Xylene	0.0250	F1	0.0996	0.07398	F1	mg/Kg		49	70 - 130	10	35

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

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

Lab Sample ID: 880-22507-A-1-D MSD
Matrix: Solid
Analysis Batch: 42128

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42103

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: MB 880-42128/101
Matrix: Solid
Analysis Batch: 42128

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg			12/20/22 19:24	1
Toluene	<0.00200	U	0.00200		mg/Kg			12/20/22 19:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg			12/20/22 19:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg			12/20/22 19:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg			12/20/22 19:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			12/20/22 19:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*12/20/22 19:24*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*12/20/22 19:24*	*1*

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

Lab Sample ID: MB 880-41325/1-A
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41325

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		12/08/22 09:35	12/11/22 20:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/11/22 20:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 09:35	12/11/22 20:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*119*		*70 - 130*	*12/08/22 09:35*	*12/11/22 20:46*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*12/08/22 09:35*	*12/11/22 20:46*	*1*

Lab Sample ID: LCS 880-41325/2-A
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	967.1		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	913.1		mg/Kg		91	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

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

Lab Sample ID: LCSD 880-41325/3-A
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	894.5		mg/Kg		89	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	873.9		mg/Kg		87	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*125*		*70 - 130*

Lab Sample ID: 890-3574-A-1-E MS
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41325

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	876.3		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	942.4		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: 890-3574-A-1-F MSD
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41325

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	997	828.9		mg/Kg		81	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	939.8		mg/Kg		92	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41257/1-A
Matrix: Solid
Analysis Batch: 41535

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			12/11/22 18:20	1

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-41257/2-A
Matrix: Solid
Analysis Batch: 41535

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-41257/3-A
Matrix: Solid
Analysis Batch: 41535

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.5		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3580-4 MS
Matrix: Solid
Analysis Batch: 41535

Client Sample ID: SW03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	22.1		252	286.9		mg/Kg		105	90 - 110		

Lab Sample ID: 890-3580-4 MSD
Matrix: Solid
Analysis Batch: 41535

Client Sample ID: SW03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	22.1		252	284.7		mg/Kg		104	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

GC VOA

Prep Batch: 41898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	5035	
890-3580-2	SW01	Total/NA	Solid	5035	
890-3580-5	SW04	Total/NA	Solid	5035	
MB 880-41898/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41898/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41898/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3585-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3585-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	8021B	41898
890-3580-2	SW01	Total/NA	Solid	8021B	41898
890-3580-5	SW04	Total/NA	Solid	8021B	41898
MB 880-41898/5-A	Method Blank	Total/NA	Solid	8021B	41898
LCS 880-41898/1-A	Lab Control Sample	Total/NA	Solid	8021B	41898
LCSD 880-41898/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41898
890-3585-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	41898
890-3585-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41898

Prep Batch: 42103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-4	SW03	Total/NA	Solid	5035	
MB 880-42103/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42103/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42103/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22507-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22507-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-4	SW03	Total/NA	Solid	8021B	42103
MB 880-42103/5-A	Method Blank	Total/NA	Solid	8021B	42103
MB 880-42128/101	Method Blank	Total/NA	Solid	8021B	
LCS 880-42103/1-A	Lab Control Sample	Total/NA	Solid	8021B	42103
LCSD 880-42103/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42103
880-22507-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42103
880-22507-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42103

Analysis Batch: 42230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	Total BTEX	
890-3580-2	SW01	Total/NA	Solid	Total BTEX	
890-3580-4	SW03	Total/NA	Solid	Total BTEX	
890-3580-5	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

GC Semi VOA (Continued)

Prep Batch: 41325 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-2	SW01	Total/NA	Solid	8015NM Prep	
890-3580-4	SW03	Total/NA	Solid	8015NM Prep	
890-3580-5	SW04	Total/NA	Solid	8015NM Prep	
MB 880-41325/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41325/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41325/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3574-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3574-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	8015B NM	41325
890-3580-2	SW01	Total/NA	Solid	8015B NM	41325
890-3580-4	SW03	Total/NA	Solid	8015B NM	41325
890-3580-5	SW04	Total/NA	Solid	8015B NM	41325
MB 880-41325/1-A	Method Blank	Total/NA	Solid	8015B NM	41325
LCS 880-41325/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41325
LCSD 880-41325/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41325
890-3574-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41325
890-3574-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41325

Analysis Batch: 41645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Total/NA	Solid	8015 NM	
890-3580-2	SW01	Total/NA	Solid	8015 NM	
890-3580-4	SW03	Total/NA	Solid	8015 NM	
890-3580-5	SW04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Soluble	Solid	DI Leach	
890-3580-2	SW01	Soluble	Solid	DI Leach	
890-3580-4	SW03	Soluble	Solid	DI Leach	
890-3580-5	SW04	Soluble	Solid	DI Leach	
MB 880-41257/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41257/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41257/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3580-4 MS	SW03	Soluble	Solid	DI Leach	
890-3580-4 MSD	SW03	Soluble	Solid	DI Leach	

