

October 30, 2024

#### **New Mexico Oil Conservation Division**

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

Re: Reclamation Report
Harrier 35 Federal Com 001H
Incident Number NAPP2225531487
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared the following *Reclamation Report* for the Harrier 35 Federal Com 001H (Site). The *Reclamation Report* documents the Site history and reclamation activities completed to date.

#### **BACKGROUND**

The Site is located in Unit M, Section 25, Township 25 South, Range 32 East, in Lea County, New Mexico (32.0947°, -103.63701°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 4, 2022, corrosion of a valve created a pinhole leak, resulting in a release of approximately 6.952 barrels (bbls) of produced water onto the surrounding pasture and lease road. Released fluids were unable to be recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on September 4, 2022, and submitted a *Release Notification Form C-141* (Form C-141) on September 12, 2022. The release was assigned Incident Number NAPP2225531487.

Delineation and excavation of impacted soil was completed at the Site between October 2022 and September 2023. Based on the delineation and excavation soil sample analytical results, a *Closure Request* was submitted to the NMOCD on August 20, 2024. The NMOCD approved the *Closure Request* on October 8, 2024. Additional details regarding the release, Site Characterization, delineation and excavation activities, and soil sample analytical results can be referenced in the approved *Closure Request* attached as Appendix A. Remediation of the release was completed in accordance with Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC).

### **RECLAMATION ACTIVITIES**

The excavation area measured approximately 1,400 square feet. A total of approximately 220 cubic yards of impacted soil were removed during the excavation activities. All floor and sidewall confirmation soil samples in the top 4 feet of the excavation were in compliance with the Site Closure Criteria as well as the reclamation requirement to confirm the absence of waste-containing soil in the top 4 feet for

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COG Operating, LLC Reclamation Report Harrier 35 Federal Com 001H

reclamation purposes. Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled, and the area was graded and contoured to match the surrounding topography. The excavation area on the active lease road was backfilled with caliche. The excavation area in the pasture was backfilled with locally procured topsoil, consistent with the surrounding native soil type. The excavation extent and reclamation area are depicted on the attached Figure 1. Photographic documentation is included in Appendix B.

One representative 5-point composite sample (BF01) was collected from the topsoil backfill material. The backfill soil sample was transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): benzene, toluene, ethylbenzene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for the backfill soil sample confirmed compliance with NMOCD requirements for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 milligrams per kilogram (mg/kg) and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized in the attached Table 1 and the complete laboratory analytical report is included as Appendix C.

The disturbed pasture area was seeded on October 23, 2024, with the BLM sandy sites seed mix at double the rate specified in pounds of pure live seed (PLS) per acre to account for the application method.

Species/Cultivar	PLS/Acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

The seed mix was doubled and distributed with a broadcast seed spreader and harrowed in. Photographs of the backfilled excavation and seeding of the reclaimed area are provided in Appendix B.

## **VEGETATION MONITORING**

The Site will be monitored for vegetation growth to verify reclamation activities were successful. The focus for this phase will be to prevent erosion and Site degradation, and to monitor for and treat invasive and noxious weed species.

- Annual inspections will take place at the location to assess revegetation progress until vegetation is consistent with local natural vegetation density.
- If necessary, an additional application of the BLM seed mix will be applied.
- Noxious and invasive weeds will be identified and treated by licensed contracted herbicide applicators or mechanically removed.

A Revegetation Report will be submitted to the NMOCD once vegetation growth in the reclaimed pasture area has uniform vegetative cover that reflects a life-form ratio of plus or minus 50 percent (%) of predisturbance levels and a total percent plant cover of at least 70% of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.29.13 D.(3).



COG Operating, LLC Reclamation Report Harrier 35 Federal Com 001H

# **RECLAMATION APPROVAL REQUEST**

Based on the reclamation activities completed to date and proposed vegetation monitoring plan described above, COG respectfully requests approval of this *Reclamation Report* and a status update to *Reclamation Report Approved, Pending submission of Re-Vegetation Report* for Incident Number NAPP2225531487.

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

Sincerely, **Ensolum**, **LLC** 

Madlie Green Project Geologist Daniel R. Moir, PG (licensed in WY & TX) Senior Managing Geologist

cc: Jacob Laird, ConocoPhillips Company

**Bureau of Land Management** 

# Appendices:

Figure 1 Excavation Extent / Reclamation Area
Table 1 Backfill Soil Sample Analytical Results

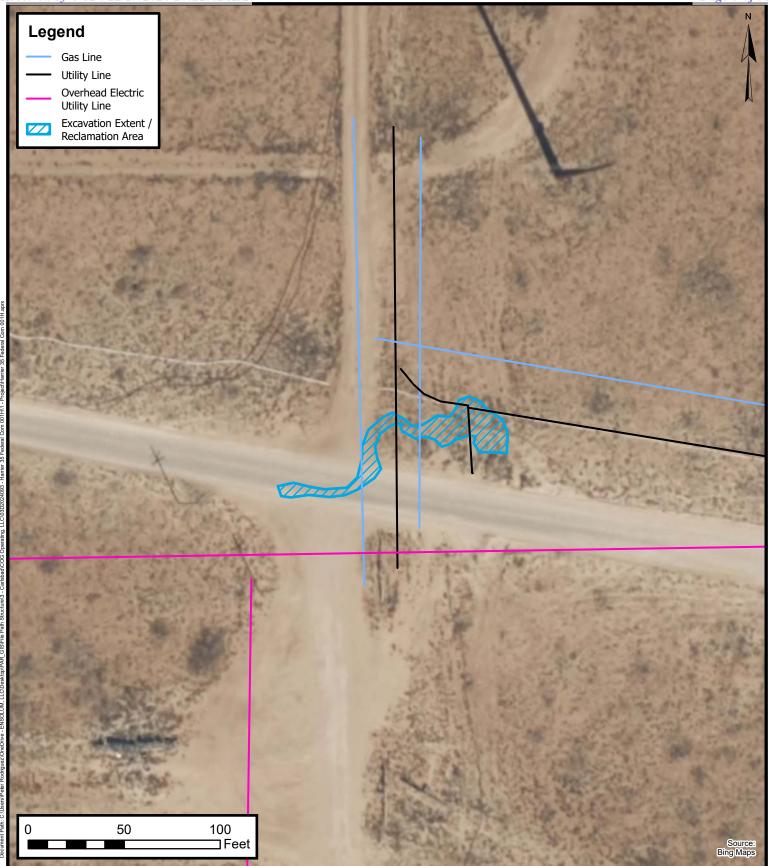
Appendix A August 2024 Closure Request

Appendix B Photographic Log

Appendix C Laboratory Analytical Report & Chain of Custody Documentation



**FIGURES** 





# **Excavation Extent / Reclamation Area**

COG Operating, LLC Harrier 35 Federal Com 001H Incident Number: NAPP2225531487

Unit M, Section 25, T25S, R32E Lea County, New Mexico **FIGURE** 

1



**TABLES** 



# **TABLE 1**

# BACKFILL SOIL SAMPLE ANALYTICAL RESULTS

Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico

	Lea County, New Mexico									
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
Backfill Soil Sample										
BF01	10/24/2024	1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	177

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics DRO: Diesel Range Organics ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon



APPENDIX A

August 2024 Closure Request



August 12, 2024

#### **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

Harrier 35 Federal Com 001H Incident Number NAPP2225531487 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 excavation and soil sampling activities performed at the Harrier 35 Federal Com 001H (Site), in accordance with an approved *Remediation Work Plan (Work Plan)*, submitted June 1, 2023. The *Work Plan* detailed delineation activities that were completed at the Site and proposed installation of a depth to water boring and excavation of impacted soil identified at the Site. Based on excavation activities completed and laboratory analytical results from the soil sampling events and confirmation of depth to groundwater at the Site in accordance with the *Work Plan*, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2225531487.

Details regarding the release, Site characterization, and proposed remediation activities can be referenced in the original *Work Plan* submitted on June 1, 2023. The original *Work Plan* is included as Appendix A. On August 22, 2023, the New Mexico Oil Conservation Division (NMOCD) approved the *Work Plan* with the following conditions:

Conditions of approval are as follows; 1. Exploratory groundwater soil boring should be in relatively close proximity to the point of release. 2. Remediation Due date has been set to November 20, 2023 (90-days) for the appropriate reporting documentation or the final closure report.

### **BACKGROUND**

The Site is located in Unit M, Section 25, Township 25 South, Range 32 East, in Lea County, New Mexico (32.0947°, -103.63701°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 4, 2022, corrosion of a valve created a pinhole leak, resulting in a release of approximately 6.952 barrels (bbls) of produced water onto the surrounding pasture and lease road. Released fluids were unable to be recovered. COG reported the release to the NMOCD via email on September 4, 2022, and submitted a *Release Notification Form C-141* (Form C-141) on September 12, 2022. The release was assigned Incident Number NAPP2225531487.

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COG Operating, LLC Closure Request Harrier 35 Federal Com 001H

#### DEPTH TO GROUNDWATER DETERMINATION

On July 31, 2024, a borehole (BH01) was advanced to a depth of 112 feet below ground surface (bgs) via air rotary drill rig. The borehole was located approximately 0.45 miles southwest of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix B. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. Based on the confirmed depth to water greater than 100 feet bgs, the Table I Closure Criteria identified in the *Work Plan* are applicable and appropriate for protection of groundwater at this Site.

#### **EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS**

On September 20 and 21, 2023, Ensolum personnel oversaw excavation activities based on field screening activities and laboratory analytical results from delineation activities. Excavation activities were performed via track-hoe, hydrovac, and transport vehicles. To direct excavation activities, soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The excavation was completed to depths ranging from 2 feet to 4 feet bgs. Photographic documentation is included in Appendix C.

Following soil removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS07 were collected from the floor of the excavation at depths ranging from 2 feet to 4 feet bgs. Composite soil samples SW01 through SW05 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The excavation extent and excavation soil sample locations are presented on Figure 2.

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): benzene, toluene, ethylbenzene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

The excavation measured approximately 1,400 square feet in aerial extent. A total of approximately 220 cubic yards of impacted soil was removed during the excavation activities. The soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. The excavation was backfilled with material purchased locally and recontoured to match pre-existing site conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.

Laboratory analytical results for all excavation samples (FS01 through FS07 and SW01 through SW05) indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement, where applicable. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

COG Operating, LLC Closure Request Harrier 35 Federal Com 001H

# **CLOSURE REQUEST**

Excavation activities were conducted at the Site to address impacts to soil resulting from the September 2022 release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. A soil boring installed within 0.45 miles of the Site confirmed depth to groundwater greater than 100 feet bgs; therefore, the Site-specific Closure Criteria presented in the original *Work Plan* was correctly applied. Based on excavation of impacted soil to below the confirmed Site Closure Criteria, COG respectfully requests closure for Incident Number NAPP2225531487.

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

Sincerely, **Ensolum, LLC** 

Hadlie Green

**Project Geologist** 

Daniel R. Moir, PG (licensed in WY & TX)

Senior Managing Geologist

cc: Jacob Laird, COG Operating, LLC

Bureau of Land Management

# Appendices:

Figure 1 Site Receptor Map

Figure 2 Excavation Soil Sample Locations
Table 1 Soil Sample Analytical Results

Appendix A Remediation Work Plan, June 1, 2023

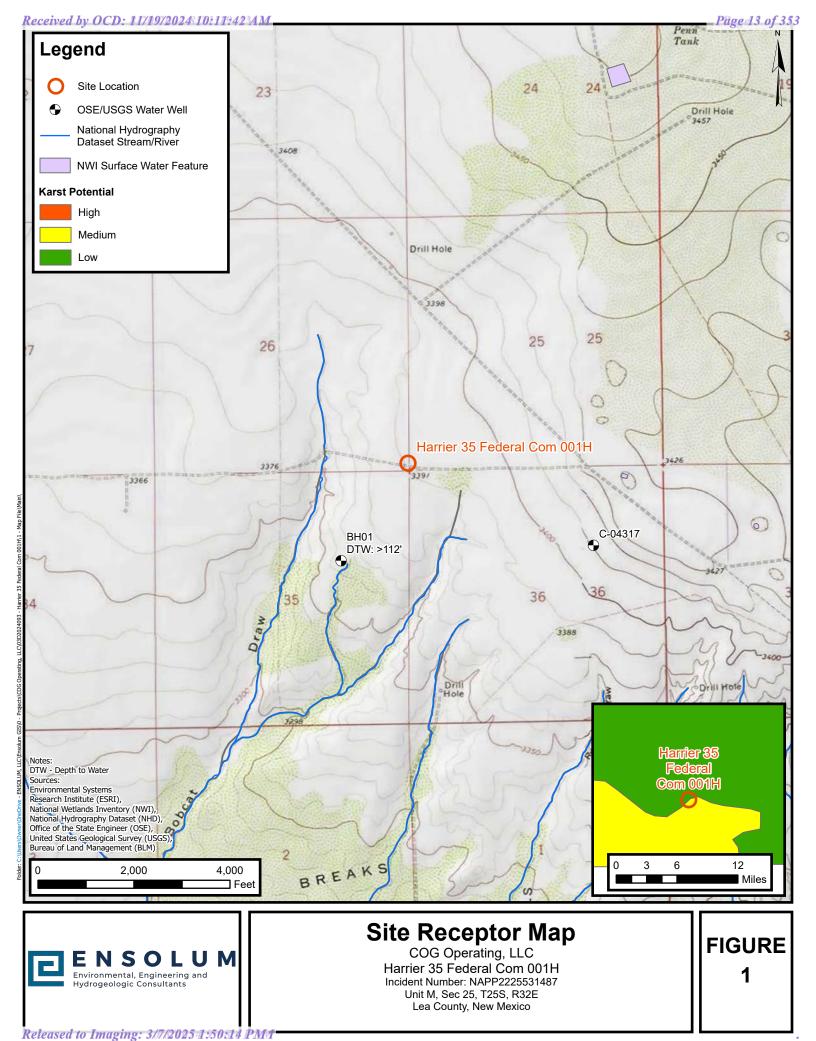
Appendix B Lithologic Soil Sampling Log

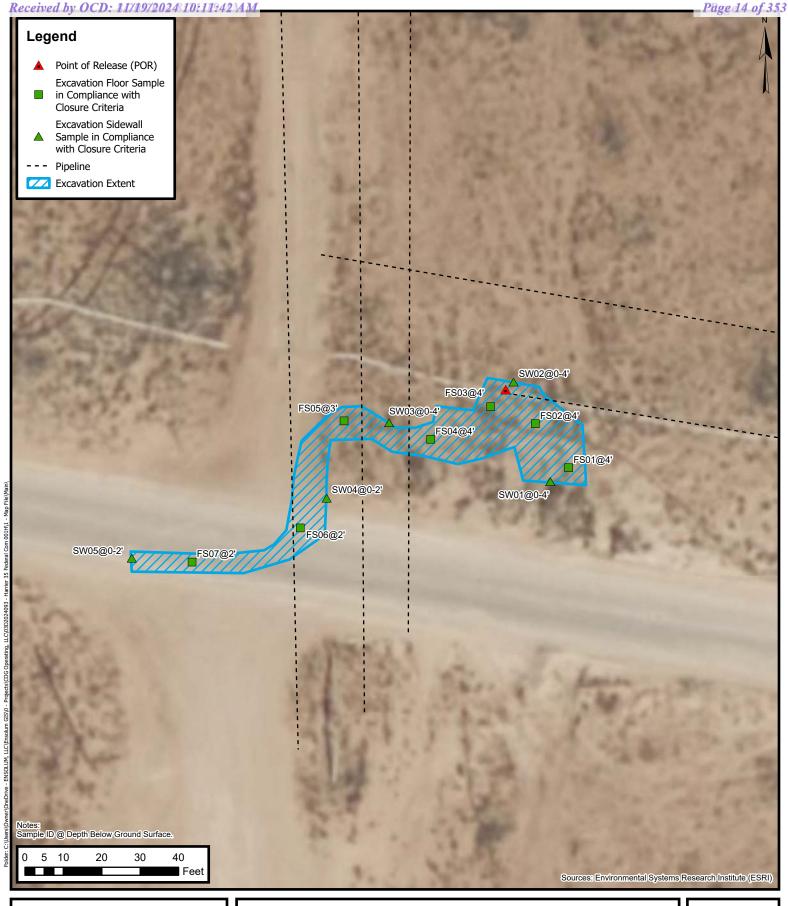
Appendix C Photographic Log

Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation



**FIGURES** 







# **Excavation Soil Sample Locations**

COG Operating, LLC
Harrier 35 Federal Com 001H
Incident Number: NAPP2225531487
Unit M, Sec 25, T25S, R32E
Lea County, New Mexico

FIGURE 2



**TABLES** 



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico

Sample I.D.	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 C	Closure Criteria (	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Asse	ssment Soil Sa	mples	<u> </u>	<u> </u>		
SS01*	10/04/2022	0.5	<0.00200	< 0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	28,000
SS02*	10/04/2022	0.5	<0.00198	< 0.00396	<49.9	210	199	210	409	10,300
SS03*	10/04/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	15,700
SS04*	10/04/2022	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	8,500
SS05*	10/04/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	30.9
SS06*	10/04/2022	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	20.3
SS07*	10/04/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	20.2
SS08*	10/04/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	39.7
				Delir	neation Soil Sai	nples				
PH01	01/19/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,400
PH01A	01/19/2023	6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	162
PH02*	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	93.9
PH02A*	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	54.9
PH02B	01/19/2023	6	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	18.6
PH03*	01/19/2023	1	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	<5.02
PH03A*	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	77.6
PH03B	01/19/2023	6	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	50.0
PH04*	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	77.1
PH04A*	01/19/2023	3	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	17.1
PH04B	01/19/2023	6	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	16.6
PH05*	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<5.01
PH05A	01/19/2023	3	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	14.0
PH05B	01/19/2023	6	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	18.3
PH06*	01/19/2023	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	<4.96
PH06A*	01/19/2023	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	52.8
PH06B	01/19/2023	6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7.98

Ensolum 1 of 2



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico

Sample I.D.	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 C	losure Criteria (	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
PH07*	01/19/2023	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	21.6
PH07A*	01/19/2023	3	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	112
PH07B	01/19/2023	6	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	8.03
PH08*	01/19/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	<5.05
PH08A*	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	32.5
PH08B	01/19/2023	6	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	105
				Excava	tion Floor Soil	Samples				
FS01	09/21/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	2,610
FS02	09/21/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	167
FS03	09/21/2023	4	<0.00200	<0.00399	<50.2	<50.2	<50.2	<50.2	<50.2	4,450
FS04	09/21/2023	4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	255
FS05*	09/21/2023	3	<0.00201	<0.00402	<50.2	<50.2	<50.2	<50.2	<50.2	177
FS06*	09/21/2023	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	193
FS07*	09/21/2023	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	182
				Excavati	on Sidewall So	il Samples				
SW01*	09/21/2023	0 - 4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	193
SW02*	09/21/2023	0 - 4	<0.00200	<0.00399	<50.5	<50.5	<50.5	<50.5	<50.5	184
SW03*	09/21/2023	0 - 4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	185
SW04*	09/21/2023	0 - 2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	173
SW05*	09/21/2023	0 - 2	<0.00202	<0.00404	<49.6	<49.6	<49.6	<49.6	<49.6	164

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Cod

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

<sup>\*</sup> indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet for TPH is 100 mg/kg and chloride 600 mg/kg.

Grey text represents sample that has been excavated.



**APPENDIX A** 

Remediation Work Plan, June 1, 2023



May 25, 2023

#### **New Mexico Oil Conservation Division**

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

Re: Remediation Work Plan Addendum Harrier 35 Federal Com 001H Incident Number NAPP2225531487 Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Work Plan Addendum* (Addendum) to document the delineation activities completed at the Harrier 35 Federal Com 001H (Site). The purpose of the delineation activities was to determine the full lateral and vertical extent of impacted soil resulting from the September 4, 2022, produced water release at the Site. The delineation activites were completed as outlined in the original *Remediation Workplan* (*Workplan*), dated December 2, 2023. The New Mexico Oil Conservation Division (NMOCD) approved the *Workplan* on January 5, 2023, with the following conditions:

• The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.

The following *Addendum* documents the delineation activities that were completed at the Site as outlined in the approved *Workplan*, and proposes installation of a depth to water boring and excavation of the impacted soil identified at the Site.

### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 25, Township 25 South, Range 32 East, in Lea County, New Mexico (32.0947°, -103.63701°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 4, 2022, corrosion of a valve created a pinhole leak, resulting in a release of approximately 6.952 barrels (bbls) of produced water onto the surrounding pasture and lease road. Released fluids were unable to be recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on September 4, 2022, and submitted a *Release Notification Form C-141* (Form C-141) on September 12, 2022. The release was assigned Incident Number NAPP2225531487.

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants
601 North Marienfeld Street | Midland, TX 79701 | ensolum.com
Texas PG Firm No. 50588 | Texas PE Firm No. F-21843

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## SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized for applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320504103361801, located approximately 1.9 miles southeast of the Site. The groundwater well has a reported depth to groundwater of 232 feet bgs and a total depth of 320 feet bgs. Ground surface elevation at the groundwater well location is 3,403 feet above mean sea level (amsl), which is approximately 6 feet higher in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent palustrine wetland, located approximately 1,340 feet southeast 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 not within a 100-year floodplain or overlying a subsurface mine. The Site is greater than 1,000 feet to a freshwater well or spring. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

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

### **DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS**

Initial Site assessment and soil sampling activities were completed on October 4, 2022. Laboratory analytical results for preliminary assessment soil samples SS01 through SS04, collected within the release extent at a depth of 0.5 feet bgs, indicated that TPH and/or chloride concentrations exceeded the Site Closure Criteria and/or the reclamation requirement. The release extent and preliminary soil sample locations are presented on Figure 2. Additional details regarding the release and initial assessment activities can be referenced in the original *Workplan* dated, dated December 2, 2023.

On January 19, 2023, delineation activities were conducted at the Site to assess the lateral and vertical extent of impacted soil, as outlined in the approved *Workplan*. Potholes PH01 through PH08 were advanced via backhoe within and around the release extent. The potholes were advanced to a depth of 6 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from



COG Operating, LLC Remediation Work Plan Addendum Harrier 35 Federal Com 001H

Page 3

1-foot to 6 feet bgs. Soil from the potholes was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 3.

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 (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for the delineation soil samples collected from potholes PH02 through PH08, advanced around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Laboratory analytical results and/or field screening results for the delineation soil samples collected from pothole PH01, advanced within the release extent, indicated elevated chloride concentrations in the top four feet; COC concentrations were compliant with the Site Closure Criteria at depths greater than 4 feet. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D. Based on the laboratory analytical results for preliminary assessment samples SS01 through SS04 and delineation samples collected from pothole PH01, excavation activities were warranted.

## PROPOSED REMEDIATION WORKPLAN

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site, COG proposes to advance a soil boring to a depth of 105 feet bgs. The soil boring will be located within 0.5 miles of the Site and a field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the follow up Closure Report.

Following confirmation of depth to groundwater, COG will proceed with excavation of impacted soil to below the reclamation requirement in the top 4 feet and to below the established Site Closure Criteria at depths greater than 4 feet bgs.

- Based on the delineation soil sample analytical results, excavation will be completed in the areas
  around surface samples SS01 through SS04 and pothole PH01. Excavation will proceed laterally
  and vertically until sidewall and floor samples indicate COC concentrations are compliant with
  the reclamation requirement in the top four feet or the Site Closure Criteria at depths greater than
  4 feet bgs. The proposed excavation extent is depicted on Figure 4.
- Confirmation samples will be collected from the floor and sidewalls of the final excavation extent.
  The excavation floor and sidewall samples will be collected at a frequency of every 200 square
  feet. The 5-point composite samples will be collected by placing five equivalent aliquots of soil
  into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The
  excavation samples will be analyzed for BTEX, TPH, and chloride.
- An estimated 400 cubic yards of impacted soil will be excavated from the Site. The excavated soil will be transferred to a New Mexico approved disposal facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.



Due to various Site-specific complications and safety concerns, excavation activities may encounter delays. Portions of the release area are located in a heavily trafficked four-way intersection used by several Operators. There are multiple surface and subsurface utilities running north-south through the lease road that will be exposed during remediation activities. The lease road will have to be temporarily closed and diversion of traffic will be required. The lease road will need to be immediately backfilled once field screening activities indicate that impacted soil has been removed. The pasture area lithology consists mainly of caliche bedrock, slowing down hydrovac and/or hand shoveling activities around the surface and subsurface utilities running within the pasture release extent. There are also overhead electrical lines running perpendicular and parallel to the Site that will minimize access with mechanical equipment.