Analysis Batch: 41535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-1	FS01	Soluble	Solid	300.0	41257
890-3580-2	SW01	Soluble	Solid	300.0	41257
890-3580-4	SW03	Soluble	Solid	300.0	41257
890-3580-5	SW04	Soluble	Solid	300.0	41257
MB 880-41257/1-A	Method Blank	Soluble	Solid	300.0	41257
LCS 880-41257/2-A	Lab Control Sample	Soluble	Solid	300.0	41257
LCSD 880-41257/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41257

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

HPLC/IC (Continued)

Analysis Batch: 41535 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3580-4 MS	SW03	Soluble	Solid	300.0	41257
890-3580-4 MSD	SW03	Soluble	Solid	300.0	41257

Lab Chronicle

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: FS01

Lab Sample ID: 890-3580-1
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38

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	41898	12/15/22 10:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41994	12/16/22 17:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42230	12/19/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			41645	12/12/22 12:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.001 g	10 mL	41325	12/08/22 09:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41523	12/12/22 02:58	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 19:45	CH	EET MID

Client Sample ID: SW01

Lab Sample ID: 890-3580-2
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38

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	41898	12/15/22 10:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41994	12/16/22 17:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42230	12/19/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			41645	12/12/22 12:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41325	12/08/22 09:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41523	12/12/22 03:20	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 19:50	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-3580-4
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38

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	42103	12/17/22 17:17	MNR	EET MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	42128	12/21/22 10:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			42230	12/21/22 14:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			41645	12/12/22 12:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41325	12/08/22 09:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41523	12/12/22 03:41	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 19:56	CH	EET MID

Client Sample ID: SW04

Lab Sample ID: 890-3580-5
Matrix: Solid
Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38

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	41898	12/15/22 10:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41994	12/16/22 18:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42230	12/19/22 16:02	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Client Sample ID: SW04

Date Collected: 12/05/22 00:00
Date Received: 12/05/22 16:38

Lab Sample ID: 890-3580-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			41645	12/12/22 12:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41325	12/08/22 09:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41523	12/12/22 04:03	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 20:13	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: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

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: Redhead Fed Com 1H

Job ID: 890-3580-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3580-1	FS01	Solid	12/05/22 00:00	12/05/22 16:38	4
890-3580-2	SW01	Solid	12/05/22 00:00	12/05/22 16:38	0 - 4
890-3580-4	SW03	Solid	12/05/22 00:00	12/05/22 16:38	0 - 4
890-3580-5	SW04	Solid	12/05/22 00:00	12/05/22 16:38	0 - 4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@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:	Redhead Fed com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104		
Project Location:	32.210278, -103.722500	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	Thermo07
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

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

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
FS01	S	12-5-22		4'	C	1		✓	✓	✓	nAPP2230442646
SW01	S	12-5-22		0-4'	C	1		✓	✓	✓	
SW02	S	12-5-22		0-4'	C	1		✓	✓	✓	
SW03	S	12-5-22		0-4'	C	1		✓	✓	✓	
SW04	S	12-5-22		0-4'	C	1		✓	✓	✓	

890-3580 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

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		12-5-22 1638			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3580-1
SDG Number: 03D2024104

Login Number: 3580
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	
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: 890-3580-1
SDG Number: 03D2024104

Login Number: 3580
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/07/22 11:05 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

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/16/2023 11:27:32 AM Revision 1

JOB DESCRIPTION

Redhead Fed Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3586-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

Eurofins Carlsbad

Job Notes

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

Authorization

Generated
1/16/2023 11:27:32 AM
Revision 1

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

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Laboratory Job ID: 890-3586-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
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: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Job ID: 890-3586-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3586-1

Revision
The report being provided is a revision of the original report sent on 12/19/2022. The report (revision 1) is being revised due to: Per client email, requesting rush chloride re run on samples FS02 and FS03.

Receipt
The samples were received on 12/6/2022 4:00 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 was 3.4º C.

Receipt Exceptions
The following samples analyzed were received and analyzed from an unpreserved bulk soil jar: SW05 (890-3586-1), FS02 (890-3586-2), FS03 (890-3586-3), FS04 (890-3586-4), FS05 (890-3586-5) and FS06 (890-3586-6).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41938 and analytical batch 880-41993 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.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-41993 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were ran within 12 hours of passing CCV; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW05 (890-3586-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015B NM: The surrogate recovery for the blank associated with preparation batch 880-41383 and analytical batch 880-41511 was outside the upper control limits.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-41511/5). Evidence of matrix interferences is not obvious.

Method 8015B NM: The surrogate recovery for the blank associated with preparation batch 880-41382 and analytical batch 880-41511 was outside the upper control limits.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-41511/47). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-41511/31). Evidence of matrix interferences is not obvious.

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-41511/58). Evidence of matrix interferences is not obvious.

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

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

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

Case Narrative

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Job ID: 890-3586-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: SW05

Date Collected: 12/06/22 11:40
Date Received: 12/06/22 16:00
Sample Depth: 0 - 4

Lab Sample ID: 890-3586-1
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		12/15/22 14:55	12/17/22 01:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 01:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 01:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/15/22 14:55	12/17/22 01:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 01:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/15/22 14:55	12/17/22 01:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*54*	*S1-*	*70 - 130*	*12/15/22 14:55*	*12/17/22 01:12*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/15/22 14:55*	*12/17/22 01:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/12/22 10:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/08/22 14:16*	*12/11/22 03:24*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/08/22 14:16*	*12/11/22 03:24*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**913**		4.95		mg/Kg			12/11/22 20:41	1

Client Sample ID: FS02

Date Collected: 12/06/22 12:15
Date Received: 12/06/22 16:00
Sample Depth: 4

Lab Sample ID: 890-3586-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 01:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 01:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 01:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 01:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 01:32	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*12/15/22 14:55*	*12/17/22 01:32*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: FS02

Date Collected: 12/06/22 12:15
Date Received: 12/06/22 16:00
Sample Depth: 4

Lab Sample ID: 890-3586-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/15/22 14:55*	*12/17/22 01:32*	*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			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/22 10:03	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		12/08/22 14:16	12/11/22 03:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/08/22 14:16	12/11/22 03:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/08/22 14:16	12/11/22 03:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*12/08/22 14:16*	*12/11/22 03:44*	*1*
o-Terphenyl	*114*		*70 - 130*	*12/08/22 14:16*	*12/11/22 03:44*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.6**	**H**	5.02	mg/Kg			01/12/23 18:03	1

Client Sample ID: FS03

Date Collected: 12/06/22 12:10
Date Received: 12/06/22 16:00
Sample Depth: 4

Lab Sample ID: 890-3586-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/15/22 14:55	12/17/22 02:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/15/22 14:55	12/17/22 02:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/15/22 14:55	12/17/22 02:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/15/22 14:55	12/17/22 02:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/15/22 14:55	12/17/22 02:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/15/22 14:55	12/17/22 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*12/15/22 14:55*	*12/17/22 02:56*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*12/15/22 14:55*	*12/17/22 02:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/22 10:03	1

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: FS03

Lab Sample ID: 890-3586-3
Matrix: Solid
Date Collected: 12/06/22 12:10
Date Received: 12/06/22 16:00
Sample Depth: 4

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		12/08/22 14:16	12/11/22 04:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 04:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 04:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:04*	*1*
o-Terphenyl	*122*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:04*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**209**	**H**	4.97		mg/Kg			01/12/23 18:08	1

Client Sample ID: FS04

Lab Sample ID: 890-3586-4
Matrix: Solid
Date Collected: 12/06/22 13:00
Date Received: 12/06/22 16:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 03:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 03:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 03:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/15/22 14:55	12/17/22 03:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 03:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/15/22 14:55	12/17/22 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:17*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/12/22 10:03	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		12/08/22 14:16	12/11/22 04:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 04:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 04:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:25*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: FS04

Lab Sample ID: 890-3586-4
Matrix: Solid
Date Collected: 12/06/22 13:00
Date Received: 12/06/22 16:00
Sample Depth: 4

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	515		4.99		mg/Kg			12/11/22 20:58	1

Client Sample ID: FS05

Lab Sample ID: 890-3586-5
Matrix: Solid
Date Collected: 12/06/22 13:05
Date Received: 12/06/22 16:00
Sample Depth: 4

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		12/15/22 14:55	12/17/22 03:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 03:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 03:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 03:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 03:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:38*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:38*	*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			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/12/22 10:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 04:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 04:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 04:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:45*	*1*
o-Terphenyl	*123*		*70 - 130*	*12/08/22 14:16*	*12/11/22 04:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	546		4.95		mg/Kg			12/11/22 21:04	1

Client Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: FS06
Date Collected: 12/06/22 13:10
Date Received: 12/06/22 16:00
Sample Depth: 4