COG will complete the excavation activities within 90 days of the date of approval for this *Addendum* by the NMOCD. The depth to water soil boring will be completed as soon as possible following approval from the surface landowner, receipt of the NMOSE drilling permit, and scheduling with a driller. COG believes the remediation activities described above are protective of human health, the environment, and groundwater. As such, COG respectfully requests approval of this *Remediation Workplan Addendum*.

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

Sincerely, **Ensolum**, **LLC** 

Hadlie Green

**Project Geologist** 

Aimee Cole

Senior Managing Scientist

Bureau of Land Management

## Appendices:

CC:

Figure 1 Site Receptor Map

Figure 2 Preliminary Soil Sample Locations
Figure 3 Delineation Soil Sample Locations
Figure 4 Proposed Excavation Extent

Jacob Laird, COG Operating, LLC

Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records

Appendix B Photographic Log

Appendix C Lithologic/Soil Sampling Logs

Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation

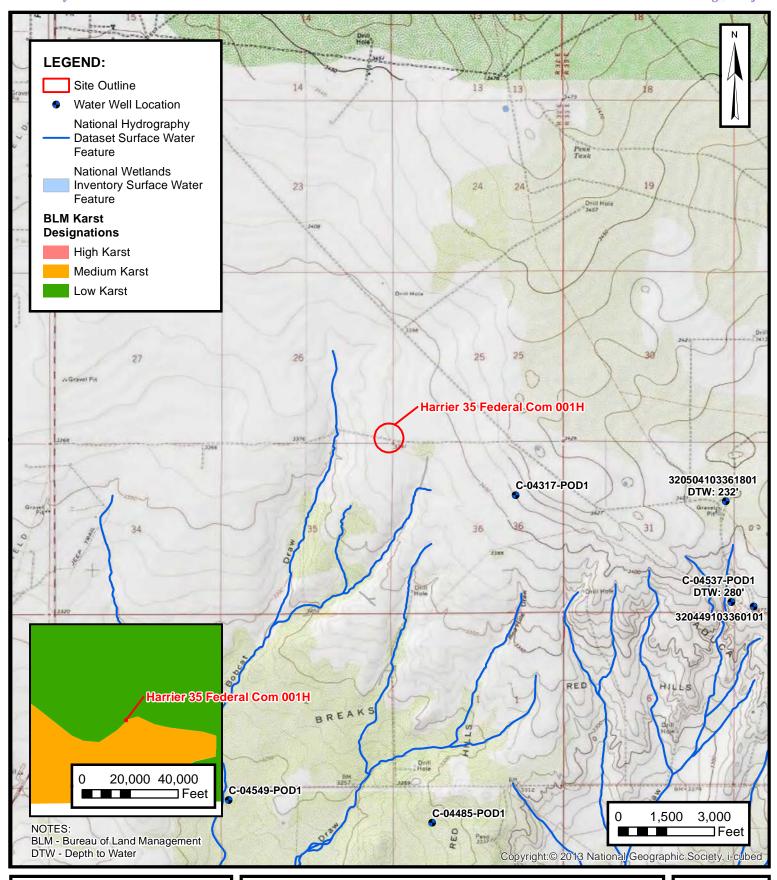
Appendix E Final C-141

Appendix F NMOCD Notifications





**FIGURES** 



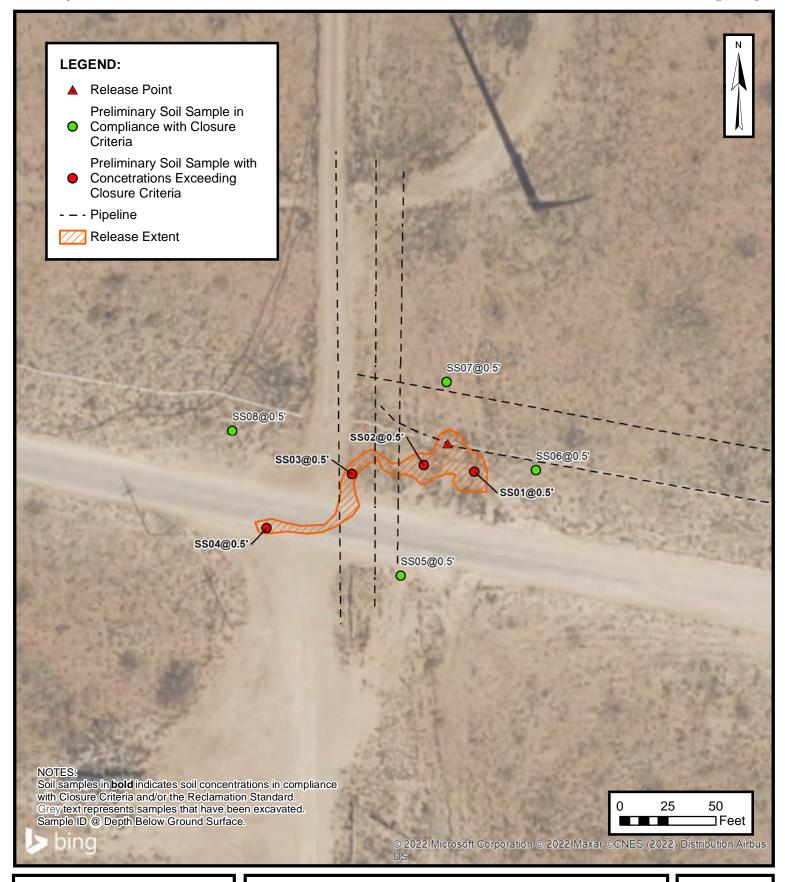


# SITE RECEPTOR MAP

COG OPERATING, LLC HARRIER 35 FEDERAL COM 001H NAPP2225531487

Unit M Sec 25 T25S R32E Lea County, New Mexico FIGURE

Released to Imaging: 3/7/20254 950814 PMM



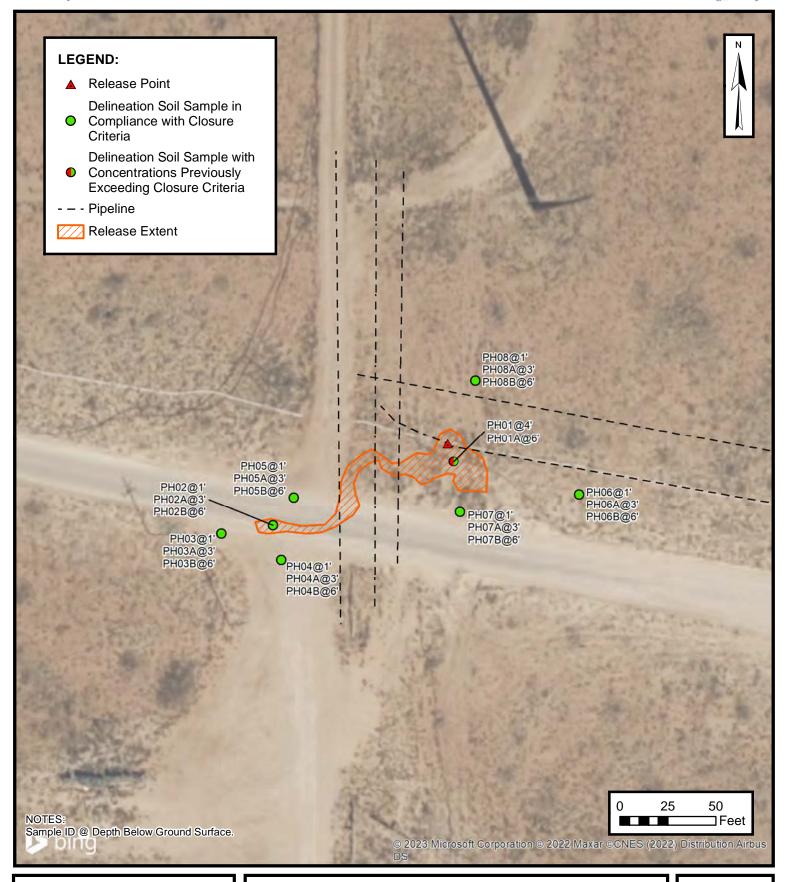


# PRELIMINARY SOIL SAMPLE LOCATIONS

COG OPERATING, LLC
HARRIER 35 FEDERAL COM 001H
NAPP2225531487
Unit M Sec 25 T25S R32E
Lea County, New Mexico

**FIGURE** 

2

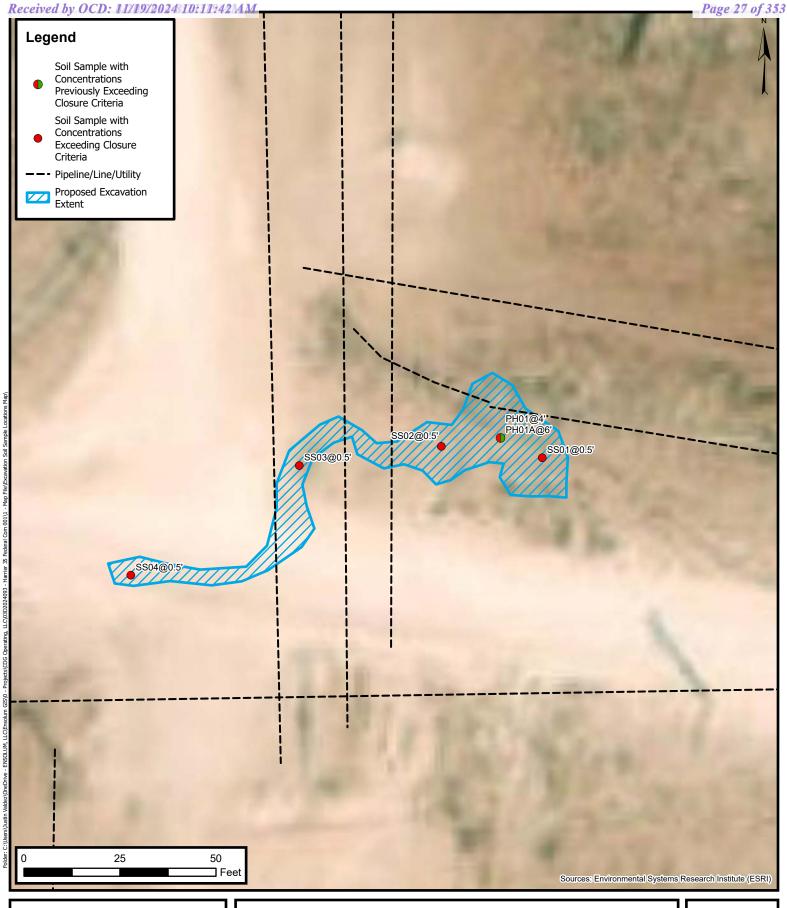




# **DELINEATION SOIL SAMPLE LOCATIONS**

COG OPERATING, LLC HARRIER 35 FEDERAL COM 001H NAPP2225531487 Unit M Sec 25 T25S R32E Lea County, New Mexico **FIGURE** 

3





# **Proposed Excavation Extent**

COG Operating, LLC Harrier 35 Federal Com 001 Incident Number: NAPP2225531487 Unit M Sec 25 T25S R32E Eddy County, New Mexico FIGURE 4

Released to Imaging: 3/7/20254950814 PMMf



**TABLES** 



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico

Sample I.D.	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 C	losure Criteria (l	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Preli	minary Soil Sa	nples				
SS01	10/04/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	28,000*
SS02	10/04/2022	0.5	<0.00198	<0.00396	<49.9	210	199	210	409	10,300*
SS03	10/04/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	15,700*
SS04	10/04/2022	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	8,500*
SS05	10/04/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	30.9*
SS06	10/04/2022	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	20.3*
SS07	10/04/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	20.2*
SS08	10/04/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	39.7*
				Delir	neation Soil Sa	nples				
PH01	01/19/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,400
PH01A	01/19/2023	6	< 0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	162
PH02	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	93.9*
PH02A	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	54.9*
PH02B	01/19/2023	6	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	18.6
PH03	01/19/2023	1	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	<5.02*
PH03A	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	77.6*
PH03B	01/19/2023	6	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	50.0
PH04	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	77.1*
PH04A	01/19/2023	3	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	17.1*
PH04B	01/19/2023	6	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	16.6
PH05	01/19/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<5.01*
PH05A	01/19/2023	3	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	14.0*
PH05B	01/19/2023	6	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	18.3
PH06	01/19/2023	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	<4.96*
PH06A	01/19/2023	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	52.8*
PH06B	01/19/2023	6	< 0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7.98

Ensolum

1 of 2



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico

Sample I.D.	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 Cl	losure Criteria (I	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
PH07	01/19/2023	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	21.6*
PH07A	01/19/2023	3	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	112*
PH07B	01/19/2023	6	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	8.03
PH08	01/19/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	<5.05*
PH08A	01/19/2023	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	32.5*
PH08B	01/19/2023	6	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	105

#### Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Cod

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation

standard where applicable.

GRO: Gasoline Range Organics DRO: Diesel Range Organics ORO: Oil Range Organics TPH: Total Petroleum Hydrocarbon

<sup>\*</sup> indicates soil in the top 4 feet to be reclaimed



**APPENDIX A** 

Referenced Well Records

# U Received by OCD: 11/19/2024 10:11:42 AM E.31.24232

Lea County, New Mexico

Latitude 32°05'21.6", Longitude 103°36'12.7" NAD83 Land-surface elevation 3,403.00 feet above NGVD29

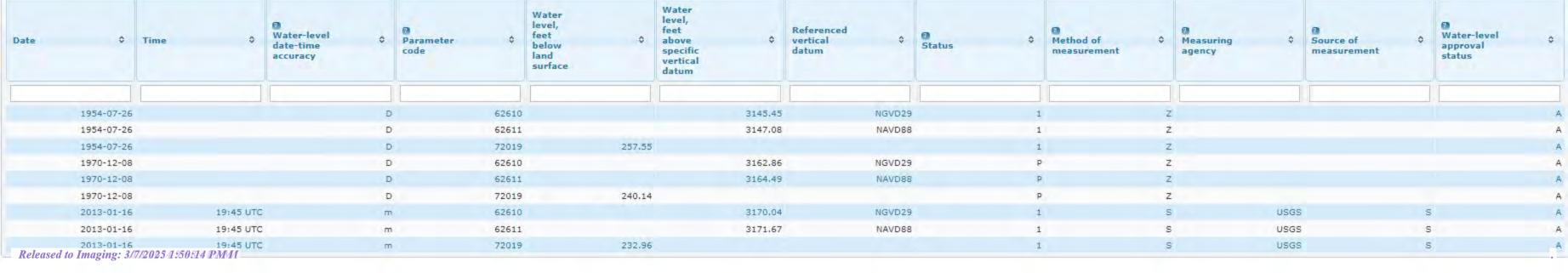
The depth of the well is 320 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Ogallala Formation (1210GLL) local aquifer.

Output formats
output formuts

Table of data	
Tab-separated data	
Graph of data	
Reselect period	



Received by OCD: 11/19/2024 10:11/242MM Mexico Office of the State Engineer

# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

4 31 25S 33E

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number Q64 Q16 Q4 Sec Tws Rng

3550243

Driller License:

20E6C

1706

C 04537 POD1

Driller Company:

ELITE DRILLERS CORPORATION

631847

Driller Name:

WALLACE, BRYCE J.LEE.NER

Drill Start Date:

06/11/2021

Drill Finish Date:

06/12/2021

Plug Date:

Source:

Log File Date:

06/21/2021

PCW Rcv Date:

Shallow

Pump Type: Casing Size: Pipe Discharge Size:

Estimated Yield:

5 GPM

4.00

Depth Well:

500 feet

Depth Water:

280 feet

Water Bearing Stratifications:

Top Bottom Description

220

340 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

300

500

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

11/23/22 9:04 AM

POINT OF DIVERSION SUMMARY



**APPENDIX B** 

Photographic Log



# **Photographic Log**

COG Operating, LLC
Harrier 35 Federal Com 001H
Incident Number NAPP2225531487





Photograph: 1 Date: 10/4/2022

Description: Soil staining in release footprint

View: Southwest

Photograph: 2 Date: 10/4/2022

Description: Soil staning in release footprint

View: Southeast





Photograph: 3 Date: 10/4/2022

Description: Soil staining in release footprint

View: Southwest

Photograph: 4 Date: 1/19/2023

Description: Delineation activities

View: Southeast



APPENDIX C

Lithologic Soil Sampling Logs

	7				<u> </u>			Sample Name:PH01 Site Name: Harrier 35 Federal Co	Date:01/19/2023
		E	N	S	OI	_ U	M	Incident Number: NAPP2225531	
			_	_	_	. –		Job Number: 03D2024093	<del>-</del> -07
		LITHOI	OGI	C / SOIL S	SAMPLING	Logged By: CS	Method: Backhoe		
Coord				3.6371206		Hole Diameter: N/A	Total Depth: 6'		
Comm	ents: Fie	ld screen	ing co	nducted w				PID for chloride and vapor, respendent factors included.	ctively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	escriptions
					1	0			
					- - - -	- - - 1			
					- - -	2 -			
					- - -	3 -	ССНЕ	Excavation at 3-feet, calich	e.
D	3421	0.8	N	PH01	4 _	4	ССНЕ	Caliche, grey, coarse graine no odor.	ed, well graded, no stain,
					- - -	5		Caliche, pink and grey, coa	rse grained well graded
D	<170	0.2	N	PH01A	6 _	6	CCHE TD	no stain, no odor.  Total depth at 6-feet belov	
					- - -	- - - 7			
					- - -	- - 8 -			
					- - -	- 9			
					- - - -	10			
					- - - -	11			
					-	12			

								Sample Name:PH02	Date:01/19/2023	
	7							Site Name: Harrier 35 Federal Cor		
			N	3	OL	_ U	V	Incident Number: NAPP22255314		
								Job Number: 03D2024093		
		LITHOL	OGIO	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe	
Coordi				3.6371206				Hole Diameter: N/A	Total Depth: 6'	
Comm	ents: Fie	ld screen	ing co	nducted w	ith HACH Ch	loride Test S	Strips and	PID for chloride and vapor, respec	tively. Chloride test	
perfor	med with	n 1:4 dilut	tion fa	actor of soi	l to distilled	water. 40%	correction	factors included.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions	
					Щ	<u> </u>				
N	ND	0.4	Ν	PH02	1 _	- - _ 1 -		Sand: brown, well graded, r no stain, no odor		
N	ND	1	N		-	_ 2	CCHE	Caliche: white, tan, coarse and stain, no odor	grained, well graded,	
N	ND	0.6	N	PH02	3 _	- _ 3 -	ССНЕ	E SAA		
N	ND	0.7	N		-	- - 4 -	ССНЕ	SAA		
					-	- _ 5 -				
N	ND	0.5	N	PH02	6 _	6 	CCHE TD	SAA Total depth at 6-feet below	ground surface.	
					- -	- 7				
					- -	_ 8 _				
	9					9 -				
					- - -	10				
					- - -	11				
					-	_ 				

								Sample Name:PH03	Date:01/19/2023
			AI	6	0 1		RA	Site Name: Harrier 35 Federa	al Com 001H_093
			N	3		_ U	IAI	Incident Number: NAPP2225	531487
								Job Number: 03D2024093	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
				3.6371206				Hole Diameter: N/A	Total Depth: 6'
								PID for chloride and vapor, re n factors included.	espectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologi	c Descriptions
					1	0			
N	ND	0.5	N	PH03	1 _ - - -	- - - 1 - - - 2	SP-SM	Sand: brown, well grad no stain, no odor	ed, medium-coarse grained,
N	ND	1	N	PH03	3 <u>-</u> 3 <u>-</u>	- - - 3 -	ССНЕ	Caliche: grey, coarse gr no odor	ained, well graded, no stain,
					- - - -	4 - - - 5			
N	ND	0.5	Z	PH03	6 _	- - - - - - - - 8 - - 9	CCHE TD	SAA Total depth at 6-feet be	elow ground surface.
					- - - - - - -	10 - 11 - 11 - 12			

								Sample Name:PH04	Date:01/19/2023
1	7		A I					Site Name: Harrier 35 Federal Cor	
			N	3	OL	_ U	V	Incident Number: NAPP22255314	
								Job Number: 03D2024093	
		LITHOL	OGIO	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
Coordi	inates:32	.0946105	, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'
			-				•	PID for chloride and vapor, respec	tively. Chloride test
perfor	med with	n 1:4 dilut	ion ta	actor of soi	l to distilled	water. 40%		factors included.	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions
					1	0			
N	ND	0.3	N	PH04	1 -	1 - - - - 2	SP-SM	Sand: brown, well graded, r no stain, no odor	medium-coarse grained,
N	ND	1.3	N	PH04	3 _	- _ 3 -	ССНЕ	Caliche: grey, coarse graine no odor	d, well graded, no stain,
					- - -	4			
					-	5 -			
N	ND	1.3	N	PH04	6	- _ 6 -	CCHE TD	SAA Total depth at 6-feet below	ground surface.
					-	<del>-</del> - 7			
					- - -	- _ 8 -			
					-	- - 9 -			
					- - -	10			
						11			
					<u>-</u>	12			

								Sample Name:PH05	Date:01/19/2023	
	7		A I					Site Name: Harrier 35 Federal Cor		
			N	3	OL	_ U	V	Incident Number: NAPP22255314		
								Job Number: 03D2024093		
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe	
Coordi	inates:32	.0946105	5, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'	
								PID for chloride and vapor, respec	tively. Chloride test	
perior	med with	11.4 ana		1010101301	r to distilled	Water: 4070		Tuctors meladed.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions	
					1	0				
N	ND	0.5	N	PH05	1 -	1 - - - - 2	SP-SM	Sand: brown, well graded, r no stain, no odor	medium-coarse grained,	
N	ND	0.4	N	PH05	3 _	- _ 3 -	ССНЕ	HE Caliche: grey, coarse grained, well graded, no odor		
					- - -	4				
					- - -	- _ 5 -				
N	ND	0.4	N	PH05	6 _	- _ 6 -	CCHE TD	<u>SAA</u> Total depth at 6-feet below	ground surface.	
					- - -	<del>-</del> - 7				
					- - - -	- - 8 -				
					- -	- _ _ 9				
					- -	10				
					- - - -	11				
					- - -	12				

								Sample Name:PH06	Date:01/19/2023
ľ	7						B. 4	Site Name: Harrier 35 Federal Con	
			N	3	OL	_ U	V	Incident Number: NAPP22255314	
								Job Number: 03D2024093	
		LITHOL	OGIO	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
Coordi	nates:32	.0946105	, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'
								PID for chloride and vapor, respect	tively. Chloride test
perfor	med with	1:4 dilut	ion fa	actor of soi	l to distilled	water. 40%	correction	factors included.	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De:	scriptions
					1	L 0			
N	ND	0.2	N	PH06	1 -	1 - - - - 2	SP-SM	Sand: brown, well graded, r no stain, no odor	nedium-coarse grained,
N	ND	0.8	N	PH06	3 _	- _ 3 -	ССНЕ	Caliche: grey, coarse graine no odor	d, well graded, no stain,
					- - -	4			
					- - -	5 -			
N	ND	0.5	N	PH06	6 <u>-</u>	<u> </u>	CCHE TD	SAA Total depth at 6-feet below	ground surface.
					- -	7			
					- - -	- _ 8 -			
					-   -   -	- - 9 -			
					- - -	10			
					-	_ 11			
					-	- 12			

								Sample Name:PH07	Date:01/19/2023	
	7		N I				R.A	Site Name: Harrier 35 Federal Cor		
			N	3	OL	_ U	V	Incident Number: NAPP22255314		
								Job Number: 03D2024093		
		LITHOL	OGIO	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe	
Coordi	inates:32	.0946105	, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'	
								PID for chloride and vapor, respec	tively. Chloride test	
perfor	med with	n 1:4 dilut	ion ta	actor of soi	I to distilled	water. 40%		factors included.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	scriptions	
					1	0				
N	ND	0.3	N	PH07	1 -	1 - 1 - - 2	SP-SM	Sand: brown, well graded, i no stain, no odor	medium-coarse grained,	
N	ND	1	N	PH07	3 _	- _ 3 -	ССНЕ	HE Caliche: grey, coarse grained, well grade no odor		
					- - -	<u> </u>				
					- -	<u> </u>				
N	ND	0.8	N	PH07	6 _	- _ 6 -	CCHE TD	SAA Total depth at 6-feet below	ground surface.	
					- - -	- _ 7 -				
					- - -	- _ 8 -				
					- - -	- _ 9 -				
					- - - -	10				
						- 11				
					-	- 12				

								Sample Name:PH08	Date:01/19/2023
			AI	C	0 1		RA	Site Name: Harrier 35 Federa	al Com 001H_093
			N	3		_ U	IAI	Incident Number: NAPP2225	5531487
								Job Number: 03D2024093	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
				3.6371206				Hole Diameter: N/A	Total Depth: 6'
								PID for chloride and vapor, real factors included.	espectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologi	c Descriptions
					1	0			
N	ND	0.7	N	PH08	1 _ - - - -	1 2	SP-SM	Sand: brown, well grad no stain, no odor	ed, medium-coarse grained,
N	ND	0.5	N	PH08	3 _	3	ССНЕ	Caliche: grey, coarse gr no odor	rained, well graded, no stain,
					- - - - -	4 - - - - 5			
N	ND	0.4	Z	PH08	6 _	6 - 7 - 8 - 9 - 10 - 11 - 12	CCHE TD	SAA Total depth at 6-feet be	elow ground surface.