Lab Sample ID: 890-3586-6
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		12/15/22 14:55	12/17/22 03:58	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 03:58	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 03:58	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/15/22 14:55	12/17/22 03:58	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/15/22 14:55	12/17/22 03:58	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/15/22 14:55	12/17/22 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:58*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*12/15/22 14:55*	*12/17/22 03:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/12/22 10:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 14:20	12/10/22 18:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 14:20	12/10/22 18:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 14:20	12/10/22 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*12/08/22 14:20*	*12/10/22 18:35*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/08/22 14:20*	*12/10/22 18:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**499**		4.96		mg/Kg			12/11/22 21:09	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-22323-A-21-E MS	Matrix Spike	89	100
880-22323-A-21-F MSD	Matrix Spike Duplicate	106	94
890-3586-1	SW05	54 S1-	104
890-3586-2	FS02	111	104
890-3586-3	FS03	107	92
890-3586-4	FS04	128	94
890-3586-5	FS05	117	101
890-3586-6	FS06	118	97
LCS 880-41938/1-A	Lab Control Sample	96	99
LCSD 880-41938/2-A	Lab Control Sample Dup	90	97
MB 880-41899/5-A	Method Blank	102	87
MB 880-41938/5-A	Method Blank	92	93

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)
820-6683-A-1-E MS	Matrix Spike	110	102
820-6683-A-1-F MSD	Matrix Spike Duplicate	106	99
880-22328-A-21-C MS	Matrix Spike	99	95
880-22328-A-21-D MSD	Matrix Spike Duplicate	109	103
890-3586-1	SW05	103	116
890-3586-2	FS02	102	114
890-3586-3	FS03	113	122
890-3586-4	FS04	103	115
890-3586-5	FS05	110	123
890-3586-6	FS06	101	115
LCS 880-41382/2-A	Lab Control Sample	99	106
LCS 880-41383/2-A	Lab Control Sample	111	116
LCSD 880-41382/3-A	Lab Control Sample Dup	93	101
LCSD 880-41383/3-A	Lab Control Sample Dup	110	114
MB 880-41382/1-A	Method Blank	121	178 S1+
MB 880-41383/1-A	Method Blank	127	185 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41899/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41899

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 10:18	12/16/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*12/15/22 10:18*	*12/16/22 10:53*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*12/15/22 10:18*	*12/16/22 10:53*	*1*

Lab Sample ID: MB 880-41938/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41938

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*

Lab Sample ID: LCS 880-41938/1-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41938

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09576		mg/Kg		96	70 - 130		
Toluene			0.100	0.08860		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.08429		mg/Kg		84	70 - 130		
m-Xylene & p-Xylene			0.200	0.1814		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09253		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-41938/2-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41938

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09194		mg/Kg		92	70 - 130	4	35

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

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

Lab Sample ID: LCSD 880-41938/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08473		mg/Kg		85	70 - 130	4	35
Ethylbenzene			0.100	0.07875		mg/Kg		79	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1684		mg/Kg		84	70 - 130	7	35
o-Xylene			0.100	0.08556		mg/Kg		86	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-22323-A-21-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0998	0.06182	F1	mg/Kg		62	70 - 130
Toluene	<0.00200	U F1	0.0998	0.05097	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00200	U F1	0.0998	0.04186	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.08464	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.04276	F1	mg/Kg		43	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-22323-A-21-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.04526	F1	mg/Kg		46	70 - 130	31	35
Toluene	<0.00200	U F1	0.0990	0.04195	F1	mg/Kg		42	70 - 130	19	35
Ethylbenzene	<0.00200	U F1	0.0990	0.04018	F1	mg/Kg		41	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U F1	0.198	0.08291	F1	mg/Kg		42	70 - 130	2	35
o-Xylene	<0.00200	U F1	0.0990	0.04209	F1	mg/Kg		43	70 - 130	2	35

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

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

Lab Sample ID: MB 880-41382/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41511 — **Prep Batch: 41382**

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		12/08/22 14:16	12/10/22 20:16	1

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-41382/1-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41382

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		12/08/22 14:16	12/10/22 20:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/10/22 20:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*12/08/22 14:16*	*12/10/22 20:16*	*1*
o-Terphenyl	*178*	*S1+*	*70 - 130*	*12/08/22 14:16*	*12/10/22 20:16*	*1*

Lab Sample ID: LCS 880-41382/2-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41382

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	883.9		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	977.6		mg/Kg		98	70 - 130		

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

Lab Sample ID: LCSD 880-41382/3-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41382

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	853.2		mg/Kg		85	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	945.4		mg/Kg		95	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Lab Sample ID: 880-22328-A-21-C MS
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	880.6		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	891.9		mg/Kg		89	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

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

Lab Sample ID: 880-22328-A-21-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41511 — **Prep Batch: 41382**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	986.1		mg/Kg		96	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	940.5		mg/Kg		94	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: MB 880-41383/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41511 — **Prep Batch: 41383**

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		12/08/22 14:20	12/10/22 09:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:20	12/10/22 09:21	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:20	12/10/22 09:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*12/08/22 14:20*	*12/10/22 09:21*	*1*
o-Terphenyl	*185*	*S1+*	*70 - 130*	*12/08/22 14:20*	*12/10/22 09:21*	*1*

Lab Sample ID: LCS 880-41383/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41511 — **Prep Batch: 41383**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	972.8		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1081		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

Lab Sample ID: LCSD 880-41383/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41511 — **Prep Batch: 41383**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	993.9		mg/Kg		99	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1099		mg/Kg		110	70 - 130	2	20

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

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

Lab Sample ID: LCSD 880-41383/3-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41383

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 820-6683-A-1-E MS
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1070		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	956.3		mg/Kg		96	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 820-6683-A-1-F MSD
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	990.1		mg/Kg		99	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	916.3		mg/Kg		92	70 - 130	4	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41257/1-A
Matrix: Solid
Analysis Batch: 41535

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			12/11/22 18:20	1

Lab Sample ID: LCS 880-41257/2-A
Matrix: Solid
Analysis Batch: 41535

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

QC Sample Results

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-41257/3-A
Matrix: Solid
Analysis Batch: 41535

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.5		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3580-A-4-D MS
Matrix: Solid
Analysis Batch: 41535

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	22.1		252	286.9		mg/Kg		105	90 - 110		

Lab Sample ID: 890-3580-A-4-E MSD
Matrix: Solid
Analysis Batch: 41535

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	22.1		252	284.7		mg/Kg		104	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	5035	
890-3586-2	FS02	Total/NA	Solid	5035	
890-3586-3	FS03	Total/NA	Solid	5035	
890-3586-4	FS04	Total/NA	Solid	5035	
890-3586-5	FS05	Total/NA	Solid	5035	
890-3586-6	FS06	Total/NA	Solid	5035	
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	8021B	41938
890-3586-2	FS02	Total/NA	Solid	8021B	41938
890-3586-3	FS03	Total/NA	Solid	8021B	41938
890-3586-4	FS04	Total/NA	Solid	8021B	41938
890-3586-5	FS05	Total/NA	Solid	8021B	41938
890-3586-6	FS06	Total/NA	Solid	8021B	41938
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	8021B	41938
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41938
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	41938
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41938

Analysis Batch: 42242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	Total BTEX	
890-3586-2	FS02	Total/NA	Solid	Total BTEX	
890-3586-3	FS03	Total/NA	Solid	Total BTEX	
890-3586-4	FS04	Total/NA	Solid	Total BTEX	
890-3586-5	FS05	Total/NA	Solid	Total BTEX	
890-3586-6	FS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	8015NM Prep	
890-3586-2	FS02	Total/NA	Solid	8015NM Prep	
890-3586-3	FS03	Total/NA	Solid	8015NM Prep	
890-3586-4	FS04	Total/NA	Solid	8015NM Prep	
890-3586-5	FS05	Total/NA	Solid	8015NM Prep	
MB 880-41382/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41382/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

GC Semi VOA (Continued)

Prep Batch: 41382 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-41382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22328-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22328-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 41383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-6	FS06	Total/NA	Solid	8015NM Prep	
MB 880-41383/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41383/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-6683-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
820-6683-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	8015B NM	41382
890-3586-2	FS02	Total/NA	Solid	8015B NM	41382
890-3586-3	FS03	Total/NA	Solid	8015B NM	41382
890-3586-4	FS04	Total/NA	Solid	8015B NM	41382
890-3586-5	FS05	Total/NA	Solid	8015B NM	41382
890-3586-6	FS06	Total/NA	Solid	8015B NM	41383
MB 880-41382/1-A	Method Blank	Total/NA	Solid	8015B NM	41382
MB 880-41383/1-A	Method Blank	Total/NA	Solid	8015B NM	41383
LCS 880-41382/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41382
LCS 880-41383/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41383
LCSD 880-41382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41382
LCSD 880-41383/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41383
820-6683-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41383
820-6683-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41383
880-22328-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41382
880-22328-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41382