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-3147-1

Laboratory Sample Delivery Group: 03D2024093 Client Project/Site: Harrier 35 Fed Com 001

For:

eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings



Authorized for release by: 10/12/2022 12:37:53 PM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

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

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





**Have a Question?** 



# Visit us at:

www.eurofinsus.com/Env Released to Imaging: 3/7/20254 950814 PMM Client: Ensolum
Project/Site: Harrier 35 Fed Com 001
Laboratory Job ID: 890-3147-1
SDG: 03D2024093

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### **Definitions/Glossary**

Job ID: 890-3147-1 Client: Ensolum Project/Site: Harrier 35 Fed Com 001

SDG: 03D2024093

**Qualifiers** 

**GC VOA** 

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

**GC Semi VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report. Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery

CFL Contains Free Liquid CFU Colony Forming Unit **CNF** Contains No Free Liquid

DFR 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

Decision Level Concentration (Radiochemistry) DLC

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TEQ

**TNTC** Too Numerous To Count

#### Case Narrative

Client: Ensolum

Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1

SDG: 03D2024093

Job ID: 890-3147-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3147-1

#### Receipt

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

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3147-1), SS02 (890-3147-2), SS03 (890-3147-3), SS04 (890-3147-4), SS05 (890-3147-5), SS06 (890-3147-6), SS07 (890-3147-7) and SS08 (890-3147-8).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS06 (890-3147-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS08 (890-3147-8). 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

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

#### HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36242 and analytical batch 880-36598 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS01** Lab Sample ID: 890-3147-1

Date Collected: 10/04/22 08:40 Matrix: Solid Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/10/22 13:48	10/11/22 21:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			10/10/22 13:48	10/11/22 21:44	1
1,4-Difluorobenzene (Surr)	88		70 - 130			10/10/22 13:48	10/11/22 21:44	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/12/22 11:46	1
Method: SW846 8015 NM - Diese	•	. , ,	•					
	•	ics (DRO) ((	GC)	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	•	Qualifier	•	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared	Analyzed 10/07/22 09:09	
Analyte Total TPH	Result < 50.0	Qualifier U	50.0		<u>D</u>	Prepared		
Analyte Total TPH  .  Method: SW846 8015B NM - Dies	Result <50.0	Qualifier Unics (DRO)	RL 50.0	mg/Kg	<del>-</del>		10/07/22 09:09	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte	Result <50.0  sel Range Orga Result	Qualifier Unics (DRO) Qualifier	RL 50.0 (GC)	mg/Kg	<u>D</u>	Prepared	10/07/22 09:09  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <50.0	Qualifier Unics (DRO) Qualifier	RL 50.0	mg/Kg	<del>-</del>		10/07/22 09:09	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	Result <50.0 sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0	mg/Kg  Unit  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 15:11	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <50.0  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC)	mg/Kg	<del>-</del>	Prepared	10/07/22 09:09  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0 sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0	mg/Kg  Unit  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 15:11	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg  Unit  mg/Kg  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 15:11  10/06/22 15:11	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg  Unit  mg/Kg  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40	Analyzed 10/06/22 15:11 10/06/22 15:11	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg  Unit  mg/Kg  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40 Prepared	Analyzed 10/06/22 15:11 10/06/22 15:11 4nalyzed Analyzed	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40  Prepared 10/06/22 08:40	Analyzed 10/06/22 15:11 10/06/22 15:11 10/06/22 15:11 Analyzed 10/06/22 15:11	Dil Fac  1  1  Dil Fac  1  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40  Prepared 10/06/22 08:40	Analyzed 10/06/22 15:11 10/06/22 15:11 10/06/22 15:11 Analyzed 10/06/22 15:11	

**Client Sample ID: SS02** Lab Sample ID: 890-3147-2

Date Collected: 10/04/22 08:45 Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/10/22 13:48	10/11/22 22:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			10/10/22 13:48	10/11/22 22:05	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

### **Client Sample Results**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

Client Sample ID: SS02 Lab Sample ID: 890-3147-2

Date Collected: 10/04/22 08:45

Date Received: 10/05/22 09:10

Matrix: Solid

Sample Depth: 0.5'

Surrogate	%Recovery Quali	ifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97	70 - 130	10/10/22 13:48	10/11/22 22:05	1

Method:	TAL SOP	Total BTFX	- Total	BTFX	Calculation

Analyte	Result Qualifi		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396 U	0.00396	ma/Ka			10/12/22 11:46	1

Method: SW846	OO4E NIM Discol	Dange Organies	(DBO) (CC)
i welliou. Syvo46	ou io mivi - Diesei	Range Organics	IDROHUGUI

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	409		49.9	mg/Kg			10/07/22 09:09	1

Method: SW846 8015B	NM - Diesel Range	Organics (DRO) (G	C)
Michiga. Offoto ou lob	THIN - Dicaci Italige	organics (bito) (c	, – ,

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9 U	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1
Diesel Range Organics (Over C10-C28)	210	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1
Oll Range Organics (Over C28-C36)	199	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1
Surrogate	%Recovery Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84	70 - 130	10/06/22 08:40	10/06/22 15:32	1
o-Terphenyl	75	70 - 130	10/06/22 08:40	10/06/22 15:32	1

#### Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10300		100	mg/Kg			10/11/22 09:06	20

Client Sample ID: SS03 Lab Sample ID: 890-3147-3

Date Collected: 10/04/22 08:50 Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Markland, CIMO 40 00	21B - Volatile Organic	O
IVIATOON' SVVXAN XII	21B - Volatile Circanic	L.Omnollings (Lat.)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/10/22 13:48	10/11/22 22:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			10/10/22 13:48	10/11/22 22:25	1
1,4-Difluorobenzene (Surr)	99		70 - 130			10/10/22 13:48	10/11/22 22:25	1

1	Method: TAI	SOD Total B	TEV Total	DTEV C	alculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/12/22 11:46	1

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

**Eurofins Carlsbad** 

2

3

4

0

8

10

12

13

Matrix: Solid

# **Client Sample Results**

Client: Ensolum Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS03** Lab Sample ID: 890-3147-3

Date Collected: 10/04/22 08:50 Matrix: Solid Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130			10/06/22 08:40	10/06/22 15:53	1
o-Terphenyl	78		70 - 130			10/06/22 08:40	10/06/22 15:53	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	ography - S	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15700		101	mg/Kg			10/11/22 09:14	20

**Client Sample ID: SS04** Lab Sample ID: 890-3147-4 Date Collected: 10/04/22 08:55 Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/11/22 22:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130			10/10/22 13:48	10/11/22 22:46	1
1,4-Difluorobenzene (Surr)	100		70 - 130			10/10/22 13:48	10/11/22 22:46	1
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/12/22 11:46	1
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/07/22 09:09	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			10/06/22 08:40	10/06/22 16:14	1

**Matrix: Solid** 

Job ID: 890-3147-1

Client: Ensolum Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

Client Sample ID: SS04 Lab Sample ID: 890-3147-4

Date Collected: 10/04/22 08:55 Matrix: Solid Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	8500	F1	100	mg/Kg			10/11/22 09:22	20	

**Client Sample ID: SS05** Lab Sample ID: 890-3147-5

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

Sample Depth: 0.5'

o-Terphenyl

Analyte

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 23:07	1
Toluene	< 0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 23:07	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 23:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/10/22 13:48	10/11/22 23:07	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 23:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/10/22 13:48	10/11/22 23:07	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			10/10/22 13:48	10/11/22 23:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130			10/10/22 13:48	10/11/22 23:07	1
Method: SW846 8015 NM - Dies	•		•					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	
Total TPH							· · · · · · · · · · · · · · · · · · ·	Dil Fac
=	<49.9	U	49.9	mg/Kg			10/07/22 09:09	
Method: SW846 8015B NM - Die				mg/Kg				
	esel Range Orga			mg/Kg Unit		Prepared		1
Analyte Gasoline Range Organics	esel Range Orga	nics (DRO) Qualifier	(GC)		<u>D</u>	Prepared 10/06/22 08:40	10/07/22 09:09	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10	esel Range Orga Result	nics (DRO) Qualifier	(GC)	Unit	<u>D</u>		10/07/22 09:09  Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <pre></pre>	nics (DRO) Qualifier	(GC)  RL  49.9	Unit mg/Kg	<u>D</u>	10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 16:34	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <pre></pre>	nics (DRO) Qualifier U	(GC)  RL  49.9	Unit mg/Kg	<u>D</u>	10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 16:34	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	esel Range Orga Result <49.9	nics (DRO) Qualifier U U	(GC)  RL  49.9	Unit mg/Kg mg/Kg	<u>D</u>	10/06/22 08:40 10/06/22 08:40	10/07/22 09:09  Analyzed 10/06/22 16:34 10/06/22 16:34	1 Dil Fac
Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   Capability   Capabil	nics (DRO) Qualifier U U	(GC)  RL  49.9  49.9  49.9	Unit mg/Kg mg/Kg	<u>D</u>	10/06/22 08:40 10/06/22 08:40 10/06/22 08:40	Analyzed 10/06/22 16:34 10/06/22 16:34	Dil Face  1  Dil Face 1  Dil Face 1  Dil Face 1

70 - 130

RL

4.96

Unit

mg/Kg

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10/06/22 16:34

Analyzed

10/11/22 09:45

10/06/22 08:40

Prepared

D

Dil Fac

77

30.9

Result Qualifier

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Matrix: Solid

Client: Ensolum Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS06** Lab Sample ID: 890-3147-6

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

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/10/22 13:48	10/11/22 23:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			10/10/22 13:48	10/11/22 23:28	1
1,4-Difluorobenzene (Surr)	65	S1-	70 - 130			10/10/22 13:48	10/11/22 23:28	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/12/22 11:46	1
			301					
Analyte	Result	ics (DRO) ( Qualifier	RL	Unit ma/Ka	<u>D</u>	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	Mnit mg/Kg	<u>D</u>	Prepared	Analyzed 10/07/22 09:09	
Analyte Total TPH		Qualifier U	RL 49.8		<u>D</u>	Prepared		
Analyte Total TPH	Result <49.8	Qualifier U	RL 49.8		<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <49.8	Qualifier U nics (DRO) Qualifier	RL 49.8	mg/Kg	=		10/07/22 09:09	1
Analyte Total TPH Method: SW846 8015B NM - Dies	Result <49.8 sel Range Orga	Qualifier U  nics (DRO) Qualifier U	RL 49.8 (GC)	mg/Kg	=	Prepared	10/07/22 09:09  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <a href="#">49.8</a> sel Range Orga Result <a href="#">&lt;49.8</a> 49.8	Qualifier U  nics (DRO) Qualifier U	RL 49.8  (GC)  RL 49.8	mg/Kg  Unit  mg/Kg	=	Prepared 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 16:55	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.8  sel Range Orga Result <49.8 <49.8	Qualifier U  nics (DRO) Qualifier U  U	RL 49.8  (GC)  RL 49.8  49.8	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 16:55  10/06/22 16:55	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 49.8  (GC)  RL 49.8  49.8  49.8	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40	Analyzed 10/06/22 16:55 10/06/22 16:55	Dil Fac  1  1  Dil Fac  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 49.8  (GC)  RL 49.8  49.8  49.8  Limits	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40 Prepared	Analyzed 10/06/22 16:55 10/06/22 16:55 Analyzed	Dil Fac  1  1  Dil Fac  1  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.8 (GC) RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40  Prepared 10/06/22 08:40	Analyzed 10/06/22 16:55 10/06/22 16:55  Analyzed 10/06/22 16:55	Dil Fac  1  1  Dil Fac  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.8 (GC) RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40  Prepared 10/06/22 08:40	Analyzed 10/06/22 16:55 10/06/22 16:55  Analyzed 10/06/22 16:55	1 Dil Fac 1 Dil Fac 1

**Client Sample ID: SS07** Lab Sample ID: 890-3147-7

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

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/10/22 13:48	10/11/22 23:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			10/10/22 13:48	10/11/22 23:48	1

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**Matrix: Solid** 

Job ID: 890-3147-1

Client: Ensolum Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS07** Lab Sample ID: 890-3147-7

Date Collected: 10/04/22 09:10 Matrix: Solid Date Received: 10/05/22 09:10

Sample Depth: 0.5' Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	89	70 - 130	10/10/22 13:	48 10/11/22 23:48	1

Method: TAL SOP Total BTEX - Tot	al BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	ma/Ka			10/12/22 11:46	

Method: SW846 8015 NM - Diesel F	Range Organics (DRO) (GC	5)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9 U	49.9	mg/Kg			10/07/22 09:09	1

Method: SW846 8015B NM - Dies Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/06/22 08:40	10/06/22 17:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/06/22 08:40	10/06/22 17:16	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/06/22 08:40	10/06/22 17:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepare	ea Analyzea	DII Fac
1-Chlorooctane	86	70 - 130	10/06/22 0	08:40 10/06/22 17:16	; 1
o-Terphenyl	82	70 - 130	10/06/22 0	08:40 10/06/22 17:16	; 1

Method: MCAWW 300.0 - Anions, I	on Chromato	graphy - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.2		4.98	mg/Kg			10/11/22 10:16	1

**Client Sample ID: SS08** Lab Sample ID: 890-3147-8 **Matrix: Solid** 

Date Collected: 10/04/22 09:15 Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130			10/10/22 13:48	10/12/22 00:09	1
1,4-Difluorobenzene (Surr)	83		70 - 130			10/10/22 13:48	10/12/22 00:09	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/12/22 11:46	1

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Analyzed

10/07/22 09:09

RL

50.0

Unit

mg/Kg

Prepared

Result Qualifier

<50.0 U

Dil Fac

Analyte

Total TPH

## **Client Sample Results**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

Client Sample ID: SS08 Lab Sample ID: 890-3147-8

Date Collected: 10/04/22 09:15

Date Received: 10/05/22 09:10

Matrix: Solid

Sample Depth: 0.5'

Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 17:36	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 17:36	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 17:36	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	88		70 - 130			10/06/22 08:40	10/06/22 17:36	
o-Terphenyl	80		70 - 130			10/06/22 08:40	10/06/22 17:36	•
- Method: MCAWW 300.0 - Anions	Ion Chromato	ography - S	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39.7		4.99	mg/Kg		<del></del>	10/11/22 10:23	1

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2

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10

12

13

14

## **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Ad
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3147-1	SS01	105	88	
890-3147-1 MS	SS01	94	97	
890-3147-1 MSD	SS01	94	93	
890-3147-2	SS02	103	97	
890-3147-3	SS03	114	99	
890-3147-4	SS04	114	100	
890-3147-5	SS05	115	98	
890-3147-6	SS06	104	65 S1-	
890-3147-7	SS07	126	89	
890-3147-8	SS08	133 S1+	83	
LCS 880-36590/1-A	Lab Control Sample	89	92	
LCSD 880-36590/2-A	Lab Control Sample Dup	89	92	
MB 880-36590/5-A	Method Blank	98	82	
MB 880-36628/5-A	Method Blank	106	84	
Surrogate Legend BFB = 4-Bromofluorobe				

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)	
880-20033-A-1-C MS	Matrix Spike	94	85	
880-20033-A-1-D MSD	Matrix Spike Duplicate	82	71	
890-3147-1	SS01	84	78	
890-3147-2	SS02	84	75	
890-3147-3	SS03	87	78	
890-3147-4	SS04	86	76	
890-3147-5	SS05	82	77	
890-3147-6	SS06	86	78	
890-3147-7	SS07	86	82	
890-3147-8	SS08	88	80	
LCS 880-36226/2-A	Lab Control Sample	108	110	
LCSD 880-36226/3-A	Lab Control Sample Dup	116	120	
MB 880-36226/1-A	Method Blank	90	93	

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

### **QC Sample Results**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36590/5-A

Matrix: Solid Analysis Batch: 36625 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 36590

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

MB MB

Surrogate	%Recovery	Qualifier	Limits	Pro	epared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	10/10	0/22 13:48	10/11/22 21:22	1
1,4-Difluorobenzene (Surr)	82		70 - 130	10/10	0/22 13:48	10/11/22 21:22	1

Lab Sample ID: LCS 880-36590/1-A

Matrix: Solid

Analysis Batch: 36625

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 36590

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

LCS LCS

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

Lab Sample ID: LCSD 880-36590/2-A

Matrix: Solid

**Analysis Batch: 36625** 

Client Sample ID: Lab Control Sample Dup

Prop Batch: 36590

Prep Batch: 36590

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

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	89		70 - 130
1.4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 890-3147-1 MS

Matrix: Solid

Analysis Batch: 36625

Client Sample ID: SS01
Prep Type: Total/NA

Prep Batch: 36590

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

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### QC Sample Results

Job ID: 890-3147-1 Client: Ensolum Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

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

Lab Sample ID: 890-3147-1 MS **Matrix: Solid** 

**Analysis Batch: 36625** 

**Client Sample ID: SS01** Prep Type: Total/NA

Prep Batch: 36590

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

MS MS

Surrogate	%Recovery Q	ualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-3147-1 MSD

**Matrix: Solid** 

**Analysis Batch: 36625** 

**Client Sample ID: SS01** Prep Type: Total/NA

Prep Batch: 36590

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

MSD MSD

Surrogate	%Recovery Qu	ualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: MB 880-36628/5-A

**Matrix: Solid** 

**Analysis Batch: 36625** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 36628

MB MB

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

MB MB

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

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

Lab Sample ID: MB 880-36226/1-A

**Matrix: Solid** 

Analysis Batch: 36216

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 36226

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed <50.0 U 50.0 mg/Kg 10/06/22 08:40 10/06/22 09:43 Gasoline Range Organics (GRO)-C6-C10

Client: Ensolum Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

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

Lab Sample ID: MB 880-36226/1-A **Matrix: Solid** 

Lab Sample ID: LCS 880-36226/2-A

**Matrix: Solid** 

Analysis Batch: 36216

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 36226

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1

MB MB

MB MB

	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	1-Chlorooctane	90		70 - 130	10/06/22 08:40	10/06/22 09:43	1
Į	o-Terphenyl	93		70 - 130	10/06/22 08:40	10/06/22 09:43	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 36226

Analysis Batch: 36216 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 1077 108 70 - 130 mg/Kg (GRO)-C6-C10 1000 910.0 Diesel Range Organics (Over mg/Kg 91 70 - 130C10-C28)

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-36226/3-A

**Matrix: Solid** Analysis Batch: 36216 Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 36226

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	1190		mg/Kg		119	70 - 130	10	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	1038		mg/Kg		104	70 - 130	13	20	
C10-C28)										

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 116 70 - 130 o-Terphenyl 120 70 - 130

Lab Sample ID: 880-20033-A-1-C MS

**Matrix: Solid** 

Analysis Batch: 36216

Client Sample ID: Matrix Spike

Prep Type: Total/NA Prep Batch: 36226

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits <50.0 U 998 955.9 92 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 998 922.3 Diesel Range Organics (Over 101 mg/Kg 70 - 130

C10-C28)

	IVIS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	85		70 - 130

Client: Ensolum

Job ID: 890-3147-1

SDG: 03D2024093

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

Lab Sample ID: 880-20033-A-1-D MSD

Matrix: Solid

Analysis Batch: 36216

Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: SS04

**Client Sample ID: SS04** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Prep Type: Total/NA Prep Batch: 36226

Sample Sample Spike MSD MSD RPD Result Qualifier Limit Analyte Added Result Qualifier Unit %Rec Limits RPD Gasoline Range Organics <50.0 U 999 892.0 mg/Kg 86 70 - 130 20 (GRO)-C6-C10 999 Diesel Range Organics (Over 101 803.4 mg/Kg 70 70 - 130 14 C10-C28)

10-020)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	71		70 - 130

### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36242/1-A

Matrix: Solid

Analysis Batch: 36598

Analysis Batch. 00000

MB MB

 Analyte
 Result Chloride
 Qualifier Qualifier
 RL VINIT
 Unit mg/Kg
 D Prepared Prepared
 Analyzed Analyzed Dil Factorial

Lab Sample ID: LCS 880-36242/2-A

Matrix: Solid

**Analysis Batch: 36598** 

	Spike	LCS I	LCS				%Rec
Analyte	Added	Result	Qualifier U	Init	D	%Rec	Limits
Chloride	250	260.6	n	ng/Kg	_	104	90 - 110

Lab Sample ID: LCSD 880-36242/3-A

Matrix: Solid

Analysis Batch: 36598

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	260.8		ma/Ka		104	90 _ 110		20

Lab Sample ID: 890-3147-4 MS

Matrix: Solid

Analysis Batch: 36598

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	8500	F1	5000	18090	F1	ma/Ka		192	90 110	

Lab Sample ID: 890-3147-4 MSD

**Matrix: Solid** 

Analysis Batch: 36598

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	8500	F1	5000	17000	F1	mg/Kg	_	170	90 - 110	6	20

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# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

### **GC VOA**

### Prep Batch: 36590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	5035	
890-3147-2	SS02	Total/NA	Solid	5035	
890-3147-3	SS03	Total/NA	Solid	5035	
890-3147-4	SS04	Total/NA	Solid	5035	
890-3147-5	SS05	Total/NA	Solid	5035	
890-3147-6	SS06	Total/NA	Solid	5035	
890-3147-7	SS07	Total/NA	Solid	5035	
890-3147-8	SS08	Total/NA	Solid	5035	
MB 880-36590/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36590/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36590/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3147-1 MS	SS01	Total/NA	Solid	5035	
890-3147-1 MSD	SS01	Total/NA	Solid	5035	

#### Analysis Batch: 36625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	8021B	36590
890-3147-2	SS02	Total/NA	Solid	8021B	36590
890-3147-3	SS03	Total/NA	Solid	8021B	36590
890-3147-4	SS04	Total/NA	Solid	8021B	36590
890-3147-5	SS05	Total/NA	Solid	8021B	36590
890-3147-6	SS06	Total/NA	Solid	8021B	36590
890-3147-7	SS07	Total/NA	Solid	8021B	36590
890-3147-8	SS08	Total/NA	Solid	8021B	36590
MB 880-36590/5-A	Method Blank	Total/NA	Solid	8021B	36590
MB 880-36628/5-A	Method Blank	Total/NA	Solid	8021B	36628
LCS 880-36590/1-A	Lab Control Sample	Total/NA	Solid	8021B	36590
LCSD 880-36590/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36590
890-3147-1 MS	SS01	Total/NA	Solid	8021B	36590
890-3147-1 MSD	SS01	Total/NA	Solid	8021B	36590

#### Prep Batch: 36628

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

### Analysis Batch: 36757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	Total BTEX	
890-3147-2	SS02	Total/NA	Solid	Total BTEX	
890-3147-3	SS03	Total/NA	Solid	Total BTEX	
890-3147-4	SS04	Total/NA	Solid	Total BTEX	
890-3147-5	SS05	Total/NA	Solid	Total BTEX	
890-3147-6	SS06	Total/NA	Solid	Total BTEX	
890-3147-7	SS07	Total/NA	Solid	Total BTEX	
890-3147-8	SS08	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Analysis Batch: 36216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	8015B NM	36226

## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

GC Semi VOA (Continued)

### **Analysis Batch: 36216 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-2	SS02	Total/NA	Solid	8015B NM	36226
890-3147-3	SS03	Total/NA	Solid	8015B NM	36226
890-3147-4	SS04	Total/NA	Solid	8015B NM	36226
890-3147-5	SS05	Total/NA	Solid	8015B NM	36226
890-3147-6	SS06	Total/NA	Solid	8015B NM	36226
890-3147-7	SS07	Total/NA	Solid	8015B NM	36226
890-3147-8	SS08	Total/NA	Solid	8015B NM	36226
MB 880-36226/1-A	Method Blank	Total/NA	Solid	8015B NM	36226
LCS 880-36226/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36226
LCSD 880-36226/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36226
880-20033-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36226
880-20033-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36226

Prep Batch: 36226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	8015NM Prep	
890-3147-2	SS02	Total/NA	Solid	8015NM Prep	
890-3147-3	SS03	Total/NA	Solid	8015NM Prep	
890-3147-4	SS04	Total/NA	Solid	8015NM Prep	
890-3147-5	SS05	Total/NA	Solid	8015NM Prep	
890-3147-6	SS06	Total/NA	Solid	8015NM Prep	
890-3147-7	SS07	Total/NA	Solid	8015NM Prep	
890-3147-8	SS08	Total/NA	Solid	8015NM Prep	
MB 880-36226/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36226/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36226/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20033-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20033-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Total/NA	Solid	8015 NM	
890-3147-2	SS02	Total/NA	Solid	8015 NM	
890-3147-3	SS03	Total/NA	Solid	8015 NM	
890-3147-4	SS04	Total/NA	Solid	8015 NM	
890-3147-5	SS05	Total/NA	Solid	8015 NM	
890-3147-6	SS06	Total/NA	Solid	8015 NM	
890-3147-7	SS07	Total/NA	Solid	8015 NM	
890-3147-8	SS08	Total/NA	Solid	8015 NM	