Analysis Batch: 41601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Total/NA	Solid	8015 NM	
890-3586-2	FS02	Total/NA	Solid	8015 NM	
890-3586-3	FS03	Total/NA	Solid	8015 NM	
890-3586-4	FS04	Total/NA	Solid	8015 NM	
890-3586-5	FS05	Total/NA	Solid	8015 NM	
890-3586-6	FS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Soluble	Solid	DI Leach	
890-3586-2	FS02	Soluble	Solid	DI Leach	
890-3586-3	FS03	Soluble	Solid	DI Leach	
890-3586-4	FS04	Soluble	Solid	DI Leach	
890-3586-5	FS05	Soluble	Solid	DI Leach	
890-3586-6	FS06	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 41257 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41257/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41257/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41257/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3580-A-4-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3580-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-1	SW05	Soluble	Solid	300.0	41257
890-3586-4	FS04	Soluble	Solid	300.0	41257
890-3586-5	FS05	Soluble	Solid	300.0	41257
890-3586-6	FS06	Soluble	Solid	300.0	41257
MB 880-41257/1-A	Method Blank	Soluble	Solid	300.0	41257
LCS 880-41257/2-A	Lab Control Sample	Soluble	Solid	300.0	41257
LCSD 880-41257/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41257
890-3580-A-4-D MS	Matrix Spike	Soluble	Solid	300.0	41257
890-3580-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41257

Analysis Batch: 43805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3586-2	FS02	Soluble	Solid	300.0	41257
890-3586-3	FS03	Soluble	Solid	300.0	41257

Lab Chronicle

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: SW05
Date Collected: 12/06/22 11:40
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 01:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 03:24	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 20:41	CH	EET MID

Client Sample ID: FS02
Date Collected: 12/06/22 12:15
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-2
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			5.01 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 01:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 03:44	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43805	01/12/23 18:03	CH	EET MID

Client Sample ID: FS03
Date Collected: 12/06/22 12:10
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 02:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 04:04	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			43805	01/12/23 18:08	CH	EET MID

Client Sample ID: FS04
Date Collected: 12/06/22 13:00
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 03:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Client Sample ID: FS04
Date Collected: 12/06/22 13:00
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-4
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			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 04:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 20:58	CH	EET MID

Client Sample ID: FS05
Date Collected: 12/06/22 13:05
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-5
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			5.01 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 03:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 04:45	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 21:04	CH	EET MID

Client Sample ID: FS06
Date Collected: 12/06/22 13:10
Date Received: 12/06/22 16:00

Lab Sample ID: 890-3586-6
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			4.97 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 03:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42242	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41601	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41383	12/08/22 14:20	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/10/22 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	41257	12/07/22 10:36	KS	EET MID
Soluble	Analysis	300.0		1			41535	12/11/22 21:09	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: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

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: Redhead Fed Com 1H

Job ID: 890-3586-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3586-1	SW05	Solid	12/06/22 11:40	12/06/22 16:00	0 - 4
890-3586-2	FS02	Solid	12/06/22 12:15	12/06/22 16:00	4
890-3586-3	FS03	Solid	12/06/22 12:10	12/06/22 16:00	4
890-3586-4	FS04	Solid	12/06/22 13:00	12/06/22 16:00	4
890-3586-5	FS05	Solid	12/06/22 13:05	12/06/22 16:00	4
890-3586-6	FS06	Solid	12/06/22 13:10	12/06/22 16:00	4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@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:	Redhead Fed com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	DSD2024104	Due Date:	
Project Location:	32.210278, -103.72500	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	NM008
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.6
Total Containers:		Corrected Temperature:	3.4

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SW05	S	12-6-22	1140	0-4'	C	1		✓	✓	✓	nAPP2304942646
FS02	S	12-6-22	1215	4'	C	1		✓	✓	✓	
FS03	S	12-6-22	1210	4'	C	1		✓	✓	✓	
FS04	S	12-6-22	1300	4'	C	1		✓	✓	✓	
FS05	S	12-6-22	1305	4'	C	1		✓	✓	✓	
FS06	S	12-6-22	1310	4'	C	1		✓	✓	✓	

890-3586 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		12-6-22 1600	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3586-1
SDG Number: 03D2024104

Login Number: 3586
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: 890-3586-1
SDG Number: 03D2024104

Login Number: 3586
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/08/22 11:44 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

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/12/2023 4:02:51 PM

JOB DESCRIPTION

Redhead 31 fed
SDG NUMBER Lea County NM

JOB NUMBER

890-3785-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

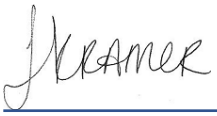
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Redhead 31 fed

Laboratory Job ID: 890-3785-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

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
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.

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: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Job ID: 890-3785-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3785-1

Receipt
The sample was received on 1/10/2023 9:05 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW05A (890-3785-1).