HPLC/IC

#### Leach Batch: 36242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Soluble	Solid	DI Leach	
890-3147-2	SS02	Soluble	Solid	DI Leach	
890-3147-3	SS03	Soluble	Solid	DI Leach	
890-3147-4	SS04	Soluble	Solid	DI Leach	
890-3147-5	SS05	Soluble	Solid	DI Leach	
890-3147-6	SS06	Soluble	Solid	DI Leach	
890-3147-7	SS07	Soluble	Solid	DI Leach	

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# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

**HPLC/IC** (Continued)

### Leach Batch: 36242 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-8	SS08	Soluble	Solid	DI Leach	
MB 880-36242/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3147-4 MS	SS04	Soluble	Solid	DI Leach	
890-3147-4 MSD	SS04	Soluble	Solid	DI Leach	

### Analysis Batch: 36598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3147-1	SS01	Soluble	Solid	300.0	36242
890-3147-2	SS02	Soluble	Solid	300.0	36242
890-3147-3	SS03	Soluble	Solid	300.0	36242
890-3147-4	SS04	Soluble	Solid	300.0	36242
890-3147-5	SS05	Soluble	Solid	300.0	36242
890-3147-6	SS06	Soluble	Solid	300.0	36242
890-3147-7	SS07	Soluble	Solid	300.0	36242
890-3147-8	SS08	Soluble	Solid	300.0	36242
MB 880-36242/1-A	Method Blank	Soluble	Solid	300.0	36242
LCS 880-36242/2-A	Lab Control Sample	Soluble	Solid	300.0	36242
LCSD 880-36242/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36242
890-3147-4 MS	SS04	Soluble	Solid	300.0	36242
890-3147-4 MSD	SS04	Soluble	Solid	300.0	36242

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Job ID: 890-3147-1 Client: Ensolum

Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS01** Lab Sample ID: 890-3147-1

Date Collected: 10/04/22 08:40 **Matrix: Solid** Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 21:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 15:11	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36242	10/06/22 09:53	СН	EET MID
Soluble	Analysis	300.0		50			36598	10/11/22 08:59	CH	EET MID

**Client Sample ID: SS02** Lab Sample ID: 890-3147-2

Date Collected: 10/04/22 08:45 Date Received: 10/05/22 09:10

Leach

Analysis

DI Leach

300.0

Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Prep 5035 Total/NA 5.05 g 5 mL 36590 10/10/22 13:48 MNR EET MID Total/NA 8021B 5 mL 10/11/22 22:05 **EET MID** Analysis 1 5 mL 36625 MNR Total/NA Total BTEX 36757 10/12/22 11:46 Analysis 1 SM **EET MID** Total/NA Analysis 8015 NM 36332 10/07/22 09:09 SM **EET MID** Total/NA 36226 10/06/22 08:40 Prep 8015NM Prep 10.02 g 10 mL DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 36216 10/06/22 15:32 SM **EET MID** 

Lab Sample ID: 890-3147-3 **Client Sample ID: SS03** 

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5 g

50 mL

36242

36598

Date Collected: 10/04/22 08:50 Date Received: 10/05/22 09:10

Soluble

Soluble

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 22:25	MNR	EET MIC
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 15:53	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36242	10/06/22 09:53	CH	EET MIC
Soluble	Analysis	300.0		20			36598	10/11/22 09:14	CH	EET MID

**Client Sample ID: SS04** Lab Sample ID: 890-3147-4

Date Collected: 10/04/22 08:55 Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 22:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID

**Eurofins Carlsbad** 

Matrix: Solid

**EET MID** 

**EET MID** 

**Matrix: Solid** 

10/06/22 09:53

10/11/22 09:06

CH

СН

Matrix: Solid

Client: Ensolum

Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS04** Lab Sample ID: 890-3147-4

Date Collected: 10/04/22 08:55 Matrix: Solid Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 16:14	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36242	10/06/22 09:53	СН	EET MID
Soluble	Analysis	300.0		20			36598	10/11/22 09:22	CH	EET MID

**Client Sample ID: SS05** Lab Sample ID: 890-3147-5

Date Collected: 10/04/22 09:00 **Matrix: Solid** 

Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 23:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 16:34	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	36242	10/06/22 09:53	CH	EET MIC
Soluble	Analysis	300.0		1			36598	10/11/22 09:45	CH	EET MID

**Client Sample ID: SS06** Lab Sample ID: 890-3147-6

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 23:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 16:55	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36242	10/06/22 09:53	СН	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 09:52	CH	EET MID

Lab Sample ID: 890-3147-7 Client Sample ID: SS07

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/11/22 23:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA Total/NA	Prep Analysis	8015NM Prep 8015B NM		1	10.02 g 1 uL	10 mL 1 uL	36226 36216	10/06/22 08:40 10/06/22 17:16	DM SM	EET MID EET MID

**Eurofins Carlsbad** 

**Matrix: Solid** 

**Matrix: Solid** 

### **Lab Chronicle**

Client: Ensolum Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001 SDG: 03D2024093

**Client Sample ID: SS07** Lab Sample ID: 890-3147-7

Date Collected: 10/04/22 09:10 Matrix: Solid Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 10:16	CH	EET MID

**Client Sample ID: SS08** Lab Sample ID: 890-3147-8

Date Collected: 10/04/22 09:15 **Matrix: Solid** 

Date Received: 10/05/22 09:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36590	10/10/22 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36625	10/12/22 00:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36757	10/12/22 11:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			36332	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 17:36	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36242	10/06/22 09:53	СН	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 10:23	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 Job ID: 890-3147-1 Project/Site: Harrier 35 Fed Com 001

SDG: 03D2024093

### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date		
xas		ELAP	T104704400-22-24	06-30-23		
,	The following analytes are included in this report, but the labor the agency does not offer certification.	ut the laboratory is not certif	led by the governing authority. This list ma	ay include analytes for		
Analysis Method	Prep Method	Matrix	Analyte			
8015 NM		Solid	Total TPH			

### **Method Summary**

 Client: Ensolum
 Job ID: 890-3147-1

 Project/Site: Harrier 35 Fed Com 001
 SDG: 03D2024093

SDG: 03D2024093

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

**Eurofins Carlsbad** 

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## **Sample Summary**

Client: Ensolum

890-3147-7

890-3147-8

Project/Site: Harrier 35 Fed Com 001

SS07

SS08

Job ID: 890-3147-1 SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3147-1	SS01	Solid	10/04/22 08:40	10/05/22 09:10	0.5'
890-3147-2	SS02	Solid	10/04/22 08:45	10/05/22 09:10	0.5'
890-3147-3	SS03	Solid	10/04/22 08:50	10/05/22 09:10	0.5'
890-3147-4	SS04	Solid	10/04/22 08:55	10/05/22 09:10	0.5'
890-3147-5	SS05	Solid	10/04/22 09:00	10/05/22 09:10	0.5'
890-3147-6	SS06	Solid	10/04/22 09:05	10/05/22 09:10	0.5'

10/04/22 09:10

10/04/22 09:15

10/05/22 09:10

10/05/22 09:10

0.5'

0.5'

Solid

Solid

3

4

6

10

12

13

14

Released to Imaging: 3/7/20254250214 PMA

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-			110

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:		

Project Manager: K Company Name: E										gs					_								
Company Name.	insolum				Compan	y Name	:								_	Prog	ram: U	ST/PS	T 🗌 P	RP 🗌 E	Brown	nfields 🗌 RRC	Superfund [
Address: 3	122 National F	arks H	wy		Address:												of Pro	•					
City, State ZIP;	Carlsbad, NM 8	8220			City, Sta	te ZIP:										1	-			el III	PST	I/UST   TRRP	Level IV
Phone: 3	03-887-2946			Email:	kjenning	ıs@en	solum	com								Deliverables: EDD ☐ ADaPT ☐ Other:					:		
Project Name:	Harrier 35	Fed Co	m 001	Turr	Around								ANAL	YSIS	REQ	UEST						Preserva	ative Codes
Project Number:	03D2	024093	3	☑ Routine	☐ Rush		Pres.															None: NO	DI Water: H <sub>2</sub> C
Project Location:	32.0947,	-103.6	3701	Due Date:																		Cool: Cool	MeOH: Me
Sampler's Name:	Kase	Parke	r	TAT starts th	e day rece	ived by					-											HCL: HC	HNO <sub>3</sub> : HN
PO #:				the lab, if red	ceived by 4	:30pm	2					1000	11 (11) 11(	<b>.</b> (8)))		OBLUDIED	1111111111	84				H₂S0₄: H₂	NaOH: Na
SAMPLE RECEIP	T Temp B	lank:	YSS No	Wet Ice:	Yes	No	nete	6				-1111						ll .				H₃PO₄: HP	
Samples Received Inta	act: (Yes)	No	Thermomete	er ID:	Tan	- 60	듄	300.0)				1688	14444					l		i		NaHSO₄: NABI	
Cooler Custody Seals:	Yes No	MA	Correction F	actor:	50	2	Pa	(EPA:								Custody						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSC	
Sample Custody Seals	: Yes No	(N/A	Temperature	e Reading:	1	8						890-	3147	Chain	of Cu							Zn Acetate+Na	
Total Containers:			Corrected T	emperature:	1.	6		ORIDES	15)	8021				-5/07:5								NaOH+Ascorbic Acid: SAPC	
Sample Identi	fication	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLOR	TPH (8015)	BTEX (8021												Sample	Comments
SS01		S	10/4/2022	8:40	0.5'	G	1	х	х	х												Incident ID:	
\$\$02		S	10/4/2022	8:45	0.5'	G	1	х	х	х													
SS03		S	10/4/2022	8:50	0.5'	G	1	х	х	х												Cost Center:	
\$\$04		S	10/4/2022	8:55	0.5'	G	1	х	х	х													
SS05		S	10/4/2022	9:00	0.5'	G	1	х	х	×												AFE:	
\$\$06		S	10/4/2022	9:05	0.5'	G	1	х	х	×					)								
\$\$07		S	10/4/2022	9:10	0.5'	G	1	Х	х	×													
\$\$08		S	10/4/2022	9:15	0.5'	G	1	×	×	×													
											160												
																-							

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. Eurofine 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) ninimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1// 1/1	Avarda Istut	10/3/22 094	5		
3		4			
5		6			evised Date: 08/25/2020 Rev. 2

### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3147-1 SDG Number: 03D2024093

Login Number: 3147 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

Job Number: 890-3147-1 SDG Number: 03D2024093

Login Number: 3147
List Source: Eurofins Midland
List Number: 2
List Creation: 10/06/22 10:20 AM

Creator: Rodriguez, Leticia

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	N/A	

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<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/3/2023 11:14:35 AM

## **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER Lea County NM

## **JOB NUMBER**

890-3906-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



## **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/3/2023 11:14:35 AM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3906-1 SDG: Lea County NM

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## **Definitions/Glossary**

Job ID: 890-3906-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description** 

F1 MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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: Harrier 35 Federal Com 001H

Job ID: 890-3906-1

SDG: Lea County NM

Job ID: 890-3906-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3906-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3906-1) and PH01 (890-3906-2).

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-44738 and analytical batch 880-44986 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44761 and analytical batch 880-44876 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.

Matrix: Solid

Lab Sample ID: 890-3906-1

## **Client Sample Results**

Client: Ensolum Job ID: 890-3906-1
Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Client Sample ID: PH01

Date Collected: 01/19/23 09:10 Date Received: 01/20/23 09:06

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			01/25/23 14:56	01/30/23 18:38	1
1,4-Difluorobenzene (Surr)	113		70 - 130			01/25/23 14:56	01/30/23 18:38	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/31/23 13:40	1
Method: SW846 8015 NM - Diese		ics (DRO) ( Qualifier	GC)	Unit	D	Prepared	Analysis	Dil Fac
Analyte			· <del></del>			Prepared	Analyzed	
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 11:29	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1
C10-C28)								
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			02/01/23 13:08	02/03/23 03:04	1
o-Terphenyl	107		70 - 130			02/01/23 13:08	02/03/23 03:04	1
-								
Method: EPA 300.0 - Anions, Ion	Chromatogran	hv - Solubl	e					

Client Sample ID: PH01 Lab Sample ID: 890-3906-2

5400

Date Collected: 01/19/23 09:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/25/23 14:56	01/30/23 18:58	1

50.0

mg/Kg

**Eurofins Carlsbad** 

01/26/23 22:16

2

5

7

9

12

13

**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3906-2

01/30/23 17:17

## **Client Sample Results**

Client: Ensolum Job ID: 890-3906-1
Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Client Sample ID: PH01

Date Collected: 01/19/23 09:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	104		70 - 130			01/25/23 14:56	01/30/23 18:58	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/31/23 13:40	1
Method: SW846 8015 NM - Dies	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/03/23 11:29	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM - Die	sel Range Orga	nics (DRO)	(GC)					
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		02/01/23 13:08	02/03/23 03:26	1
(GRO)-C6-C10	50.0		50.0	".		00/04/00 40 00	00/00/00 00 00	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 13:08	02/03/23 03:26	1
	<50.0	П	50.0	mg/Kg		02/01/23 13:08	02/03/23 03:26	1
,		O	00.0	mg/rtg		02/01/20 10:00	02/00/20 00:20	
Oll Range Organics (Over C28-C36)	400.0							
,	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)		Qualifier	Limits 70 - 130			Prepared 02/01/23 13:08	Analyzed 02/03/23 03:26	Dil Fac

24.8

mg/Kg

162

## **Surrogate Summary**

Client: Ensolum

Job ID: 890-3906-1

Project/Site: Harrier 35 Federal Com 001H

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)	
890-3893-A-1-D MS	Matrix Spike	85	104	
890-3893-A-1-E MSD	Matrix Spike Duplicate	100	106	
890-3906-1	PH01	112	113	
890-3906-2	PH01	111	104	
LCS 880-44738/1-A	Lab Control Sample	83	95	
LCSD 880-44738/2-A	Lab Control Sample Dup	81	102	
MB 880-44738/5-A	Method Blank	88	87	
Surrogate Legend				

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

_			
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-23972-A-21-H MS	Matrix Spike	91	88
880-23972-A-21-I MSD	Matrix Spike Duplicate	86	82
890-3906-1	PH01	104	107
890-3906-2	PH01	103	101
LCS 880-45211/2-A	Lab Control Sample	111	100
LCSD 880-45211/3-A	Lab Control Sample Dup	115	105
MB 880-45211/1-A	Method Blank	124	130

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Project/Site: Harrier 35 Federal Com 001H

Client: Ensolum

Job ID: 890-3906-1

SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-44738/5-A

Lab Sample ID: LCS 880-44738/1-A

**Matrix: Solid** 

Analysis Batch: 44986

**Matrix: Solid** 

Analysis Batch: 44986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 44738

1

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/25/23 14:56	01/30/23 12:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/25/23 14:56	01/30/23 12:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/25/23 14:56	01/30/23 12:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/25/23 14:56	01/30/23 12:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/25/23 14:56	01/30/23 12:57	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/25/23 14:56	01/30/23 12:57	1

MB MB

Surrogate	%Recovery C	Qualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88	70 - 130	01/25/23 14:56	01/30/23 12:57	1
1,4-Difluorobenzene (Surr)	87	70 - 130	01/25/23 14:56	01/30/23 12:57	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 44738

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.09573 mg/Kg 96 70 - 130 Toluene 0.100 0.08955 mg/Kg 90 70 - 130 0.100 0.08015 80 Ethylbenzene mg/Kg 70 - 130 0.200 0.1604 80 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.08030 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

**Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

Analysis Batch: 44986

Lab Sample ID: LCSD 880-44738/2-A

Prep Type: Total/NA Prep Batch: 44738

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1013		mg/Kg		101	70 - 130	6	35
Toluene	0.100	0.09557		mg/Kg		96	70 - 130	7	35
Ethylbenzene	0.100	0.08178		mg/Kg		82	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1637		mg/Kg		82	70 - 130	2	35
o-Xylene	0.100	0.08042		mg/Kg		80	70 - 130	0	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	81	70 - 130
1,4-Difluorobenzene (Surr)	102	70 - 130

Lab Sample ID: 890-3893-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 44986

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

Prep Batch: 44738

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00198	U	0.0998	0.09358		mg/Kg		94	70 - 130	
Toluene	<0.00198	U	0.0998	0.07247		mg/Kg		73	70 - 130	

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### QC Sample Results

Job ID: 890-3906-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

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

Lab Sample ID: 890-3893-A-1-D MS

Lab Sample ID: 890-3893-A-1-E MSD

**Matrix: Solid** 

Analysis Batch: 44986

Client Sample ID: Matrix Spike

Prep Type: Total/NA Prep Batch: 44738

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ethylbenzene <0.00198 U F1 0.0998 0.06098 F1 61 70 - 130 mg/Kg m-Xylene & p-Xylene <0.00396 UF1 0.200 0.1276 F1 mg/Kg 64 70 - 130 0.0998 o-Xylene <0.00198 UF1 0.06433 F1 64 70 - 130 mg/Kg

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 44738 RPD

3

Analysis Batch: 44986

**Matrix: Solid** 

Sample Sample Spike MSD MSD %Rec Result Qualifier Added %Rec RPD Analyte Result Qualifier Unit Limits Benzene <0.00198 U 0.101 0.09618 mg/Kg 95 70 - 130 0.07154 Toluene <0.00198 0.101 mg/Kg 71 70 - 130

1 35 Ethylbenzene <0.00198 UF1 0.101 0.05892 F1 58 70 - 130 35 mg/Kg 3 0.202 35 m-Xylene & p-Xylene <0.00396 UF1 0.1264 F1 mg/Kg 63 70 - 130 <0.00198 U F1 0.101 0.06549 F1 64 70 - 130 2 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

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

Lab Sample ID: MB 880-45211/1-A

**Matrix: Solid** 

Analysis Batch: 45226

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

Prep Batch: 45211

мв мв Result Qualifier RL Unit D Prepared Analyzed Dil Fac Analyte 02/01/23 13:08 02/02/23 20:18 <49.9 U 49.9 Gasoline Range Organics mg/Kg (GRO)-C6-C10 02/01/23 13:08 02/02/23 20:18 Diesel Range Organics (Over <49.9 U 49 9 mg/Kg C10-C28) OII Range Organics (Over C28-C36) <49.9 U 49.9 02/01/23 13:08 02/02/23 20:18 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	02/01/23 13:08	02/02/23 20:18	1
o-Terphenyl	130		70 - 130	02/01/23 13:08	02/02/23 20:18	1

Lab Sample ID: LCS 880-45211/2-A

**Matrix: Solid** Analysis Batch: 45226 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 45211

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 999 840.3 84 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 999 922.3 mg/Kg 92 70 - 130 C10-C28)

**Eurofins Carlsbad** 

Limit

35

Job ID: 890-3906-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

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

Lab Sample ID: LCS 880-45211/2-A

70 - 130

**Matrix: Solid** 

Analysis Batch: 45226

Surrogate

o-Terphenyl

1-Chlorooctane

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

Prep Batch: 45211

LCS LCS %Recovery Qualifier Limits 111 70 - 130

100

Lab Sample ID: LCSD 880-45211/3-A

**Matrix: Solid** 

Analysis Batch: 45226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45211

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 999 848.1 85 70 - 13020 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 999 939.0 94 mg/Kg 70 - 1302 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 115 105 70 - 130 o-Terphenyl

Lab Sample ID: 880-23972-A-21-H MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 45226** 

Prep Type: Total/NA

Prep Batch: 45211

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 1000 1158 mg/Kg 112 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 1000 1015 mg/Kg 102 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 91 70 - 130 o-Terphenyl 88

Lab Sample ID: 880-23972-A-21-I MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** 

Analysis Batch: 45226

Prep Type: Total/NA Prep Batch: 45211

Sample Sample MSD MSD RPD Spike %Rec Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 998 1061 102 Gasoline Range Organics mg/Kg 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 955.2 mg/Kg 96 70 - 130 20

C10-C28)

MSD MSD

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

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Job ID: 890-3906-1

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A

**Matrix: Solid** 

Analysis Batch: 44876

Client Sample ID: Method Blank **Prep Type: Soluble** 

мв мв

Analyte Result Qualifier RLUnit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 01/26/23 20:56

Lab Sample ID: LCS 880-44761/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44876** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 265.0 mg/Kg 106 90 - 110

Lab Sample ID: LCSD 880-44761/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 44876

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 274.4 mg/Kg 110 90 - 110

Lab Sample ID: 890-3904-A-1-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44876** 

Spike MS MS Sample Sample %Rec Result Qualifier Added Result Qualifier Analyte Unit %Rec Limits Chloride <5.03 U F1 252 281.2 F1 90 - 110 mg/Kg

Lab Sample ID: 890-3904-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 44876

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <5.03 U F1 252 281.7 F1 Chloride mg/Kg 111 90 - 110

Lab Sample ID: MB 880-44967/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 45074

мв мв

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride <5.00 5.00 mg/Kg 01/30/23 14:31

Lab Sample ID: LCS 880-44967/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 45074** 

LCS LCS %Rec Spike Added Analyte Result Qualifier Limits Unit %Rec Chloride 250 254.6 mg/Kg 102 90 - 110

Lab Sample ID: LCSD 880-44967/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

**Analysis Batch: 45074** 

7 maryone Batom 1001 .									
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	254.5		mg/Kg		102	90 - 110	0	20

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

Lab Sample ID: 880-24203-A-3-D MS

Lab Sample ID: 880-24203-A-3-E MSD

## **QC Sample Results**

Client: Ensolum Job ID: 890-3906-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Client Sample ID: Matrix Spike

**Prep Type: Soluble** 

Analysis Batch: 45074

**Matrix: Solid** 

**Matrix: Solid** 

Sample Sample Spike MS MS %Rec Result Qualifier Result Qualifier Added Analyte Unit %Rec Limits Chloride 104 250 349.8 mg/Kg 99 90 - 110

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

Analysis Batch: 45074

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Chloride 104 250 360.6 mg/Kg 103 90 - 110 3 20

## **QC Association Summary**

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3906-1 SDG: Lea County NM

**GC VOA** 

### Prep Batch: 44738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	5035	
890-3906-2	PH01	Total/NA	Solid	5035	
MB 880-44738/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-44738/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-44738/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3893-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3893-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 44986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	8021B	44738
890-3906-2	PH01	Total/NA	Solid	8021B	44738
MB 880-44738/5-A	Method Blank	Total/NA	Solid	8021B	44738
LCS 880-44738/1-A	Lab Control Sample	Total/NA	Solid	8021B	44738
LCSD 880-44738/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	44738
890-3893-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	44738
890-3893-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	44738

#### Analysis Batch: 45133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	Total BTEX	
890-3906-2	PH01	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 45211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	8015NM Prep	
890-3906-2	PH01	Total/NA	Solid	8015NM Prep	
MB 880-45211/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45211/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23972-A-21-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23972-A-21-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 45226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	8015B NM	45211
890-3906-2	PH01	Total/NA	Solid	8015B NM	45211
MB 880-45211/1-A	Method Blank	Total/NA	Solid	8015B NM	45211
LCS 880-45211/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45211
LCSD 880-45211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45211
880-23972-A-21-H MS	Matrix Spike	Total/NA	Solid	8015B NM	45211
880-23972-A-21-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45211

#### Analysis Batch: 45362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Total/NA	Solid	8015 NM	
890-3906-2	PH01	Total/NA	Solid	8015 NM	

## **QC Association Summary**

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Job ID: 890-3906-1

SDG: Lea County NM

#### **HPLC/IC**

### Leach Batch: 44761

<b>Lab Sample ID</b> 890-3906-1	Client Sample ID PH01	Prep Type Soluble	Solid	Method DI Leach	Prep Batch
MB 880-44761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3904-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3904-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 44876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	Soluble	Solid	300.0	44761
MB 880-44761/1-A	Method Blank	Soluble	Solid	300.0	44761
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	300.0	44761
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44761
890-3904-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	44761
890-3904-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44761

#### Leach Batch: 44967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-2	PH01	Soluble	Solid	DI Leach	_
MB 880-44967/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44967/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44967/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-24203-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-24203-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 45074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-2	PH01	Soluble	Solid	300.0	44967
MB 880-44967/1-A	Method Blank	Soluble	Solid	300.0	44967
LCS 880-44967/2-A	Lab Control Sample	Soluble	Solid	300.0	44967
LCSD 880-44967/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44967
880-24203-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	44967
880-24203-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44967

**Eurofins Carlsbad** 

Released to Imaging: 3/7/20254 950814 PMM

Job ID: 890-3906-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

**Client Sample ID: PH01** 

Date Collected: 01/19/23 09:10 Date Received: 01/20/23 09:06

Lab Sample ID: 890-3906-1

**Matrix: Solid** 

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	44738	01/25/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	44986	01/30/23 18:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45133	01/31/23 13:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			45362	02/03/23 11:29	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45211	02/01/23 13:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45226	02/03/23 03:04	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		10			44876	01/26/23 22:16	CH	EET MID

**Client Sample ID: PH01** Lab Sample ID: 890-3906-2

Date Collected: 01/19/23 09:20 Date Received: 01/20/23 09:06

Batch Dil Initial Final Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 Total/NA Prep 5.03 g 5 mL 44738 01/25/23 14:56 MNR EET MID 8021B Total/NA 5 mL 44986 01/30/23 18:58 MNR **EET MID** Analysis 1 5 mL Total/NA Total BTEX 45133 01/31/23 13:40 SM Analysis 1 **EET MID** Total/NA Analysis 8015 NM 45362 02/03/23 11:29 ΑJ **EET MID** Total/NA 8015NM Prep 02/01/23 13:08 Prep 10.01 g 10 mL 45211 DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 45226 02/03/23 03:26 ΑJ **EET MID** Soluble 5.05 g **EET MID** Leach DI Leach 50 mL 44967 01/30/23 14:00 CH Soluble Analysis 300.0 5 45074 01/30/23 17:17 СН **EET MID** 

**Laboratory References:** 

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

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3906-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

### **Laboratory: Eurofins Midland**

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

Authority		ogram	Identification Number	Expiration Date		
Texas	NE	ELAP	T104704400-22-25	06-30-23		
The following analytes the agency does not of	' '	ut the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes f		
Analysis Method	Prep Method	Matrix	Analyte			
8015 NM		Solid	Total TPH			

## **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3906-1

SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
800.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
Ol Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

Released to Imaging: 3/7/20254950514 PMM

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13

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3906-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3906-1	PH01	Solid	01/19/23 09:10	01/20/23 09:06	4'
890-3906-2	PH01	Solid	01/19/23 09:20	01/20/23 09:06	6'

3

4

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12

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12

Received by OCD: 11/19/2024/10:11/942/AM

Page 20 of 23

Released to Imaging: 3/7/20254550314 P.M.M.