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 880-43699 and analytical batch 880-43692 was outside the upper control limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43716 and analytical batch 880-43752 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: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Client Sample ID: SW05A

Date Collected: 01/09/23 15:05
Date Received: 01/10/23 09:05
Sample Depth: 0 - 4

Lab Sample ID: 890-3785-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/10/23 15:19	01/11/23 12:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/10/23 15:19	01/11/23 12:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/10/23 15:19	01/11/23 12:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/10/23 15:19	01/11/23 12:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/10/23 15:19	01/11/23 12:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/10/23 15:19	01/11/23 12:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*01/10/23 15:19*	*01/11/23 12:26*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*01/10/23 15:19*	*01/11/23 12:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/11/23 13:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/11/23 17:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/11/23 08:24	01/11/23 13:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/11/23 08:24	01/11/23 13:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/11/23 08:24	01/11/23 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*01/11/23 08:24*	*01/11/23 13:54*	*1*
o-Terphenyl	*103*		*70 - 130*	*01/11/23 08:24*	*01/11/23 13:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		4.97		mg/Kg			01/12/23 10:21	1

Surrogate Summary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3776-A-1-C MS	Matrix Spike	99	98
890-3776-A-1-D MSD	Matrix Spike Duplicate	91	101
890-3785-1	SW05A	102	91
LCS 880-43675/1-A	Lab Control Sample	89	104
LCSD 880-43675/2-A	Lab Control Sample Dup	92	101
MB 880-43675/5-A	Method Blank	86	94

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3772-A-1-F MS	Matrix Spike	104	96
890-3772-A-1-G MSD	Matrix Spike Duplicate	107	98
890-3785-1	SW05A	109	103
LCS 880-43699/2-A	Lab Control Sample	105	100
LCSD 880-43699/3-A	Lab Control Sample Dup	120	109
MB 880-43699/1-A	Method Blank	164 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43675/5-A
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43675

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/10/23 15:19	01/11/23 11:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/10/23 15:19	01/11/23 11:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/10/23 15:19	01/11/23 11:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/10/23 15:19	01/11/23 11:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/10/23 15:19	01/11/23 11:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/10/23 15:19	01/11/23 11:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*01/10/23 15:19*	*01/11/23 11:10*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*01/10/23 15:19*	*01/11/23 11:10*	*1*

Lab Sample ID: LCS 880-43675/1-A
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43675

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1055		mg/Kg		106	70 - 130		
Toluene			0.100	0.1010		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.08629		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			0.200	0.1771		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.1024		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-43675/2-A
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43675

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09843		mg/Kg		98	70 - 130	7	35
Toluene			0.100	0.09734		mg/Kg		97	70 - 130	4	35
Ethylbenzene			0.100	0.08392		mg/Kg		84	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1750		mg/Kg		88	70 - 130	1	35
o-Xylene			0.100	0.09879		mg/Kg		99	70 - 130	4	35

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

Lab Sample ID: 890-3776-A-1-C MS
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43675

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0998	0.09320		mg/Kg		93	70 - 130		
Toluene	<0.00198	U	0.0998	0.09451		mg/Kg		95	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

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

Lab Sample ID: 890-3776-A-1-C MS
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43675

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.0998	0.08225		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1716		mg/Kg		86	70 - 130
o-Xylene	<0.00198	U	0.0998	0.09664		mg/Kg		97	70 - 130

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

Lab Sample ID: 890-3776-A-1-D MSD
Matrix: Solid
Analysis Batch: 43697

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43675

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.09630		mg/Kg		96	70 - 130	3	35
Toluene	<0.00198	U	0.101	0.09074		mg/Kg		90	70 - 130	4	35
Ethylbenzene	<0.00198	U	0.101	0.07746		mg/Kg		77	70 - 130	6	35
m-Xylene & p-Xylene	<0.00396	U	0.202	0.1595		mg/Kg		79	70 - 130	7	35
o-Xylene	<0.00198	U	0.101	0.08869		mg/Kg		88	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-43699/1-A
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43699

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		01/11/23 08:04	01/11/23 08:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/11/23 08:04	01/11/23 08:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/11/23 08:04	01/11/23 08:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*164*	*S1+*	*70 - 130*	*01/11/23 08:04*	*01/11/23 08:18*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*01/11/23 08:04*	*01/11/23 08:18*	*1*

Lab Sample ID: LCS 880-43699/2-A
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43699

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	923.6		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	908.1		mg/Kg		91	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-43699/2-A
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43699

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: LCSD 880-43699/3-A
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43699

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.6		mg/Kg		99	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	999.2		mg/Kg		100	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	120		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: 890-3772-A-1-F MS
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43699

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1094		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1047		mg/Kg		105	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-3772-A-1-G MSD
Matrix: Solid
Analysis Batch: 43692

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43699

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	997	1002		mg/Kg		101	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1085		mg/Kg		109	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43716/1-A
Matrix: Solid
Analysis Batch: 43752

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			01/12/23 07:44	1

Lab Sample ID: LCS 880-43716/2-A
Matrix: Solid
Analysis Batch: 43752

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	226.9		mg/Kg		91	90 - 110		

Lab Sample ID: LCSD 880-43716/3-A
Matrix: Solid
Analysis Batch: 43752

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	248.7		mg/Kg		99	90 - 110	9	20