## **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:			
AAOIK	Oldel	NO.		_	

																			V	ww.xe	enco.cc	om Page	1	of	
Project Manager:	Hadlie	Green				Bill to: (if	different	t)	Kalei	Jennin	gs									Wo	k Orde	er Commen	s		
Company Name:	Ensolu	ım, LLC				Compan	y Name	e:	Ensol	um, LL	С					ļ ļi	Program: UST/PST   PRP Brownfields RRC Superfund								
Address:	601 N	Marienfe	ld St S	uite 400		Address	:		601 N Marienfeld St Suite 400					State of Project:											
City, State ZIP:	Midlan	d, TX 79	701			City, Sta	te ZIP:		Midland, TX 79701						Reporting: Level II										
Phone:	817.68	33.2503			Email:	kjenning	gs@en	solum	.com							ן נ	Delivera	bles:	EDD		AD	aPT 🗆	Other	:	
Project Name:	Harr	ier 35 Fe	deral C	om 001H	Turr	Around								ANALY	SIS RI	EQL	EST					Pre	serva	tive Codes	
Project Number:	1,011		202409		☑ Routine	Rush		Pres. Code														None: NO	)	DI Water: H₂O	
Project Location:		Lea Co	ounty, N	IM	Due Date:																	Cool: Co		МеОН: Ме	
Sampler's Name:		Conn	er Shoi	е	TAT starts the			٤				890-3906 Chain of Cu										HCL: HC HNO <sub>3</sub> : HN H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> NaOH: Na H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>			
SAMPLE RECE Samples Received I		Temp B	Blank: /	Yes No Thermomel	Wet Ice: er ID:	(Yes)	No ADY	ramete									ustody								
Cooler Custody Sea		Yes No	NIA	Correction	Factor:	-0	63	Pa																-	
Sample Custody Sea	als:	Yes No	(N/A)	Temperatu	re Reading:	4.	.2				_					Custo						Zn Acetate+NaOH: Zn			
Total Containers:				Corrected 7	emperature:	14	0		(8015)	les	EX (8021)											NaOH+Ascorbic Acid: SAPC			
Sample Ide	ntificatio	on	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		I	Chlorides	втех (											Sa	nple	Comments	
PHO	01		s	1.19.23	910	4'	G	1	×	х	х		_			_			_	_					
PHO	01		s	1.19.23	920	6'	G	1	×	x	×	-			_	-	-+	+	$\dashv$	-			_:	A November	
					2								$\rightarrow$			-	-	-+	-	+				nt Number	
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Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$86.00 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 Cm Sh	Aranda Stat	1-20-73 90	94		
3			4		
5			6		Revised Date 08/25/2020 Rev. 2

**Eurofins Carlsbad** 

## **Chain of Custody Record**



1089 N Canal St. Carlsbad, NM 88220 Phone 575-988-3199 Fax: 575-988-3199	C	Chain (	of Custody	/ Re	COI	rd						ě,	(†					🖏 eurofins	Environment Testi	
Client Information (Sub Contract Lab)	Sampler			Lab PM Kramer,	Jes	sica						Car	rier Tra	cking	Vo(s).	*************		COC No: 890-1107 1		
Client Contact:	Phone:			E-Mail								State of Origin:						Page <sup>-</sup>		
Shipping/Receiving Company						Kramer@et.eurofinsus com creditations Required (See note).						New Mexico						Page 1 of 1		
Eurofins Environment Testing South Centr Address	15					' - Te		`									************	890-3906-1		
1211 W Florida Ave	Due Date Request 1/26/2023	ea							An	alys	is Re	que	sted	l				Preservation Cod	ies. M Hexane	
City <sup>.</sup> Midland State, Zip <sup>.</sup> TX, 79701	TAT Requested (d	ays)				H TPH												B NaOH C - Zn Acetate D Nitric Acid E NaHSO4 F MeOH	N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3	
Phone 432-704-5440(Tel) Email:	PO #: WO #:			or No)		MOD) Fi		oride									olio.	G Amchlor H Ascorbic Acid	S H2SO4 T TSP Dodecahydrate U Acetone	
				S or	2	rep (		흥	EX								2		V MCAA W pH 4-5	
Project Name. Harrier 35 Federal Com 001H Site	Project #: 89000094			ple (Ye	Yes or	M S P		LEACH	(MOD)								ontainers		Y Trizma Z other (specify)	
Site	SSOW#:			Sam	98	015N	l	<u>0</u>	Salc	2							8	Other <sup>-</sup>		
		Sample	Sample (W=wz Type S=sol O=wast (C=comp, BT=Tis	ter liter sue, sue,	erform MS/M	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV							Total Number			
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) A=AI Preservation Co	Martin Co.	H	8	8	8	8	-			-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	K	Special In	structions/Note	
PH01 (890-3906-1)	1/19/23	09 10	Sol	S. Marchard Male	m	х	х	х	Х	x			1-	أوملسها			۲,			
PH01 (890-3906-2)		Mountain 09 20	<del>                                     </del>		$\vdash$	+	$\rightarrow$	$\dashv$	-+			-	+-	-		+				
	1/19/23	Mountain	Sol	<u>a</u>		X	Х	X	X	×	_	_		ļ		_				
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Note: Since laboratory accreditations are subject to change, Eurofins En- laboratory does not currently maintain accreditation in the State of Origin accreditation status should be brought to Eurofins Environment Testing S	listed above for analysis/test	ts/matrix being	analyzed the samples	must be st	hipped	back	to the	Euro	fins E	nvironi	ment Te	estina S	South 6	Central	LLCI	aborato	rv or o	ther instructions will be	provided Any changes	
Possible Hazard Identification					San	nple	Disp	osa	I (A	fee n	nay b					s are	reta	ined longer than	1 month)	
Unconfirmed  Deliverable Requested   II, III IV, Other (specify)	B B.L.	able Beat			<u> </u>	$\Box_{R\epsilon}$	turn	To (	Clien	t -			oosal	By L	ab		_ Ar	chive For	Months	
	Primary Deliver	rable Rank	2		Spe	ecial I	nstru	ıctıoı	ns/Q	C Re	quirer	nents								
Empty Kit Relinquished by		Date		Ti	ime			Λ	Λ				Me	thod of	Shipm	ent.				
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Custody Seals Intact: Custody Seal No				***************************************		Coole	r Tem	perat	ure(s)	°C an	d Other	Rema	rks		1			· · · · · · · · · · · · · · · · · · ·	<u> </u>	

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3906-1

SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Number: 3906 List Number: 1

Creator: Stutzman, Amanda

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	

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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3906-1

SDG Number: Lea County NM

Login Number: 3906 List Source: Eurofins Midland List Number: 2 List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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	N/A	

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St.

Suite 400 Midland, Texas 79701

Generated 2/3/2023 7:13:45 PM

## **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

## **JOB NUMBER**

890-3907-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

## **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/3/2023 7:13:45 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

2/3/2023

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H

Laboratory Job ID: 890-3907-1
SDG: 03D2024093

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## **Definitions/Glossary**

Job ID: 890-3907-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier Qualifier Description

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 Colony Forming Unit CFU **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) Limit of Quantitation (DoD/DOE) LOQ

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

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

Toxicity Equivalent Factor (Dioxin) TFF Toxicity Equivalent Quotient (Dioxin) **TEQ** 

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Job ID: 890-3907-1 SDG: 03D2024093 Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3907-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3907-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3907-1), PH02 (890-3907-2) and PH02 (890-3907-3).

#### **GC VOA**

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

#### GC Semi VOA

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

#### HPLC/IC

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

Job ID: 890-3907-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH02** Lab Sample ID: 890-3907-1 Matrix: Solid

Date Collected: 01/19/23 10:00 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	01/31/23 20:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			01/31/23 14:36	01/31/23 20:01	1
1,4-Difluorobenzene (Surr)	114		70 - 130			01/31/23 14:36	01/31/23 20:01	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1
Method: SW846 8015 NM - Diese Analyte	Result	Qualifier	RL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 20:05	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	1
		11	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Rg		02/01/20 10:00	02/03/23 10:09	1
,	<49.9 <b>%Recovery</b>	Qualifier	Limits	mg/Kg		Prepared	Analyzed	
,				ilig/Ng				
Surrogate	%Recovery		Limits	iligiNg		Prepared	Analyzed	Dil Fac
Surrogate 1-Chlorooctane	%Recovery 93 96	Qualifier	Limits 70 - 130 70 - 130	ilig/Ng		Prepared 02/01/23 13:05	Analyzed 02/03/23 18:09	1 Dil Fac 1
Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 93 96 Chromatograp	Qualifier	Limits 70 - 130 70 - 130	Unit	<b>D</b>	Prepared 02/01/23 13:05	Analyzed 02/03/23 18:09	Dil Fac

**Client Sample ID: PH02** Lab Sample ID: 890-3907-2

Date Collected: 01/19/23 10:10 Date Received: 01/20/23 09:06

Sample Depth: 3'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:36	01/31/23 20:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:36	01/31/23 20:22	

**Eurofins Carlsbad** 

Released to Imaging: 3/7/20254.950814 PMM

**Matrix: Solid** 

Job ID: 890-3907-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH02** Lab Sample ID: 890-3907-2 Matrix: Solid

Date Collected: 01/19/23 10:10 Date Received: 01/20/23 09:06

Sample Depth: 3'

Method: SW846 8021B - Volatile	Organic Compounds	(GC) (Continued)
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Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	117	70 - 130	01/31/23 14:36	01/31/23 20:22	1

#### **Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 20:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:31	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95	70 - 130	02/01/23 13:05	02/03/23 18:31	1
o-Terphenyl	98	70 - 130	02/01/23 13:05	02/03/23 18:31	1

#### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifie		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54.9	5.00	mg/Kg			01/26/23 22:35	1

**Client Sample ID: PH02** Lab Sample ID: 890-3907-3

Date Collected: 01/19/23 10:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Mothodi	CIMOAC GOOAD	Valatile Or	ganic Compour	de (CC)
i wethod:	5W846 8U21B	- volatile Ur	danic Compour	ias (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:36	01/31/23 20:42	1
1,4-Difluorobenzene (Surr)	119		70 - 130			01/31/23 14:36	01/31/23 20:42	1

Mothod: TAI	SOP Total RTEX	Total RTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	ma/Ka			02/01/23 12:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 20:05	1

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**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3907-3

01/26/23 22:41

## **Client Sample Results**

Client: Ensolum Job ID: 890-3907-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH02** 

Date Collected: 01/19/23 10:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1
C10-C28)								
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			02/01/23 13:05	02/03/23 18:54	1
o-Terphenyl	111		70 - 130			02/01/23 13:05	02/03/23 18:54	1
Method: EPA 300.0 - Anions, Ion	Chromatogran	hv - Solub	lo.					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

5.00

18.6

mg/Kg

12

14

## **Surrogate Summary**

Client: Ensolum Job ID: 890-3907-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Re
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-23952-A-1-B MS	Matrix Spike	97	112	
880-23952-A-1-C MSD	Matrix Spike Duplicate	98	112	
890-3907-1	PH02	111	114	
890-3907-2	PH02	107	117	
890-3907-3	PH02	111	119	
LCS 880-45147/1-A	Lab Control Sample	94	112	
LCSD 880-45147/2-A	Lab Control Sample Dup	99	113	
MB 880-45147/5-A	Method Blank	102	105	
Surrogate Legend				
BFB = 4-Bromofluorobenzen	e (Surr)			

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Ac	ceptance Lir
		1CO1	OTPH1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
890-3907-1	PH02	93	96		
890-3907-2	PH02	95	98		
890-3907-3	PH02	112	111		

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

DFBZ = 1,4-Difluorobenzene (Surr)

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Client: Ensolum Job ID: 890-3907-1 Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

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

Lab Sample ID: MB 880-45147/5-A

**Matrix: Solid** 

Analysis Batch: 45129

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45147

	МВ	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	-	01/31/23 14:36	01/31/23 17:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	•	01/31/23 14:36	01/31/23 17:29	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45147

Lab Sample ID: LCS 880-45147/1-A Matrix: Solid

Analysis Batch: 45129

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08233		mg/Kg		82	70 - 130	
Toluene	0.100	0.07766		mg/Kg		78	70 - 130	
Ethylbenzene	0.100	0.07484		mg/Kg		75	70 - 130	
m-Xylene & p-Xylene	0.200	0.1584		mg/Kg		79	70 - 130	
o-Xylene	0.100	0.07668		mg/Kg		77	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: LCSD 880-45147/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

Analysis Batch: 45129

Prep Type: Total/NA Prep Batch: 45147 LCSD LCSD Spike %Rec

	Opino	2002	2002			701100		5	
Analyte	Added	Result	Qualifier Ur	nit D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09378	m	g/Kg	94	70 - 130	13	35	
Toluene	0.100	0.08580	m	g/Kg	86	70 - 130	10	35	
Ethylbenzene	0.100	0.08489	m	g/Kg	85	70 - 130	13	35	
m-Xylene & p-Xylene	0.200	0.1784	m	g/Kg	89	70 - 130	12	35	
o-Xylene	0.100	0.08543	m	g/Kg	85	70 - 130	11	35	

LCSD LCSD

Surrogate	%Recovery (	Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 880-23952-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 45129

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

Prep Batch: 45147

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.101	0.08219		mg/Kg		82	70 - 130	
Toluene	<0.00202	U	0.101	0.07762		mg/Kg		77	70 - 130	

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Lab Sample ID: 880-23952-A-1-C MSD

Analysis Batch: 45129

Job ID: 890-3907-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

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

Lab Sample ID: 880-23952-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA

Prep Batch: 45147

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits D <0.00202 U 0.101 0.07334 73 70 - 130 Ethylbenzene mg/Kg m-Xylene & p-Xylene <0.00403 0.202 0.1547 mg/Kg 77 70 - 130 <0.00202 U 0.101 0.07303 72 70 - 130 o-Xylene mg/Kg

MS MS Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 97 1,4-Difluorobenzene (Surr) 70 - 130 112

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

Analysis Batch: 45129 Sample Sample Spike MSD MSD RPD Result Qualifier %Rec RPD Limit Added Result Qualifier Limits Analyte Unit D Benzene <0.00202 U 0.0996 0.08613 mg/Kg 86 70 - 130 5 Toluene <0.00202 0.0996 0.07815 mg/Kg 78 70 - 130 Ethylbenzene <0.00202 0.0996 0.07266 73 70 - 130 U mg/Kg m-Xylene & p-Xylene < 0.00403 U 0.199 0.1519 mg/Kg 76 70 - 130 2 70 - 130 0.0996 73 35 o-Xylene <0.00202 U 0.07278 mg/Kg

35 35 35 35

MSD MSD Qualifier Limits Surrogate %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 98 1,4-Difluorobenzene (Surr) 112 70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A Client Sample ID: Method Blank

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 44876

**Prep Type: Soluble** 

мв мв Result Qualifier RL Unit D Dil Fac Analyte Prepared Analyzed 5.00 Chloride <5.00 U 01/26/23 20:56 mg/Kg

Lab Sample ID: LCS 880-44761/2-A **Client Sample ID: Lab Control Sample** Matrix: Solid **Prep Type: Soluble** 

**Analysis Batch: 44876** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Limits Unit %Rec Chloride 250 265.0 mg/Kg 106 90 - 110

Lab Sample ID: LCSD 880-44761/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44876** 

Spike LCSD LCSD %Rec RPD Added Qualifier Limit Analyte Result Unit D %Rec Limits RPD Chloride 250 274.4 110 90 - 110 20 mg/Kg

## **QC Sample Results**

Client: Ensolum Job ID: 890-3907-1 Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3907-3 MS **Client Sample ID: PH02 Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	18.6		250	289.2		mg/Kg		108	90 - 110	

Lab Sample ID: 890-3907-3 MSD **Client Sample ID: PH02 Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

Sample Sample Spike MSD MSD %Rec RPD RPD Limit Analyte Result Qualifier Added Result Qualifier Limits Unit %Rec Chloride 18.6 250 289.9 mg/Kg 109 90 - 110 0

## **QC Association Summary**

Client: Ensolum Job ID: 890-3907-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### **GC VOA**

### Analysis Batch: 45129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Total/NA	Solid	8021B	45147
890-3907-2	PH02	Total/NA	Solid	8021B	45147
890-3907-3	PH02	Total/NA	Solid	8021B	45147
MB 880-45147/5-A	Method Blank	Total/NA	Solid	8021B	45147
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	8021B	45147
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45147
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45147
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45147

### Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-3907-1	PH02	Total/NA	Solid	5035	
890-3907-2	PH02	Total/NA	Solid	5035	
890-3907-3	PH02	Total/NA	Solid	5035	
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 45204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Total/NA	Solid	Total BTEX	
890-3907-2	PH02	Total/NA	Solid	Total BTEX	
890-3907-3	PH02	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 45210

<b>Lab Sample ID</b> 890-3907-1	Client Sample ID PH02	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
890-3907-2	PH02	Total/NA	Solid	8015NM Prep	
890-3907-3	PH02	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 45299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Total/NA	Solid	8015B NM	45210
890-3907-2	PH02	Total/NA	Solid	8015B NM	45210
890-3907-3	PH02	Total/NA	Solid	8015B NM	45210

### Analysis Batch: 45437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Total/NA	Solid	8015 NM	
890-3907-2	PH02	Total/NA	Solid	8015 NM	
890-3907-3	PH02	Total/NA	Solid	8015 NM	

### HPLC/IC

### Leach Batch: 44761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Soluble	Solid	DI Leach	
890-3907-2	PH02	Soluble	Solid	DI Leach	

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## **QC Association Summary**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

### **HPLC/IC (Continued)**

### Leach Batch: 44761 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-3	PH02	Soluble	Solid	DI Leach	
MB 880-44761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3907-3 MS	PH02	Soluble	Solid	DI Leach	
890-3907-3 MSD	PH02	Soluble	Solid	DI Leach	

### Analysis Batch: 44876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3907-1	PH02	Soluble	Solid	300.0	44761
890-3907-2	PH02	Soluble	Solid	300.0	44761
890-3907-3	PH02	Soluble	Solid	300.0	44761
MB 880-44761/1-A	Method Blank	Soluble	Solid	300.0	44761
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	300.0	44761
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44761
890-3907-3 MS	PH02	Soluble	Solid	300.0	44761
890-3907-3 MSD	PH02	Soluble	Solid	300.0	44761

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Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3907-1 SDG: 03D2024093

Lab Sample ID: 890-3907-1

Matrix: Solid

Client Sample ID: PH02 Date Collected: 01/19/23 10:00 Date Received: 01/20/23 09:06

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 5.03 g Total/NA Prep 5 mL 45147 01/31/23 14:36 EL **EET MID** 8021B Total/NA Analysis 1 5 mL 5 mL 45129 01/31/23 20:01 MNR **EET MID** Total/NA Analysis Total BTEX 45204 02/01/23 12:53 SM **EET MID** Total/NA 8015 NM 02/03/23 20:05 **EET MID** Analysis 1 45437 ΑJ Total/NA 8015NM Prep 45210 02/01/23 13:05 EET MID Prep 10.02 g 10 mL DM Total/NA Analysis 8015B NM 1 uL 1 uL 45299 02/03/23 18:09 ΑJ **EET MID** Soluble DI Leach 4.99 g 50 mL 44761 01/25/23 15:52 KS EET MID Leach Soluble Analysis 300.0 44876 01/26/23 22:29 СН **EET MID** 

Client Sample ID: PH02 Lab Sample ID: 890-3907-2

Date Collected: 01/19/23 10:10 Matrix: Solid

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 20:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45204	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45437	02/03/23 20:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45210	02/01/23 13:05	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/03/23 18:31	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 22:35	CH	EET MID

Client Sample ID: PH02 Lab Sample ID: 890-3907-3

Date Collected: 01/19/23 10:20
Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 20:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45204	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45437	02/03/23 20:05	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45210	02/01/23 13:05	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/03/23 18:54	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 22:41	CH	EET MID

Laboratory References:

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

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**Matrix: Solid** 

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## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3907-1 Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

### **Laboratory: Eurofins Midland**

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

Authority		ogram	Identification Number	Expiration Date	
Texas	NELAP T104704400-22-25		T104704400-22-25	06-30-23	
The following analytes the agency does not of	• •	it the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes fo	
A     M - 4	Prep Method	Matrix	Analyte		
Analysis Method	r iep Metriod	Matrix	Analyte		
8015 NM	Fieb Method	Solid	Total TPH		

## **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3907-1 SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3907-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
890-3907-1	PH02	Solid	01/19/23 10:00	01/20/23 09:06	
890-3907-2	PH02	Solid	01/19/23 10:10	01/20/23 09:06	
890-3907-3	PH02	Solid	01/19/23 10:20	01/20/23 09:06	6

2/3/2023



• W.			
100	611	rot	ins
134	CU	101	1113

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

Project Manager:	Hadli	e Green				Bill to: (if	different	)	Kalei .	Jenning	gs					_							Comments	
Company Name:	Enso	lum, LLC				Compan	y Name	:	Ensol	ım, LL	С						Progr	am: U	T/PS	T 🗌 P	RP	Brown	nfields 🗌 RR	Superfund [
Address:	601 N	N Marienfo	eld St S	uite 400		Address			601 N	Marie	nfeld S	t Suite	400			_	State							
City, State ZIP:	Midla	nd, TX 79	9701			City, Star	e ZIP:		Midlar	nd, TX	79701							-						RP ☐ Level IV ☐
Phone:	817.6	83.2503			Email:	kjenning	s@en	solum	.com								Delive	rables	EDD			ADaP	T ☐ Oth	er:
Project Name:	Har	rier 35 Fe	ederal C	Com 001H	Turr	Around								ANAL	IALYSIS REQUEST						Preservative Codes			
Project Number:			202409		☑ Routine	Rush		Pres. Code															None: NO	DI Water: H <sub>2</sub> O
Project Location:		Lea C	ounty, N	NM	Due Date:																		Cool: Cool	MeOH: Me
Sampler's Name: PO #:		Conr	ner Sho	re	TAT starts the			ž.															HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	HNO <sub>3</sub> : HN NaOH: Na
SAMPLE RECEI Samples Received In		Temp I	Blank: No	Yes No Thermomet	Wet Ice:	7 DM	No Ω0:7	ramete															H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NA	BIS
Cooler Custody Seal		Yes No		Correction I	Factor:	70	2	Pa															Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : Na	-
Sample Custody Sea	als:	Yes No	N/A	Temperatur	e Reading:	4.					=			3007	Chair	n of C	ustody	<b>51</b> 11 11 11 11 14	11				Zn Acetate+N	
Total Containers:				Corrected T	emperature:	4.	0		015)	es	802			J-39U/	Crian	1010	astoay						NaOH+Ascor	bic Acid: SAPC
Sample Iden	ntificat	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	TPH (8015)	Chlorides	BTEX (8021)												Sample	Comments
PH0	)2		s	1.19.23	1000	1'	G	1	х	х	х												1	
PH0	)2		S	1.19.23	1010	3'	G	1	х	х	х										ļ			
PH0	)2		S	1.19.23	1020	6'	G	1	х	х	х											<b>.</b>		ent Number
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Total Circle M	200.7 /	6010	200.	8 /	60	20:	
Circle M	ethod(s	and	Metal(s)	to	be	analy	yzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SlO<sub>2</sub> Na Sr II Sh U V 2h 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 \$86.00 will be applied to each project and a charge of \$6 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
108-2	Dona da Istort	1-20-23 90	26		
3			4		
			6		
	l				Revised Date: 08/25/2020 Rev. 20

### **Eurofins Carlsbad**

Client Information (Sub Contract Lab)

Eurofins Environment Testing South Centr

1089 N Canal St.

Shipping/Receiving

Client Contact.