Lab Sample ID: 880-23565-A-1-F MS
Matrix: Solid
Analysis Batch: 43752

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	137	F1 F2	251	419.4	F1	mg/Kg		112	90 - 110		

Lab Sample ID: 880-23565-A-1-G MSD
Matrix: Solid
Analysis Batch: 43752

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	137	F1 F2	251	338.0	F1 F2	mg/Kg		80	90 - 110	22	20

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

GC VOA

Prep Batch: 43675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	5035	
MB 880-43675/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43675/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43675/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3776-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3776-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	8021B	43675
MB 880-43675/5-A	Method Blank	Total/NA	Solid	8021B	43675
LCS 880-43675/1-A	Lab Control Sample	Total/NA	Solid	8021B	43675
LCSD 880-43675/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43675
890-3776-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	43675
890-3776-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43675

Analysis Batch: 43742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	8015B NM	43699
MB 880-43699/1-A	Method Blank	Total/NA	Solid	8015B NM	43699
LCS 880-43699/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43699
LCSD 880-43699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43699
890-3772-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	43699
890-3772-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43699

Prep Batch: 43699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	8015NM Prep	
MB 880-43699/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43699/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3772-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3772-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Soluble	Solid	DI Leach	
MB 880-43716/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43716/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43716/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 43716 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23565-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-23565-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3785-1	SW05A	Soluble	Solid	300.0	43716
MB 880-43716/1-A	Method Blank	Soluble	Solid	300.0	43716
LCS 880-43716/2-A	Lab Control Sample	Soluble	Solid	300.0	43716
LCSD 880-43716/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43716
880-23565-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	43716
880-23565-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43716

Lab Chronicle

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Client Sample ID: SW05A

Date Collected: 01/09/23 15:05
Date Received: 01/10/23 09:05

Lab Sample ID: 890-3785-1

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			5.03 g	5 mL	43675	01/10/23 15:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43697	01/11/23 12:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43742	01/11/23 13:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			43773	01/11/23 17:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43699	01/11/23 08:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43692	01/11/23 13:54	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	43716	01/11/23 09:58	KS	EET MID
Soluble	Analysis	300.0		1			43752	01/12/23 10:21	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: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redhead 31 fed

Job ID: 890-3785-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3785-1	SW05A	Solid	01/09/23 15:05	01/10/23 09:05	0 - 4

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:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	RedHead 31 Fed	Turn Around	
Project Number:	03D2024104	☐ Routine ☑ Rush	
Project Location:	Lea County, NM	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:	Thm007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.8	
Total Containers:		Corrected Temperature:	2.6	

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: TPH (8015)	Chlorides	BTEX (8021)	Sample Comments
SW05A	S	1.9.23	1505	0-4	C	1		x	x	x	

Incident Number
napp2230442646

1.9.23

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		1-10-23 905	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3785-1
SDG Number: Lea County NM

Login Number: 3785
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: 890-3785-1
SDG Number: Lea County NM

Login Number: 3785
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 01/11/23 11:43 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 11/28/2022)
Date: Wednesday, November 23, 2022 2:33:38 PM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion in the project file.

Many thanks and happy holidays.

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

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, November 23, 2022 1:12 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 11/28/2022)

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

All,

On behalf of ConocoPhillips Company, we respectfully submit notification of sampling to be conducted at the below locations the week of 11/28/2022.

Redhead 31 Fed Com 1H / Incident Number NAPP2230442646
Bandit 15 Federal Com #2 / Incident Number NAPP2231139799
Triste Draw 5 Fed 2H SWD / Incident Number NAPP2229033410
James A Waterflood / Incident Numbers NAB1912758567 and NAB1912759510

Thank you,

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

From: Kalei Jennings
To: Josh Adams
Subject: FW: ConocoPhillips Company- Sampling Notification (Week of 12/05/2022)
Date: Monday, January 16, 2023 7:15:24 PM
Attachments: image001.png
image002.png
image003.png
image004.png

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

From: Kalei Jennings
Sent: Thursday, December 1, 2022 5:01 PM
To: ocd.enviro@emnrd.nm.gov
Subject: ConocoPhillips Company- Sampling Notification (Week of 12/05/2022)

All,

On behalf of ConocoPhillips Company, we respectfully submit notification of sampling to be conducted at the below locations the week of 12/05/2022.

Redhead 31 Federal Com 1H/ NAPP2230442646
Bandit 15 Federal COM #2/ NAPP2231139799
Dominator O Flowline / napp2230729294
James A Waterflood / Incident Numbers NAB1912758567 and NAB1912759510

Thank you,

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

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

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

CONDITIONS

Action 182469

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 182469
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	2/21/2023