Company<sup>-</sup>

Carlsbad NM 88220 Phone 575-988-3199 Fax: 575-988-3199

Sampler

Phone:

Due Date Requested

## **Chain of Custody Record**

Lab PM

E-Mail

Kramer, Jessica

Jessica Kramer@et.eurofinsus com

NELAP - Texas

Accreditations Required (See note)



Carrier Tracking No(s).

State of Origin

New Mexico

💸 eurofins

COC No.

Page

Job#:

890-1107 1

Page 1 of 1

890-3907-1

**Environment Testing** 

2/3/2023

Released to Imaging: 3/7/20254350814 P.MM

T211 W Florida Ave, , City	1/26/2023 TAT Requested (c					725	Ţ	T	Ar	naly	sis F	Reque	sted					Preservation Code  A HCL	M Hexane
Midland State, Zip TX, 79701 Phone.	PO #:	14y5)				Full TPH											hands abadeadan	r MeOH	N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4
432-704-5440(Tel)					6	Ī		ge			i				1		ž.		T TSP Dodecahydrate
Email	WO #				وَ إِنَّا	N)		Chlo	頁						ļ			l Ice	U Acetone V MCAA
Project Name Harrier 35 Federal Com 001H	Project # <sup>-</sup> 89000094				e (Yes	S P		EACH	.B (QC								containers	K EDTA	W pH 4-5 Y Trizma
Site	SSOW#					15NM		יסו רו	ılc (M								8	Other <sup>.</sup>	Z other (specify)
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G≈grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered S Perform MS/MS	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV							Total Number of	Specially	A
			a haddenhild commitmenters on marror	ation Code:	XX	7	- 8		- 80	-	-						⇟	Special Ins	tructions/Note:
PH02 (890-3907-1)	1/19/23	10 00 Mountain	1	Solid		×	x	Х	Χ	x					1		7		
PH02 (890-3907-2)	1/19/23	10 10 Mountain		Solid		×	x	х	х	х		$\top$				$\Box$	1		
PH02 (890-3907-3)	1/19/23	10 20 Mountain		Solid		X	х	х	х	х							1		
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																	Age see	· · · · · · · · · · · · · · · · · · ·	
Note Since laboratory accreditations are subject to change Eurofins Enviro laboratory does not currently maintain accreditation in the State of Origin list accreditation status should be brought to Eurofins Environment Testing Sou																			
Possible Hazard Identification																		ed longer than 1	
Unconfirmed  Deliverable Requested 1.11.111.114 Other (aggriff)						$\sqcup_F$	Returr	To	Clien	t	L.	<sup>⊥</sup> Disp	osal E					ve For	Months
Deliverable Requested I, II III, IV Other (specify)	Primary Deliver	rable Rank	2		Sp	pecial	Instr	uctio	ns/Q	C Re	quire	ments							
Empty Kit Relinquished by		Date			Time			0	I				Meth	od of S	hipment.				
Reinquished by Life	Date/Time			Company	-	Rece	eived t		N	la	21	M	21		ate/Time	):			Company
Relinquished by	Date/Time <sup>-</sup>	1		Company		Rege	elved b	у.						C	ate/Time	)			Company
Relinquished by	Date/Time	***************************************		Company		Rece	elved t	y.						Ē	ate/Time	)			Company
Custody Seals Intact: Custody Seal No				1		Cool	er Ten	perati	ure(s)	°C an	d Othe	r Remar	ks.						
Δ Yes Δ No																			

### **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-3907-1

 SDG Number: 03D2024093

Login Number: 3907 List Source: Eurofins Carlsbad

List Number: 1 Creator: Stutzman, Amanda

MS/MSDs

<6mm (1/4").

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 True tampered with. Samples were received on ice. True True Cooler Temperature is acceptable. 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 True HTs) 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 N/A Sample Preservation Verified.

True

N/A

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There is sufficient vol. for all requested analyses, incl. any requested

Containers requiring zero headspace have no headspace or bubble is

## **Login Sample Receipt Checklist**

Client: Ensolum Job Numl

Job Number: 890-3907-1 SDG Number: 03D2024093

Login Number: 3907
List Source: Eurofins Midland
List Number: 2
List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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

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**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/3/2023 11:14:35 AM

## **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER Lea County NM

## **JOB NUMBER**

890-3908-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

## **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/3/2023 11:14:35 AM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Page 2 of 24

2/3

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Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3908-1 SDG: Lea County NM

# **Table of Contents**

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Racaint Chacklists	23

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### **Definitions/Glossary**

Job ID: 890-3908-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier Qualifier Description

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 Colony Forming Unit CFU **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 MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

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

Toxicity Equivalent Factor (Dioxin) TFF Toxicity Equivalent Quotient (Dioxin) **TEQ** 

**TNTC** Too Numerous To Count

Job ID: 890-3908-1

### **Case Narrative**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Job ID: 890-3908-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3908-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH03 (890-3908-1), PH03 (890-3908-2) and PH03 (890-3908-3).

#### **GC VOA**

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

#### GC Semi VOA

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

#### HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-3908-1

## **Client Sample Results**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

SDG: Lea County NM

Client Sample ID: PH03

Date Collected: 01/19/23 10:30 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 21:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			01/31/23 14:36	01/31/23 21:02	1
1,4-Difluorobenzene (Surr)	113		70 - 130			01/31/23 14:36	01/31/23 21:02	1
Method: TAL SOP Total BTEX - T	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/01/23 12:53	1
-								
Method: SW846 8015 NM - Diese	I Range Organ	ice (DRO) (	C)					
Method: SW846 8015 NM - Diese Analyte		ics (DRO) ( Qualifier	GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/03/23 11:29	Dil Fac
Analyte Total TPH		Qualifier U	RL 49.9		<u>D</u>	Prepared		
Analyte Total TPH	Result <49.9	Qualifier U	RL 49.9		<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <49.9	Qualifier Unics (DRO) Qualifier	RL 49.9 (GC)	mg/Kg			02/03/23 11:29	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL 49.9 (GC)	mg/Kg		Prepared	02/03/23 11:29  Analyzed	1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies	Result <a href="#">49.9</a> sel Range Orga Result <a href="#">&lt;49.9</a> <a href="#">&lt;49.9</a>	Qualifier U  nics (DRO) Qualifier U	RL 49.9  (GC) RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 02/01/23 13:08	02/03/23 11:29  Analyzed  02/03/23 03:48	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.9  sel Range Orga Result <49.9 <49.9	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9  (GC) RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 13:08 02/01/23 13:08	02/03/23 11:29  Analyzed 02/03/23 03:48 02/03/23 03:48	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9  (GC) RL 49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 13:08 02/01/23 13:08 02/01/23 13:08	02/03/23 11:29  Analyzed 02/03/23 03:48 02/03/23 03:48 02/03/23 03:48	1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 13:08 02/01/23 13:08 02/01/23 13:08 Prepared	02/03/23 11:29  Analyzed 02/03/23 03:48 02/03/23 03:48 02/03/23 03:48  Analyzed	Dil Fac  1  1  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 13:08 02/01/23 13:08 02/01/23 13:08 Prepared 02/01/23 13:08	02/03/23 11:29  Analyzed 02/03/23 03:48  02/03/23 03:48  Analyzed 02/03/23 03:48	1 Dil Fac 1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 13:08 02/01/23 13:08 02/01/23 13:08 Prepared 02/01/23 13:08	02/03/23 11:29  Analyzed 02/03/23 03:48  02/03/23 03:48  Analyzed 02/03/23 03:48	1 Dil Fac 1 Dil Fac 1

Client Sample ID: PH03 Lab Sample ID: 890-3908-2

Date Collected: 01/19/23 10:40 Date Received: 01/20/23 09:06

Sample Depth: 3'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:36	01/31/23 22:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:36	01/31/23 22:53	1

**Eurofins Carlsbad** 

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**Matrix: Solid** 

Sample Depth: 3'

### **Client Sample Results**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

SDG: Lea County NM

Client Sample ID: PH03 Lab Sample ID: 890-3908-2

Date Collected: 01/19/23 10:40 Matrix: Solid
Date Received: 01/20/23 09:06

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	112	70 - 130	01/31/23 14:36	01/31/23 22:53	1

Method: TAL SOP Total BTEX	K - Total BTEX Calculation						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	DII Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:53	1

Method: SW846 8015 NM - Diesel I	Range Organics (DRO) (GC)	)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 11:29	1

Method: SW846 8015B NM - Diese	Range Orga	nics (DRO) (G	3C)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1

Oll Range Organics (Over C28-C36)	<49.9 U	J	49.9	mg/Kg	02/01/23 13:08	02/03/23 04:09	1
Surrogate	%Recovery Q	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130		02/01/23 13:08	02/03/23 04:09	1

	1-Chlorooctane	118	70 - 130	02/01/23 13:08	02/03/23 04:09	1
l	o-Terphenyl	115	70 - 130	02/01/23 13:08	02/03/23 04:09	1
ì	_					

method: EPA 300.0 - Anions, for Chromatography - Soluble									
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	77.6	5.00	ma/Ka		<del>.</del>	01/26/23 23:06	1		

Client Sample ID: PH03 Lab Sample ID: 890-3908-3

Date Collected: 01/19/23 10:50 Matrix: Solid
Date Received: 01/20/23 09:06

Sample Depth: 6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			01/31/23 14:36	01/31/23 23:13	1
1,4-Difluorobenzene (Surr)	115		70 - 130			01/31/23 14:36	01/31/23 23:13	1

Method: TAL SOP Total BTEX - To	tal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/01/23 12:53	1

Method: SW846 8015 NM - Diesel F	Range Organics (DRO) (GC	<b>;</b> )					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9 U	49.9	mg/Kg			02/03/23 11:29	1

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Matrix: Solid

Lab Sample ID: 890-3908-3

01/30/23 17:24

## **Client Sample Results**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

SDG: Lea County NM

**Client Sample ID: PH03** 

Date Collected: 01/19/23 10:50 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:30	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:30	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130			02/01/23 13:08	02/03/23 04:30	1
o-Terphenyl	105		70 - 130			02/01/23 13:08	02/03/23 04:30	1
Method: EPA 300.0 - Anions, Ion	Chromatogran	hy - Solubl	•					
metriou. Li A 300.0 - Arrioris, iori	om omatograp	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

24.9

50.0

mg/Kg

7

9

10

5

12

13

## **Surrogate Summary**

Client: Ensolum Job ID: 890-3908-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

_				Percent Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-23952-A-1-B MS	Matrix Spike	97	112	
880-23952-A-1-C MSD	Matrix Spike Duplicate	98	112	
890-3908-1	PH03	115	113	
890-3908-2	PH03	102	112	
890-3908-3	PH03	106	115	
LCS 880-45147/1-A	Lab Control Sample	94	112	
LCSD 880-45147/2-A	Lab Control Sample Dup	99	113	
MB 880-45147/5-A	Method Blank	102	105	
Surrogate Legend				
BFB = 4-Bromofluorobenzene	(Surr)			

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-23972-A-21-H MS	Matrix Spike	91	88	
880-23972-A-21-I MSD	Matrix Spike Duplicate	86	82	
890-3908-1	PH03	119	117	
890-3908-2	PH03	118	115	
890-3908-3	PH03	105	105	
LCS 880-45211/2-A	Lab Control Sample	111	100	
LCSD 880-45211/3-A	Lab Control Sample Dup	115	105	
MB 880-45211/1-A	Method Blank	124	130	

Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1 SDG: Lea County NM

Prep Type: Total/NA

Client Sample ID: Method Blank

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

Lab Sample ID: MB 880-45147/5-A

**Matrix: Solid** 

Analysis Batch: 45129							Prep Batch	n: 45147
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 70 - 130 4-Bromofluorobenzene (Surr) 102 01/31/23 14:36 01/31/23 17:29 105 70 - 130 01/31/23 14:36 1,4-Difluorobenzene (Surr) 01/31/23 17:29

Lab Sample ID: LCS 880-45147/1-A

**Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45129 Prep Batch: 45147

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08233		mg/Kg		82	70 - 130	
Toluene	0.100	0.07766		mg/Kg		78	70 - 130	
Ethylbenzene	0.100	0.07484		mg/Kg		75	70 - 130	
m-Xylene & p-Xylene	0.200	0.1584		mg/Kg		79	70 - 130	
o-Xylene	0.100	0.07668		mg/Kg		77	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	94	70 - 130
1,4-Difluorobenzene (Surr)	112	70 - 130

Lab Sample ID: LCSD 880-45147/2-A

**Matrix: Solid** 

Analysis Batch: 45129

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA Prep Batch: 45147

	Spike	LCSD	LCSD			%Rec		RPD
Analyte	Added	Result	Qualifier Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09378	mg/Kg		94	70 - 130	13	35
Toluene	0.100	0.08580	mg/Kg		86	70 - 130	10	35
Ethylbenzene	0.100	0.08489	mg/Kg		85	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1784	mg/Kg		89	70 - 130	12	35
o-Xylene	0.100	0.08543	mg/Kg		85	70 - 130	11	35

LCSD LCSD %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 99 70 - 130 1,4-Difluorobenzene (Surr) 113 70 - 130

Lab Sample ID: 880-23952-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 45129

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

Prep Batch: 45147

l		Sample	Sample	Spike	MS	MS				%Rec	
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Benzene	<0.00202	U	0.101	0.08219		mg/Kg		82	70 - 130	_
l	Toluene	<0.00202	U	0.101	0.07762		mg/Kg		77	70 - 130	

### QC Sample Results

Client: Ensolum Job ID: 890-3908-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

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

Lab Sample ID: 880-23952-A-1-B MS

Lab Sample ID: 880-23952-A-1-C MSD

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 45129

Analysis Batch: 45129

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45147

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130
o-Xylene	<0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1,4-Difluorobenzene (Surr)	112	70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits 0.0996 Benzene <0.00202 U 0.08613 mg/Kg 86 70 - 130 5 35 Toluene <0.00202 U 0.0996 0.07815 78 mg/Kg 70 - 130 35 Ethylbenzene <0.00202 U 0.0996 0.07266 mg/Kg 73 70 - 130 35 <0.00403 U 0.199 0.1519 76 70 - 130 35 m-Xylene & p-Xylene mg/Kg 2 <0.00202 U 0.0996 0.07278 73 70 - 130 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-45211/1-A

**Matrix: Solid** 

Analysis Batch: 45226

Client Sample ID: Method Blank
D

Prep Type: Total/NA

Prep Batch: 45211

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1

MB MB

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	02/01/23 13.	08 02/02/23 20:18	1
o-Terphenyl	130		70 - 130	02/01/23 13	08 02/02/23 20:18	1

Lab Sample ID: LCS 880-45211/2-A

**Matrix: Solid** 

Analysis Batch: 45226

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 45211

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	999	840.3		mg/Kg		84	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	999	922.3		mg/Kg		92	70 - 130	
C10-C28)								

Project/Site: Harrier 35 Federal Com 001H

Limits

70 - 130

70 - 130

Job ID: 890-3908-1

SDG: Lea County NM

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

LCS LCS

%Recovery Qualifier

Lab Sample ID: LCS 880-45211/2-A

**Matrix: Solid** 

**Matrix: Solid** 

Surrogate

Client: Ensolum

Analysis Batch: 45226

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 45211

1-Chlorooctane 111 o-Terphenyl 100

Lab Sample ID: LCSD 880-45211/3-A

Analysis Batch: 45226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45211

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 999 848.1 85 70 - 13020 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 999 939.0 94 mg/Kg 70 - 1302 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 115 105 70 - 130 o-Terphenyl

Lab Sample ID: 880-23972-A-21-H MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 45226** 

Prep Type: Total/NA

Prep Batch: 45211

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 1000 1158 mg/Kg 112 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 1000 1015 mg/Kg 102 70 - 130

C10-C28)

MS MS

%Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 91 70 - 130 o-Terphenyl 88

Lab Sample ID: 880-23972-A-21-I MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45226

Prep Type: Total/NA

Prep Batch: 45211

RPD

Sample Sample MSD MSD Spike %Rec Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 998 1061 102 Gasoline Range Organics mg/Kg 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 955.2 mg/Kg 96 70 - 130 20

C10-C28)

MSD MSD

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

Client: Ensolum Job ID: 890-3908-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A

**Matrix: Solid** 

Analysis Batch: 44876

Analyte

Chloride

Client Sample ID: Method Blank **Prep Type: Soluble** 

мв мв Result Qualifier RL Unit Prepared Analyzed Dil Fac <5.00 U 5.00 mg/Kg 01/26/23 20:56

Lab Sample ID: LCS 880-44761/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

	<b>Spike</b>	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	250	265.0		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-44761/3-A Client Sample ID: Lab Control Sample Dup Matrix: Solid **Prep Type: Soluble** 

Analysis Batch: 44876

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	274.4		mg/Kg		110	90 - 110	3	20

Lab Sample ID: 890-3907-A-3-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	18.6		250	289.2		mg/Kg		108	90 - 110	

Lab Sample ID: 890-3907-A-3-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	18.6		250	289.9		ma/Ka		109	90 - 110		20	

Lab Sample ID: MB 880-44967/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 45074

MR MR

		<del></del>							
Analyte	Result Qu	Qualifier R	L Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00 U	5.0	mg/Kg			01/30/23 14:31	1		

Lab Sample ID: LCS 880-44967/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 45074

_	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	 250	254.6		ma/Ka		102	90 - 110

Lab Sample ID: LCSD 880-44967/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 45074** 

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	254.5		mg/Kg		102	90 - 110	0	20

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

**Prep Type: Soluble** 

## **QC Sample Results**

Client: Ensolum Job ID: 890-3908-1 Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-24203-A-3-D MS

**Matrix: Solid** 

Analysis Batch: 45074

•	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	104		250	349.8		mg/Kg		99	90 - 110	

Lab Sample ID: 880-24203-A-3-E MSD

**Matrix: Solid** 

Analysis Batch: 45074

-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	104		250	360.6		mg/Kg		103	90 - 110	3	20

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## **QC Association Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1 SDG: Lea County NM

### **GC VOA**

### Analysis Batch: 45129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	8021B	45147
890-3908-2	PH03	Total/NA	Solid	8021B	45147
890-3908-3	PH03	Total/NA	Solid	8021B	45147
MB 880-45147/5-A	Method Blank	Total/NA	Solid	8021B	45147
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	8021B	45147
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45147
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45147
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45147

### Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	5035	<u> </u>
890-3908-2	PH03	Total/NA	Solid	5035	
890-3908-3	PH03	Total/NA	Solid	5035	
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 45205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	Total BTEX	
890-3908-2	PH03	Total/NA	Solid	Total BTEX	
890-3908-3	PH03	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 45211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	8015NM Prep	
890-3908-2	PH03	Total/NA	Solid	8015NM Prep	
890-3908-3	PH03	Total/NA	Solid	8015NM Prep	
MB 880-45211/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45211/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23972-A-21-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23972-A-21-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 45226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	8015B NM	45211
890-3908-2	PH03	Total/NA	Solid	8015B NM	45211
890-3908-3	PH03	Total/NA	Solid	8015B NM	45211
MB 880-45211/1-A	Method Blank	Total/NA	Solid	8015B NM	45211
LCS 880-45211/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45211
LCSD 880-45211/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45211
880-23972-A-21-H MS	Matrix Spike	Total/NA	Solid	8015B NM	45211
880-23972-A-21-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45211

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## **QC Association Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1 SDG: Lea County NM

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### GC Semi VOA

### Analysis Batch: 45363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	8015 NM	
890-3908-2	PH03	Total/NA	Solid	8015 NM	
890-3908-3	PH03	Total/NA	Solid	8015 NM	
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**O** 

### **HPLC/IC**

### Leach Batch: 44761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Soluble	Solid	DI Leach	
890-3908-2	PH03	Soluble	Solid	DI Leach	
MB 880-44761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

0

## Analysis Batch: 44876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Soluble	Solid	300.0	44761
890-3908-2	PH03	Soluble	Solid	300.0	44761
MB 880-44761/1-A	Method Blank	Soluble	Solid	300.0	44761
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	300.0	44761
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44761
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44761
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44761

13

### Leach Batch: 44967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-3	PH03	Soluble	Solid	DI Leach	
MB 880-44967/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44967/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44967/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-24203-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-24203-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### Analysis Batch: 45074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-3	PH03	Soluble	Solid	300.0	44967
MB 880-44967/1-A	Method Blank	Soluble	Solid	300.0	44967
LCS 880-44967/2-A	Lab Control Sample	Soluble	Solid	300.0	44967
LCSD 880-44967/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44967
880-24203-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	44967
880-24203-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44967

Client: Ensolum

Job ID: 890-3908-1

Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

**Client Sample ID: PH03** Lab Sample ID: 890-3908-1 Date Collected: 01/19/23 10:30 Matrix: Solid

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 21:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45205	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45363	02/03/23 11:29	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45211	02/01/23 13:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45226	02/03/23 03:48	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:00	CH	EET MID

**Client Sample ID: PH03** Lab Sample ID: 890-3908-2 Matrix: Solid

Date Collected: 01/19/23 10:40 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 22:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45205	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45363	02/03/23 11:29	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45211	02/01/23 13:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45226	02/03/23 04:09	AJ	EET MIC
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MIC
Soluble	Analysis	300.0		1			44876	01/26/23 23:06	CH	EET MID

**Client Sample ID: PH03** Lab Sample ID: 890-3908-3

Date Collected: 01/19/23 10:50 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 23:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45205	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45363	02/03/23 11:29	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45211	02/01/23 13:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45226	02/03/23 04:30	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44967	01/30/23 14:00	CH	EET MID
Soluble	Analysis	300.0		5			45074	01/30/23 17:24	CH	EET MID

Laboratory References:

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

**Eurofins Carlsbad** 

**Matrix: Solid** 

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3908-1
Project/Site: Harrier 35 Federal Com 001H SDG: Lea County NM

### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>		
exas		ELAP	T104704400-22-25	06-30-23		
The following analytes	and the almost and the Alaba management has		and the state of the second control of the s			
the agency does not of	• '	it the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for		
,	• '	Matrix	ed by the governing authority. This list ma	ay include analytes for		
the agency does not of	fer certification.	•	, , ,	ay include analytes for		

## **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1

SDG: Lea County NM

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	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1

SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
890-3908-1	PH03	Solid	01/19/23 10:30	01/20/23 09:06	
890-3908-2	PH03	Solid	01/19/23 10:40	01/20/23 09:06	(
890-3908-3	PH03	Solid	01/19/23 10:50	01/20/23 09:06	6

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Received by OCD: 11/19/2024/10:11/942/AM

Page 21 of 24

**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:	

Project Manager:	Hadlie G																								
	1144110	dlie Green Bill to: (if different)			)	Kalei Jennings							Work Order Comments												
Company Name:	Ensolum					Company			Ensolu							7	Progr	am: U	ST/PS1	ГПР	RP[] B	rown	fields 🗌 RRC	Super	rfund 🗌
Address:	601 N M		ld St Si	uite 400		Address:		-	601 N	Marie	nfeld St	t Suite	00				State								
City, State ZIP:	Midland,					City, Stat	e ZIP:		Midlan	id, TX	79701						Repor	ting: L	evel II	Lev	el III 🗌	PST	UST 🗌 TRRE	Lev	rel IV
Phone:	817.683				Email:	kjenning		solum	.com	-						1	Delive	rables	EDD		Al	DaPT	☐ Other	:	
			-110	00411										NAL	YSIS	REO	LIEST						Preserva	tive Coc	les
Project Name:	Harrie		derai C 202409:	om 001H	✓ Routine	Around Rush		Pres.			Т	T	T	1117L	1313	1/1-4	OLO.				T		None: NO		er: H <sub>2</sub> O
Project Number:						I Kusii		Code						-									Cool: Cool	MeOH:	
Project Location: Sampler's Name:			ounty, N er Shor		TAT starts the															- 7			HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	HNO₃: NaOH:	HN
PO #: SAMPLE RECEI Samples Received In		Temp B		Yes No	Wet Ice:		No	ameters				\ <b>\\</b>											H₃PO₄: HP NaHSO₄: NAB		
Cooler Custody Seal		es No		Correction F		-2.	2	Par				- 1/1	WW				MIN.	M					Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSo	$O_3$	
Sample Custody Sea		es No	-/-/	Temperatur			. a					III	Milli	MI IIIII	in of C	usto	dy			-		1	Zn Acetate+Na		
Total Containers:					emperature:	4	0		(8015)	es	3021	89	0-390	6 Cila					1				NaOH+Ascorb	c Acid: SA	\PC
Sample ider	ntification		Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	I I	Chlorides	BTEX (8021)												Sample	Commer	nts
PHO	03		s	1.19.23	1030	1'	G	1	х	х	х														
PHC	03		S	1.19.23	1040	3'	G	1	х	х	х														
PHO	03		S	1.19.23	1050	6'	G	1	х	×	х		_											nt Numbe	
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Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed 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<sub>2</sub> Na Sr Tl Sn U V Zn TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$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 ( )	Durando Steet	1-20-23 98	BC		
3			4		
5			6		evised Date: 08/25/2020 Rev. 2020

1089 N Canal St.

Client Contact:

Carlsbad, NM 88220

Phone 575-988-3199 Fax: 575-988-3199

Client Information (Sub Contract Lab)

Relinquished by

Relinquished by

Δ Yes Δ No

Custody Seals Intact: Custody Seal No

Sampler

Date/Time:

Date/Time

Phone

## **Chain of Custody Record**

Lab PM

E-Mail:

Kramer Jessica



Carrier Tracking No(s)

👶 eurofins

COC No<sup>-</sup> 890-1107 1

Environment Testing

Released to Imaging: 3/7/20254 550814 P.MM

Company

Company

Date/Time:

Cooler Temperature(s) °C and Other Remarks

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lamers 35 Federal Com 001H  SSOW  Sample Interview Inter	Phone 432-704-5440(Tel)						3		ride									F MeOH G Amchlor	S H2SO4 T TSP Dodecah	nydrate
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H03 (890-3908-2)  1/19/23  1/1			<b>&gt;</b> <	Preservation (	ode:	X	< _										X		istractions/Not	e.
Mountain  H03 (890-3908-3)  1/19/23  Mountain  10 50 ld  X X X X X X X X X X X X X X X X X X X	PH03 (890-3908-1)	1/19/23	Mountain	S	olid		X	x	X	×	x						4			
H03 (890-3908-3)  1/19/23  10 50 Mountain  Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the boratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to zoneditation state should be brought to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state should be brought to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state should be brought to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state should be brought to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state should be brought to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to zoneditation state the signed Chain of Custody attesting to said compliance to Eurofins Environment Testin	PH03 (890-3908-2)	1/19/23	1	s	olid	П	X	X	Х	Х	х						1			
Sossible Hazard Identification  Inconfirmed  Perimary Deliverable Requested   II, III   V Other (specify)  Primary Deliverable Rank 2  Date  Time  Method of Shipment:	PH03 (890-3908-3)	1/19/23	10 50	S	olid		×	X	х	х	х						1			
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## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3908-1

SDG Number: Lea County NM

List Source: Eurofins Carlsbad

Login Number: 3908 List Number: 1

Creator: Stutzman, Amanda

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	

Released to Imaging: 3/7/20254 950514 PMM

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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3908-1 SDG Number: Lea County NM

List Source: Eurofins Midland

Login Number: 3908 List Number: 2 List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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

2/3/2023

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 2/4/2023 9:28:13 AM

## **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

## **JOB NUMBER**

890-3909-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

## **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/4/2023 9:28:13 AM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3909-1 SDG: 03D2024093

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## **Definitions/Glossary**

Job ID: 890-3909-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier Qualifier Description

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 Colony Forming Unit CFU **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 MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

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

Toxicity Equivalent Factor (Dioxin) TFF Toxicity Equivalent Quotient (Dioxin) **TEQ** 

**TNTC** Too Numerous To Count

### **Case Narrative**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1

SDG: 03D2024093

Job ID: 890-3909-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3909-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH04 (890-3909-1), PH04 (890-3909-2) and PH04 (890-3909-3).

#### **GC VOA**

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

#### GC Semi VOA

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

#### HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-3909-1

# **Client Sample Results**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

Client Sample ID: PH04

Date Collected: 01/19/23 11:00 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	01/31/23 23:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			01/31/23 14:36	01/31/23 23:34	1
1,4-Difluorobenzene (Surr)	112		70 - 130			01/31/23 14:36	01/31/23 23:34	1
- Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1
Method: SW846 8015 NM - Diese	I Range Organ	ice (DBO) (	201					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier		Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/04/23 09:57	Dil Fac
Analyte Total TPH	<b>Result</b> <49.9	Qualifier U	<b>RL</b> 49.9		<u>D</u>	Prepared		
Analyte	Result <49.9	Qualifier U	<b>RL</b> 49.9		<u>D</u>	Prepared Prepared		
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <49.9	Qualifier Unics (DRO) Qualifier	RL 49.9 (GC)	mg/Kg			02/04/23 09:57	1
Analyte Total TPH  Method: SW846 8015B NM - Dies	Result <49.9 sel Range Orga	Qualifier U  nics (DRO) Qualifier U	(GC)	mg/Kg		Prepared	02/04/23 09:57  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  sel Range Orga Result <49.9	Qualifier U  nics (DRO) Qualifier U	(GC) RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 02/01/23 14:44	02/04/23 09:57  Analyzed  02/04/23 02:51	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	Qualifier U  nics (DRO) Qualifier U  U	(GC) RL 49.9 49.9 49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 14:44 02/01/23 14:44	02/04/23 09:57  Analyzed 02/04/23 02:51 02/04/23 02:51	1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.9  sel Range Orga Result <49.9  <49.9  <49.9	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 14:44 02/01/23 14:44	02/04/23 09:57  Analyzed 02/04/23 02:51 02/04/23 02:51 02/04/23 02:51	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <49.9	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9 (GC) RL 49.9 49.9 Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 14:44 02/01/23 14:44 02/01/23 14:44 Prepared	02/04/23 09:57  Analyzed 02/04/23 02:51 02/04/23 02:51 02/04/23 02:51  Analyzed	Dil Fac  1  1  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.9	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits  70.130  70.130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 14:44 02/01/23 14:44 02/01/23 14:44  Prepared 02/01/23 14:44	02/04/23 09:57  Analyzed 02/04/23 02:51  02/04/23 02:51  Analyzed 02/04/23 02:51	1 Dil Fac 1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result <49.9  sel Range Orga Result <49.9 <49.9 <49.9  %Recovery 85 90  Chromatograp	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits  70.130  70.130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 14:44 02/01/23 14:44 02/01/23 14:44  Prepared 02/01/23 14:44	02/04/23 09:57  Analyzed 02/04/23 02:51  02/04/23 02:51  Analyzed 02/04/23 02:51	1 Dil Fac 1 Dil Fac 1

Client Sample ID: PH04
Date Collected: 01/19/23 11:10

Date Received: 01/20/23 09:06

Sample Depth: 3'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/31/23 14:36	01/31/23 23:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			01/31/23 14:36	01/31/23 23:54	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-3909-2

**Matrix: Solid** 

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Client: Ensolum Job ID: 890-3909-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH04** Lab Sample ID: 890-3909-2 Matrix: Solid

Date Collected: 01/19/23 11:10 Date Received: 01/20/23 09:06

Sample Depth: 3'

Method: SW846 8021E	- Volatile Organic	Compounds (	(GC) (Continued)
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Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	113	70 - 130	01/31/23 14:36	01/31/23 23:54	1

### **Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00396	U	0.00396	mg/Kg			02/01/23 12:53	1

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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg			02/04/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:44	02/04/23 03:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:44	02/04/23 03:13	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 14:44	02/04/23 03:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85	70 - 130	02/01/23 14:44	02/04/23 03:13	1
o-Terphenyl	92	70 - 130	02/01/23 14:44	02/04/23 03:13	1

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.1		5.00	mg/Kg			01/26/23 23:37	1

**Client Sample ID: PH04** Lab Sample ID: 890-3909-3

Date Collected: 01/19/23 11:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Method: SW846 8021B -	M-1-4!1- O	0 (00)

			,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 14:36	02/01/23 00:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			01/31/23 14:36	02/01/23 00:15	1

				•		
4-Bromofluorobenzene (Surr)	108	70 -	130	01/31/23 14:36	02/01/23 00:15	1
1,4-Difluorobenzene (Surr)	116	70 -	130	01/31/23 14:36	02/01/23 00:15	1

## Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/04/23 09:57	1

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**Matrix: Solid** 

## **Client Sample Results**

Client: Ensolum Job ID: 890-3909-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Client Sample ID: PH04

Da Date Received: 01/20/23 09:06

Sample Depth: 6'

lient Sample ID: PH04	Lab Sample ID: 890-3909-3
ate Collected: 01/19/23 11:20	Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) Result Qualifier Dil Fac Analyte RL Unit Prepared Analyzed <49.9 U 49.9 02/01/23 14:44 02/04/23 03:35 Gasoline Range Organics mg/Kg (GRO)-C6-C10 02/01/23 14:44 Diesel Range Organics (Over 49.9 02/04/23 03:35 <49.9 U mg/Kg C10-C28) 02/04/23 03:35 02/01/23 14:44 OII Range Organics (Over C28-C36) <49.9 U 49.9 mg/Kg Dil Fac Surrogate %Recovery Qualifier Limits Prepared Analyzed 1-Chlorooctane 70 - 130 02/01/23 14:44 02/04/23 03:35 106 o-Terphenyl 107 70 - 130 02/01/23 14:44 02/04/23 03:35

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result Qu	ualifier RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	16.6	4.99	mg/Kg			01/26/23 23:43	1	

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3909-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

Percent S
BFB1 DFBZ1
Lab Sample ID Client Sample ID (70-130) (70-130)
880-23952-A-1-B MS Matrix Spike 97 112
880-23952-A-1-C MSD Matrix Spike Duplicate 98 112
890-3909-1 PH04 108 112
890-3909-2 PH04 105 113
890-3909-3 PH04 108 116
LCS 880-45147/1-A Lab Control Sample 94 112
LCSD 880-45147/2-A Lab Control Sample Dup 99 113
MB 880-45147/5-A Method Blank 102 105
Surrogate Legend

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	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
0-3901-A-1-D MS	Matrix Spike	110	103	
90-3901-A-1-E MSD	Matrix Spike Duplicate	123	104	
90-3909-1	PH04	85	90	
90-3909-2	PH04	85	92	
90-3909-3	PH04	106	107	
CS 880-45212/2-A	Lab Control Sample	94	101	
CSD 880-45212/3-A	Lab Control Sample Dup	126	112	
B 880-45212/1-A	Method Blank	121	124	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Client: Ensolum Job ID: 890-3909-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45147/5-A

**Matrix: Solid** Analysis Batch: 45129 Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 45147

MB MB

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prep	ared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	01/31/2	3 14:36	01/31/23 17:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/31/2	3 14:36	01/31/23 17:29	1

Lab Sample ID: LCS 880-45147/1-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 45129

Prep Type: Total/NA

Prep Batch: 45147

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.08233 mg/Kg 82 70 - 130 Toluene 0.100 0.07766 mg/Kg 78 70 - 130 0.100 0.07484 75 Ethylbenzene mg/Kg 70 - 130 0.200 0.1584 79 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.07668 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	94		70 - 130		
1,4-Difluorobenzene (Surr)	112		70 - 130		

Lab Sample ID: LCSD 880-45147/2-A

**Matrix: Solid** 

Analysis Batch: 45129

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 45147

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09378		mg/Kg		94	70 - 130	13	35	
Toluene	0.100	0.08580		mg/Kg		86	70 - 130	10	35	
Ethylbenzene	0.100	0.08489		mg/Kg		85	70 - 130	13	35	
m-Xylene & p-Xylene	0.200	0.1784		mg/Kg		89	70 - 130	12	35	
o-Xylene	0.100	0.08543		mg/Kg		85	70 - 130	11	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	99	70 - 130
1 4-Difluorobenzene (Surr)	113	70 - 130

Lab Sample ID: 880-23952-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 45129

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

Prep Batch: 45147

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.101	0.08219		mg/Kg		82	70 - 130	
Toluene	<0.00202	U	0.101	0.07762		mg/Kg		77	70 - 130	

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## QC Sample Results

Job ID: 890-3909-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: 880-23952-A-1-B MS

Lab Sample ID: 880-23952-A-1-C MSD

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 45129

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45147

Result	Qualifier	Added	Docult	O 11.01		_		
		Addod	Result	Qualifier	Unit	D	%Rec	Limits
<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130
<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130
< 0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130
	<0.00403	<0.00403 U	<0.00403 U 0.202	<0.00403 U 0.202 0.1547	<0.00403 U 0.202 0.1547	<0.00403 U 0.202 0.1547 mg/Kg	<0.00403 U 0.202 0.1547 mg/Kg	<0.00403 U 0.202 0.1547 mg/Kg 77

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

Analysis Batch: 45129 Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits 0.0996 Benzene <0.00202 U 0.08613 mg/Kg 86 70 - 130 5 35 Toluene 0.07815 78 <0.00202 U 0.0996 mg/Kg 70 - 130 35 Ethylbenzene <0.00202 U 0.0996 0.07266 mg/Kg 73 70 - 130 35 <0.00403 U 0.199 76 70 - 130 35 m-Xylene & p-Xylene 0.1519 mg/Kg 2 <0.00202 U 0.0996 0.07278 73 70 - 130 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-45212/1-A

**Matrix: Solid** 

Analysis Batch: 45299

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45212

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/03/23 19:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/03/23 19:59	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/03/23 19:59	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Pre	epared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	02/01/	/23 14:44	02/03/23 19:59	1
o-Terphenyl	124		70 - 130	02/01/	/23 14:44	02/03/23 19:59	1

Lab Sample ID: LCS 880-45212/2-A

**Matrix: Solid** 

Analysis Batch: 45299

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 45212

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	999	925.3		mg/Kg		93	70 - 130	 
(GRO)-C6-C10								
Diesel Range Organics (Over	999	917.8		mg/Kg		92	70 - 130	
C10-C28)								

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1

SDG: 03D2024093

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

Lab Sample ID: LCS 880-45212/2-A

Lab Sample ID: LCSD 880-45212/3-A

**Matrix: Solid** 

Client: Ensolum

Analysis Batch: 45299

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45212

LCS LCS

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

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45299 Prep Batch: 45212 Spike LCSD LCSD %Rec RPD

Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 999 965.9 97 70 - 13020 Gasoline Range Organics mg/Kg 4 (GRO)-C6-C10 Diesel Range Organics (Over 999 1017 102 mg/Kg 70 - 13010 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 126 112 70 - 130 o-Terphenyl

Lab Sample ID: 890-3901-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 45299** 

Prep Type: Total/NA

Prep Batch: 45212

Sample Sample Spike MS MS Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 1000 1271 mg/Kg 126 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 1000 1072 mg/Kg 107 70 - 130

C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 110 70 - 130 o-Terphenyl 103

Lab Sample ID: 890-3901-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45299

Prep Type: Total/NA

Prep Batch: 45212

Sample Sample MSD MSD RPD Spike %Rec Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit U 998 1263 125 Gasoline Range Organics <50.0 mg/Kg 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 1068 mg/Kg 107 70 - 130 20

C10-C28)

MSD MSD

Qualifier Surrogate %Recovery Limits 1-Chlorooctane 123 70 - 130 104 70 - 130 o-Terphenyl

Job ID: 890-3909-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A

**Matrix: Solid** 

Analysis Batch: 44876

Client Sample ID: Method Blank **Prep Type: Soluble** 

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 01/26/23 20:56

Lab Sample ID: LCS 880-44761/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44876** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 265.0 mg/Kg 106 90 - 110

мв мв

Lab Sample ID: LCSD 880-44761/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 274.4 mg/Kg 110 90 - 110

Lab Sample ID: 890-3907-A-3-B MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 44876

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Qualifier %Rec Result Unit Limits 289.2 Chloride 18.6 250 108 90 - 110 mg/Kg

Lab Sample ID: 890-3907-A-3-C MSD

**Matrix: Solid** 

Analysis Batch: 44876

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 18.6 289.9 mg/Kg 109 90 - 110 0 20

**Eurofins Carlsbad** 

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

# **QC Association Summary**

Client: Ensolum Job ID: 890-3909-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### **GC VOA**

### Analysis Batch: 45129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	8021B	45147
890-3909-2	PH04	Total/NA	Solid	8021B	45147
890-3909-3	PH04	Total/NA	Solid	8021B	45147
MB 880-45147/5-A	Method Blank	Total/NA	Solid	8021B	45147
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	8021B	45147
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45147
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45147
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45147

### Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	5035	<u> </u>
890-3909-2	PH04	Total/NA	Solid	5035	
890-3909-3	PH04	Total/NA	Solid	5035	
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 45206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	Total BTEX	
890-3909-2	PH04	Total/NA	Solid	Total BTEX	
890-3909-3	PH04	Total/NA	Solid	Total BTEX	

## **GC Semi VOA**

### Prep Batch: 45212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	8015NM Prep	
890-3909-2	PH04	Total/NA	Solid	8015NM Prep	
890-3909-3	PH04	Total/NA	Solid	8015NM Prep	
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 45299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	8015B NM	45212
890-3909-2	PH04	Total/NA	Solid	8015B NM	45212
890-3909-3	PH04	Total/NA	Solid	8015B NM	45212
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015B NM	45212
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45212
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45212
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45212
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45212

**Eurofins Carlsbad** 

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3909-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

## GC Semi VOA

### Analysis Batch: 45460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Total/NA	Solid	8015 NM	
890-3909-2	PH04	Total/NA	Solid	8015 NM	
890-3909-3	PH04	Total/NA	Solid	8015 NM	

### **HPLC/IC**

#### Leach Batch: 44761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Soluble	Solid	DI Leach	
890-3909-2	PH04	Soluble	Solid	DI Leach	
890-3909-3	PH04	Soluble	Solid	DI Leach	
MB 880-44761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### **Analysis Batch: 44876**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3909-1	PH04	Soluble	Solid	300.0	44761
890-3909-2	PH04	Soluble	Solid	300.0	44761
890-3909-3	PH04	Soluble	Solid	300.0	44761
MB 880-44761/1-A	Method Blank	Soluble	Solid	300.0	44761
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	300.0	44761
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44761
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44761
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44761

Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

Lab Sample ID: 890-3909-2

Lab Sample ID: 890-3909-3

Matrix: Solid

**Matrix: Solid** 

Lab Sample ID: 890-3909-1

Matrix: Solid

**Client Sample ID: PH04** 

Client: Ensolum

Date Collected: 01/19/23 11:00

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 23:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 02:51	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:31	CH	EET MID

**Client Sample ID: PH04** Date Collected: 01/19/23 11:10

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 23:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 03:13	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:37	CH	EET MID

**Client Sample ID: PH04** Date Collected: 01/19/23 11:20

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 00:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 03:35	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:43	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: Harrier 35 Federal Com 001H
SDG: 03D2024093

### **Laboratory: Eurofins Midland**

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

Authority Texas		ogram	Identification Number	Expiration Date
		ELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report, but	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes fo
the agency does not of	• •	ic and laboratory to flot corum	bu by the governing authority. This list his	ay include analytes to
,	• •	Matrix	Analyte	ay molude analytes to
the agency does not of	fer certification.	,	, , ,	

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# **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1 SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

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# **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
890-3909-1	PH04	Solid	01/19/23 11:00	01/20/23 09:06	
890-3909-2	PH04	Solid	01/19/23 11:10	01/20/23 09:06	
890-3909-3	PH04	Solid	01/19/23 11:20	01/20/23 09:06	6'

Received by OCD: 11/19/2024/10:11/942/AM

Page 20 of 23



**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	:		

															<u></u>	ww.xenco	.com Page	of
Project Manager:	Hadlie Green				Bill to: (if	different		Kalei .	Jennin	gs						Work Or	rder Comments	
Company Name:	Ensolum, LLC				Compan	y Name		Ensol	um, LL	С				Program: U	JST/PST	PRP	Brownfields 🔲 I	RRC Superfund
Address:	601 N Marient	eld St S	Suite 400		Address	:		601 N	Marie	nfeld St	Suite 400			State of Pro				
City, State ZIP:	Midland, TX 7	9701			City, Sta	te ZIP:		Midla	nd, TX	79701								RRP Level IV
Phone:	817.683.2503			Email	kjenning	gs@ens	solum	.com						Deliverable	s: EDD		ADaPT (	Other:
Project Name:	Harrier 35 F	ederal (	Com 001H	Tur	n Around							ANAL	YSIS RE	QUEST			Pres	ervative Codes
Project Number:		202409		☑ Routine	Rush		Pres.			T	T	I					None: NO	DI Water: H <sub>2</sub> C
				Due Date:			Code					1					Cool: Cool	MeOH: Me
Project Location: Sampler's Name:		county, ner Sho		TAT starts th	e day rece	ived by											HCL: HC	HNO <sub>3</sub> : HN
PO#:		10. 0.10	-	the lab, if re			go .				1		ı				H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH: Na
SAMPLE RECE	IPT Temp	Blank:	Yes No	Wet Ice:	YES	No	ete				1101		HIBBIN BOR		1		H₃PO₄: HF	
Samples Received I		No	Thermomet	er ID:	Tain	00	ram				1/11				1		NaHSO₄: I	
Cooler Custody Sea	ils: Yes N	AIM C	Correction F	actor:	-0.	2	G.				1/11				ll .		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> :	
Sample Custody Sea	als: Yes N	O (N/A	Temperatur	e Reading:	U					=	1111		Chain of C	ustody				+NaOH: Zn
Total Containers:			Corrected T	emperature:	14	.0	1	015)	les	EX (8021)	- 65	0-0000			1 1	1	NaOH+As	corbic Acid: SAPC
Sample Ide	ntification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		TPH (8015)	Chlorides	втех							Sam	ple Comments
PH(	04	s	1.19.23	1100	1'	G	1	х	х	х								
PHO	04	S	1.19.23	1110	3'	G	1	х	х	х								
PHO	04	S	1.19.23	1120	6'	G	1	х	х	х								ident Number
					/							1_1			$\vdash$		NA	PP2225531487
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		+																
	8	1																
		1																

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Circle Method(s) and Metal(s) to be analyzed 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
0-82	Decada Slit	1-20-23 96	98		
3			4		
5			6		
					Revised Date: 08/25/2020 Rev. 20

# **Eurofins Carlsbad**

Phone 575-988-3199 Fax: 575-988-3199

1089 N Canal St. Carlsbad, NM 88220

# **Chain of Custody Record**

Lab PM

Sampler



💸 eurofins

**Environment Testing** 

Client Information (Sub Contract Lab)	Sampler <sup>-</sup>			Lab P Kram		essica				Ca	Carrier Tracking No(s)						COC No: 890-1107 1		٦٬		
Client Contact. Shipping/Receiving	Phone:			E-Mai	ı	ramer		eurofi	nsus	s com			ate of 0					F	Page:		1
Company Eurofins Environment Testing South Centr	<u> </u>				Accre	ditations	s Requ	uired (S			-	lix	CAA IAI	SXICO			***************************************		Page 1 of 1		-
Address	Due Date Request	ed.			NEL/	LAP - Texas				***************************************	890-3909-1					_					
1211 W Florida Ave	1/26/2023					Analysis Requested				d	Preservation Co			Preservation Cod  A HCL	ies M Hexane	1					
City Midland	TAT Requested (d	lays)										Ī					Î	ا 🖓	B NaOH C Zn Acetate	N - None O AsNaO2	
State Zip: TX, 79701						TF H											Ì	- J	D Nitric Acid E NaHSO4	P Na2O4S Q Na2SO3 R Na2S2O3	
Phone. 432-704-5440(Tel)	PO#:				ها	) Fu		<b>g</b>											F MeOH G Amchlor H Ascorbic Acid	S H2SO4 T TSP Dodecahydrate	
Email:	WO #:				Z   5	ow) d		Chlori	втех										I Ice J DI Water	U Acetone V MCAA	
Project Name: Harrier 35 Federal Com 001H	Project #: 89000094				s (Yes	M/8015NM_S_Prep (MOD) Full TPH		ACH	ТВ (ДОМ)										K EDTA L EDA	W pH 4-5 Y Trizma	
Site	SSOW#:				ample of the	15NM		ים. ח'רו	alc (M								Į.	G 400 600 1	Other <sup>.</sup>	Z other (specify)	
Somple Identification Client ID (Let. ID)		Sample	Sample (w Type Si (C=comp, BT=	atrix =water =solid, aste/oil, Tissue,	eld Filtered S artorn MS/MS	8015MOD_NM/80	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc	Total_BTEX_GCV				1			4:3	Total Number o			
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) A Preservation	=Air)	果	<u>                                     </u>	8	8	8	٤		-						£J.	Special Ins	structions/Note:	4 8
PH04 (890-3909-1)	1/19/23	11 00	Total Control of the	olid		×	Х	Х	х	Х			+	<u> </u>				4			1
PH04 (890-3909-2)	1/19/23	Mountain 11 10 Mountain	S	olid		X	-	x	х	х	$\dashv$	+	+	+				1	·····		1
PH04 (890-3909-3)	1/19/23	11 20 Mountain	s	olid	T	T <sub>x</sub>	Х	x	x	х	_	$\dagger$	+	<del> </del>				1			
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											1						-	(304)			1
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																					1
Note: Since laboratory accreditations are subject to change, Eurofins Environmen laboratory does not currently maintain accreditation in the State of Origin listed ab accreditation status should be brought to Eurofins Environment Testing South Ce																					
Possible Hazard Identification Unconfirmed					S						ay be					es are	ereta	aine	d longer than 1	month)	1
	Primary Deliver	able Rank 2	2		Sı			To C			quiren	Dis	posal	By La	ab	L	A	rchi	ve For	Months	-
Empty Kit Relinquished by		Date			Time			Λ			., 011			thod of	Shipm	ent:					╪
Relinquisted by	Date/Time	<u> </u>	Comp			-	eived b	<i>y //</i>		Ne	K	N			Date/		-			Company	+
Relinquished by	Date/Time		Comp	any		Rece	eived b	y/		1-1	r- ( ]		<u></u>	1	Date/	Time <sup>-</sup>				Company	1
Relinquished by	Date/Time		Comp	any		Rece	eived b	y							Date/	Time				Company	-
Custody Seals Intact: Custody Seal No	<u> </u>					Coole	er Ten	nperatu	ıre(s)	°C and	Other	Rema	rks.		<u></u>	·····					+

# **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-3909-1

 SDG Number: 03D2024093

Login Number: 3909 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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	

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# **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3909-1 SDG Number: 03D2024093

List Source: Eurofins Midland
List Number: 2
List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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	N/A	

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<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 2/4/2023 9:28:44 AM

# **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

# **JOB NUMBER**

890-3910-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

# **Job Notes**

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

# **Authorization**

Generated 2/4/2023 9:28:44 AM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Page 2 of 23

2/4/2023

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H

Laboratory Job ID: 890-3910-1
SDG: 03D2024093

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## **Definitions/Glossary**

Job ID: 890-3910-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

**Qualifiers** 

**GC VOA** Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier Qualifier Description

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 Colony Forming Unit CFU **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 MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

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

Toxicity Equivalent Factor (Dioxin) TFF Toxicity Equivalent Quotient (Dioxin) **TEQ** 

**TNTC** Too Numerous To Count

### **Case Narrative**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3910-1

SDG: 03D2024093

Job ID: 890-3910-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3910-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH05 (890-3910-1), PH05 (890-3910-2) and PH05 (890-3910-3).

#### GC VOA

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

#### GC Semi VOA

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

#### HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-3910-1

Client: Ensolum Job ID: 890-3910-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Client Sample ID: PH05

Date Collected: 01/19/23 13:00 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
Toluene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:36	02/01/23 00:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:36	02/01/23 00:35	1
1,4-Difluorobenzene (Surr)	118		70 - 130			01/31/23 14:36	02/01/23 00:35	1
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:53	1
- Method: SW846 8015 NM - Die	esel Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/04/23 09:57	

Method: SW846 8015B NM - Dies	el Range Orga	inics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			02/01/23 14:44	02/04/23 03:57	1
o-Terphenyl	100		70 - 130			02/01/23 14:44	02/04/23 03:57	1

Method: EPA 300.0 - Anions, Ion Ch	ıromatograp	hy - Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.01	U	5.01	mg/Kg			01/26/23 23:49	1

Client Sample ID: PH05 Lab Sample ID: 890-3910-2

Date Collected: 01/19/23 13:10 Date Received: 01/20/23 09:06

Sample Depth: 3'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/31/23 14:36	02/01/23 00:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:36	02/01/23 00:56	1

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Matrix: Solid

Client: Ensolum Job ID: 890-3910-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Client Sample ID: PH05 Lab Sample ID: 890-3910-2

Date Collected: 01/19/23 13:10

Date Received: 01/20/23 09:06

Matrix: Solid

Sample Depth: 3'

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	117	70 - 130	01/31/23 14:36	02/01/23 00:56	1

Method: TAI	SOP Total BTFX -	- Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00397	U	0.00397	mg/Kg			02/01/23 12:53	1

Mothod: CIMOAC	8015 NM - Diesel	Dongo Organico	(DDO) (CC)
i weliiou. Swo46	ou io ivivi - Diesei	Range Organics	(DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	ma/Ka		<del>.</del>	02/04/23 09:57	1

	Mothod: SW046 904ED NM Diocol Dan	go Organico (DBO) (CC)	v
ı	Method: SW846 8015B NM - Diesel Ran	ge Organics (DRO) (GC)	,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:18	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82	70 - 130	02/01/23 14:44	02/04/23 04:18	1
o-Terphenyl	88	70 - 130	02/01/23 14:44	02/04/23 04:18	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.0		4.97	mg/Kg			01/26/23 23:55	1

Client Sample ID: PH05 Lab Sample ID: 890-3910-3

Date Collected: 01/19/23 13:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Mothodi	CIMOAC GOOAD	Valatile Or	ganic Compour	de (CC)
i wethod:	5W846 8U21B	- volatile Ur	danic Compour	ias (GC)

method: 544040 0021B - Volatile Organic Compounds (CO)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			01/31/23 14:36	02/01/23 01:16	1

4-biomonuorobenzene (Suri)	115	10 - 130	01/31/23 14.30	02/01/23 01.10	ı
1,4-Difluorobenzene (Surr)	115	70 - 130	01/31/23 14:36	02/01/23 01:16	1

# Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg		_	02/01/23 12:53	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/04/23 09:57	1

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**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3910-3

01/27/23 00:01

# **Client Sample Results**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

**Client Sample ID: PH05** 

Date Collected: 01/19/23 13:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			02/01/23 14:44	02/04/23 04:40	1
o-Terphenyl	88		70 - 130			02/01/23 14:44	02/04/23 04:40	1

4.98

18.3

mg/Kg

3

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11

40

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# **Surrogate Summary**

Client: Ensolum Job ID: 890-3910-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

880-23952-A-1-B MS Matrix Spike 97 112 880-23952-A-1-C MSD Matrix Spike Duplicate 98 112 890-3910-1 PH05 112 118 890-3910-2 PH05 111 117 890-3910-3 PH05 115 115 LCS 880-45147/1-A Lab Control Sample 94 112 LCSD 880-45147/2-A Lab Control Sample Dup 99 113				
880-23952-A-1-B MS       Matrix Spike       97       112         880-23952-A-1-C MSD       Matrix Spike Duplicate       98       112         890-3910-1       PH05       112       118         890-3910-2       PH05       111       117         890-3910-3       PH05       115       115         LCS 880-45147/1-A       Lab Control Sample       94       112         LCSD 880-45147/2-A       Lab Control Sample Dup       99       113			BFB1	DFBZ1
880-23952-A-1-C MSD       Matrix Spike Duplicate       98       112         890-3910-1       PH05       112       118         890-3910-2       PH05       111       117         890-3910-3       PH05       115       115         LCS 880-45147/1-A       Lab Control Sample       94       112         LCSD 880-45147/2-A       Lab Control Sample Dup       99       113	Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3910-1       PH05       112       118         890-3910-2       PH05       111       117         890-3910-3       PH05       115       115         LCS 880-45147/1-A       Lab Control Sample       94       112         LCSD 880-45147/2-A       Lab Control Sample Dup       99       113	880-23952-A-1-B MS	Matrix Spike	97	112
890-3910-2       PH05       111       117         890-3910-3       PH05       115       115         LCS 880-45147/1-A       Lab Control Sample       94       112         LCSD 880-45147/2-A       Lab Control Sample Dup       99       113	880-23952-A-1-C MSD	Matrix Spike Duplicate	98	112
890-3910-3       PH05       115       115         LCS 880-45147/1-A       Lab Control Sample       94       112         LCSD 880-45147/2-A       Lab Control Sample Dup       99       113	890-3910-1	PH05	112	118
LCS 880-45147/1-A         Lab Control Sample         94         112           LCSD 880-45147/2-A         Lab Control Sample Dup         99         113	890-3910-2	PH05	111	117
LCSD 880-45147/2-A Lab Control Sample Dup 99 113	890-3910-3	PH05	115	115
	LCS 880-45147/1-A	Lab Control Sample	94	112
MB 880-45147/5-A Method Blank 102 105	LCSD 880-45147/2-A	Lab Control Sample Dup	99	113
	MB 880-45147/5-A	Method Blank	102	105
Surrogate Legend  BFB = 4-Bromofluorobenzene (Surr)				

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3901-A-1-D MS	Matrix Spike	110	103
890-3901-A-1-E MSD	Matrix Spike Duplicate	123	104
890-3910-1	PH05	99	100
890-3910-2	PH05	82	88
890-3910-3	PH05	84	88
LCS 880-45212/2-A	Lab Control Sample	94	101
LCSD 880-45212/3-A	Lab Control Sample Dup	126	112
MB 880-45212/1-A	Method Blank	121	124

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3910-1 SDG: 03D2024093 Project/Site: Harrier 35 Federal Com 001H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45147/5-A

**Matrix: Solid** Analysis Batch: 45129 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45147

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg	_	01/31/23 14:36	01/31/23 17:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 17:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	01/31/23 17:29	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepa	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	01/31/23	3 14:36	01/31/23 17:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/31/23	14:36	01/31/23 17:29	1

Lab Sample ID: LCS 880-45147/1-A

Matrix: Solid

Analysis Batch: 45129

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45147

	<b>Spike</b>	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08233		mg/Kg		82	70 - 130	
Toluene	0.100	0.07766		mg/Kg		78	70 - 130	
Ethylbenzene	0.100	0.07484		mg/Kg		75	70 - 130	
m-Xylene & p-Xylene	0.200	0.1584		mg/Kg		79	70 - 130	
o-Xylene	0.100	0.07668		mg/Kg		77	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	94	70 - 130
1,4-Difluorobenzene (Surr)	112	70 - 130

Lab Sample ID: LCSD 880-45147/2-A

**Matrix: Solid** 

Analysis Batch: 45129

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 45147

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09378		mg/Kg		94	70 - 130	13	35
Toluene	0.100	0.08580		mg/Kg		86	70 - 130	10	35
Ethylbenzene	0.100	0.08489		mg/Kg		85	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1784		mg/Kg		89	70 - 130	12	35
o-Xylene	0.100	0.08543		mg/Kg		85	70 - 130	11	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	99	70 - 130
1 4-Difluorobenzene (Surr)	113	70 - 130

Lab Sample ID: 880-23952-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 45129

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

Prep Batch: 45147

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.101	0.08219		mg/Kg		82	70 - 130	
Toluene	<0.00202	U	0.101	0.07762		mg/Kg		77	70 - 130	

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Client: Ensolum

Job ID: 890-3910-1 SDG: 03D2024093

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

Lab Sample ID: 880-23952-A-1-B MS

Lab Sample ID: 880-23952-A-1-C MSD

Project/Site: Harrier 35 Federal Com 001H

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 45129

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45147

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130	
o-Xylene	<0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

RPD

Analysis Batch: 45129 Sample Sample Spike MSD MSD Result Qualifier %Rec RPD Limit Analyte babbA Result Qualifier Limits Unit Benzene <0.00202 U 0.0996 0.08613 mg/Kg 86 70 - 130 5 35 Toluene <0.00202 U 0.0996 0.07815 mg/Kg 78 70 - 130 35 Ethylbenzene <0.00202 U 0.0996 0.07266 73 70 - 130 35 mg/Kg m-Xylene & p-Xylene <0.00403 U 0.199 0.1519 mq/Kq 76 70 - 130 2 35 <0.00202 U 0.0996 0.07278 73 70 - 130 o-Xylene mg/Kg

MSD MSD

<49.9 U

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

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

Lab Sample ID: MB 880-45212/1-A

**Matrix: Solid** 

C10-C28)

Analysis Batch: 45299

OII Range Organics (Over C28-C36)

Client Sample ID: Method Blank

02/03/23 19:59

Prep Type: Total/NA

Prep Batch: 45212

мв мв Result Qualifier RL Unit D Prepared Analyzed Dil Fac Analyte 02/01/23 14:44 02/03/23 19:59 <49.9 U 49.9 Gasoline Range Organics mg/Kg (GRO)-C6-C10 02/01/23 14:44 02/03/23 19:59 Diesel Range Organics (Over <49.9 U 49 9 mg/Kg

MB MB %Recovery Limits Qualifier Prepared Dil Fac Surrogate Analyzed 70 - 130 1-Chlorooctane 121 02/01/23 14:44 02/03/23 19:59 124 70 - 130 02/01/23 14:44 02/03/23 19:59 o-Terphenyl

49.9

mg/Kg

Lab Sample ID: LCS 880-45212/2-A

**Matrix: Solid** 

Analysis Batch: 45299

Client Sample ID: Lab Control Sample

02/01/23 14:44

Prep Type: Total/NA

Prep Batch: 45212

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 999 93 70 - 130 925.3 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 999 917.8 mg/Kg 92 70 - 130 C10-C28)

Job ID: 890-3910-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

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

Lab Sample ID: LCS 880-45212/2-A

Lab Sample ID: LCSD 880-45212/3-A

Lab Sample ID: 890-3901-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 45299

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45212

LCS LCS

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

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45299 Prep Batch: 45212

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 999 965.9 97 70 - 13020 Gasoline Range Organics mg/Kg 4 (GRO)-C6-C10 Diesel Range Organics (Over 999 1017 102 mg/Kg 70 - 13010 20

C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 126 70 - 130 1-Chlorooctane 112 70 - 130 o-Terphenyl

Client Sample ID: Matrix Spike

Prep Type: Total/NA

**Analysis Batch: 45299** Prep Batch: 45212 Sample Sample Spike MS MS

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 1000 1271 mg/Kg 126 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 1000 1072 mg/Kg 107 70 - 130

C10-C28)

**Matrix: Solid** 

MS MS

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 110 70 - 130 o-Terphenyl 103

Lab Sample ID: 890-3901-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45299 Sample Sample MSD MSD Spike

Prep Type: Total/NA Prep Batch: 45212

%Rec

RPD Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit U 998 1263 125 Gasoline Range Organics <50.0 mg/Kg 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 1068 mg/Kg 107 70 - 130 20

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	104		70 - 130

Client: Ensolum Job ID: 890-3910-1 Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A

Lab Sample ID: LCS 880-44761/2-A

**Matrix: Solid** 

Client Sample ID: Method Blank

**Prep Type: Soluble** 

Analysis Batch: 44876

MB MB Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride 01/26/23 20:56 <5.00 U 5.00 mg/Kg

Client Sample ID: Lab Control Sample

**Prep Type: Soluble** 

Analysis Batch: 44876

**Matrix: Solid** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 265.0 mg/Kg 106 90 - 110

Lab Sample ID: LCSD 880-44761/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit Limits RPD Limit Chloride 250 274.4 mg/Kg 110 90 - 110

Lab Sample ID: 890-3907-A-3-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

_	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	18.6		250	289.2		mg/Kg		108	90 - 110	 

Lab Sample ID: 890-3907-A-3-C MSD Client Sample ID: Matrix Spike Duplicate **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 44876

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	18.6		250	289.9		mg/Kg		109	90 - 110	0	20

# **QC Association Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

### **GC VOA**

### Analysis Batch: 45129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8021B	45147
890-3910-2	PH05	Total/NA	Solid	8021B	45147
890-3910-3	PH05	Total/NA	Solid	8021B	45147
MB 880-45147/5-A	Method Blank	Total/NA	Solid	8021B	45147
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	8021B	45147
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45147
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45147
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45147

### Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	5035	<del></del> -
890-3910-2	PH05	Total/NA	Solid	5035	
890-3910-3	PH05	Total/NA	Solid	5035	
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 45207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	Total BTEX	
890-3910-2	PH05	Total/NA	Solid	Total BTEX	
890-3910-3	PH05	Total/NA	Solid	Total BTEX	

## **GC Semi VOA**

### Prep Batch: 45212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8015NM Prep	
890-3910-2	PH05	Total/NA	Solid	8015NM Prep	
890-3910-3	PH05	Total/NA	Solid	8015NM Prep	
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 45299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8015B NM	45212
890-3910-2	PH05	Total/NA	Solid	8015B NM	45212
890-3910-3	PH05	Total/NA	Solid	8015B NM	45212
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015B NM	45212
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45212
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45212
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45212
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45212

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3910-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

## GC Semi VOA

### Analysis Batch: 45461

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
PH05	Total/NA	Solid	8015 NM	
PH05	Total/NA	Solid	8015 NM	
PH05	Total/NA	Solid	8015 NM	
	PH05 PH05	PH05 Total/NA PH05 Total/NA	PH05 Total/NA Solid PH05 Total/NA Solid	PH05         Total/NA         Solid         8015 NM           PH05         Total/NA         Solid         8015 NM

### **HPLC/IC**

#### Leach Batch: 44761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Soluble	Solid	DI Leach	
890-3910-2	PH05	Soluble	Solid	DI Leach	
890-3910-3	PH05	Soluble	Solid	DI Leach	
MB 880-44761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### Analysis Batch: 44876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Soluble	Solid	300.0	44761
890-3910-2	PH05	Soluble	Solid	300.0	44761
890-3910-3	PH05	Soluble	Solid	300.0	44761
MB 880-44761/1-A	Method Blank	Soluble	Solid	300.0	44761
LCS 880-44761/2-A	Lab Control Sample	Soluble	Solid	300.0	44761
LCSD 880-44761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44761
890-3907-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44761
890-3907-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44761

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Job ID: 890-3910-1 SDG: 03D2024093

Project/Site: Harrier 35 Federal Com 001H

Lab Sample ID: 890-3910-1

**Client Sample ID: PH05** Date Collected: 01/19/23 13:00

Client: Ensolum

Matrix: Solid

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 00:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45207	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45461	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 03:57	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:49	CH	EET MID

**Client Sample ID: PH05** Lab Sample ID: 890-3910-2 Matrix: Solid

Date Collected: 01/19/23 13:10 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 00:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45207	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45461	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 04:18	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:55	CH	EET MID

**Client Sample ID: PH05** Lab Sample ID: 890-3910-3 Date Collected: 01/19/23 13:20

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 01:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45207	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45461	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 04:40	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/27/23 00:01	CH	EET MID

Laboratory References:

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

**Eurofins Carlsbad** 

**Matrix: Solid** 

## **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>				
Texas	NE	ELAP	T104704400-22-25					
The following analytes	are included in this report, bu	It the laboratory is not certifi	ed by the governing authority. This list ma	av include analytes for				
the agency does not of	fer certification.	•	, , ,	.,				
the agency does not of Analysis Method	fer certification .  Prep Method	Matrix	Analyte	-,				
0 ,		Matrix Solid	Analyte Total TPH					

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## **Method Summary**

Client: Ensolum

Job ID: 890-3910-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3910-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	De
890-3910-1	PH05	Solid	01/19/23 13:00	01/20/23 09:06	1'
890-3910-2	PH05	Solid	01/19/23 13:10	01/20/23 09:06	3'
890-3910-3	PH05	Solid	01/19/23 13:20	01/20/23 09:06	6'

Received by OCD: 11/19/2024 10:11:42 AM

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**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:			
	Work	Order No:	

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roject Manager:	Hadii	e Green				Bill to: (if	differen	t)	Kalei	Jennin	gs									W	ork O	rder (	Comments		
ompany Name:	Enso	lum, LLC				Compan	y Name	<b>)</b> :	Ensol	um, LL	.C						Prog	ram: L	ST/PS	T 🔲 F	RP	Brow	nfields 🗌 RRC	Superfun	1
ddress:	601 N	Marienfe	ld St S	uite 400		Address	:		601 N Marienfeld St Suite 400								of Pro	•						_	
ity, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midland, TX 79701						Reporting: Level II  Level III PST/UST TRRP Level IV										
hone:	817.6	83.2503			Email:	kjenning	gs@en	solum	.com								Delive	erables	: EDE			ADaP	T Othe	r:	
roject Name:	Har	rier 35 Fe	deral C	om 001H	Turr	Around								ANAL	YSIS	REQ	JEST						Preserv	ative Codes	
roject Number:	1		202409		☑ Routine	Rush		Pres.							T								None: NO	DI Water: H	20
roject Location:		Lea Co	ounty, N	NM	Due Date:																		Cool: Cool	МеОН: Ме	
ampler's Name: O#:			er Sho		TAT starts the			100															HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	HNO <sub>3</sub> : HN NaOH: Na	
AMPLE RECE	PT	Temp B	lank:	Yes No	Wet Ice:	Yes	No	netar															H₃PO₄: HP		
amples Received I		1	No	Thermomet		Tron	-807	ara					111111				Custody						NaHSO₄: NAB		
ooler Custody Sea		Yes No	-	Correction F		-6	)c /	4					(1111)			Ш							Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaS		
ample Custody Sea	als:	Yes No	(N/A	Temperatur		11-	2				=		890-3	910 C	hain o	f Cus							Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC		
otal Containers:				Corrected T	emperature:	1 9	1.0		(8015)	des	EX (8021)												NaOH+Ascorbic Acid: SAPC		
Sample Ider	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		T	Chlorides	втех												Sample	Comments	
PHO	)5		S	1.19.23	1300	1'	G	1	х	х	х														
PHO	)5		S	1.19.23	1310	3'	G	1	х	х	х														
PHO	)5		S	1.19.23	1320	6'	G	1	х	х	х												Incide	nt Number	
					2														_				NAPP2	225531487	
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Total 200.7 / 60	010	200.8 / 60	020:	8	RCRA 13F	PPM Te	xas 11	Al S	Sb As	Bal	Be B	Cd C	a Cr	Co C	u Fe	Pb I	vig M	n Mo	Ni K	Se	Ag Si	iO <sub>2</sub> N	a Sr Ti Sn U	J V Zn	

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the cilent 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
CS	De vor start	1-20 23 90	26		
			4		
			6		
				R	evised Date 08/25/2020 Rev 2

**Eurofins Carlsbad** 

Phone 575-988-3199 Fax: 575-988-3199

Client Information (Sub Contract Lab)

1089 N Canal St. Carlsbad, NM 88220

Shipping/Receiving

Client Contact:

# **Chain of Custody Record**

Lab PM

E-Mail

Kramer, Jessica

Jessica Kramer@et.eurofinsus com

Sampler

Phone



Carrier Tracking No(s)

State of Origin.

New Mexico

💸 eurofins

COC No: 890-1107 1

Page 1 of 1

Page<sup>-</sup>

Environment Testing

Released to Imaging: 3/7/20254550514 PMM

Company <sup>-</sup>	,,,,,,,	Accreditations Required (See note)  Job #:																	
Eurofins Environment Testing South Centr					NELAP - Texas 890-3910-1														
Address 1211 W Florida Ave, ,	Due Date Request 1/26/2023	ed							Δr	alys	is Ro	aun	etad					Preservation Cod	
City <sup>-</sup>	TAT Requested (d	ays)				8		П		,6		1	July		- 1		2.444.8	A HCL B NaOH	M Hexane N None
Midland					- V	9							1					C Zn Acetate	O AsNaO2
State Zip <sup>.</sup> TX, 79701	l					H											, one	D Nitric Acid E NaHSO4	P Na2O4S Q Na2SO3
Phone	PO#					1 =		1 1		[	ĺ						239	F MeOH	R Na2S2O3
432-704-5440(Tel)	l ~ #					1		ا ۾ ا										G Amchlor	S H2SO4 T TSP Dodecahydrate
Email:	WO #:				ž j	<b>§</b>		hloric	×									H Ascorbic Acid	U Acetone V MCAA
Project Name	Project #	Project #						¥	E		- [						8	J DI Water K EDTA	W pH 4-5
Harrier 35 Federal Com 001H	89000094					တ		M	8								Į.	L EDA	Y Trizma Z other (specify)
Site	SSOW#:	SSOW#:				15NM		T Q	Ic (M						ı		Lcon	Other <sup>.</sup>	Z other (specify)
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	(W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered S Perform MS/MS	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV							Total Number of containe	Special Inc	structions/Note:
			Preserva	ation Code:	XX			1	angenery I	,,	A to the sections.	3					X		
PH05 (890-3910-1)	1/19/23	13 00 Mountain		Solid	2002	X	Х	х	Х	X		1			ــــــــــــــــــــــــــــــــــــــ	1			2000
PH05 (890-3910-2)	1/19/23	13 10 Mountain		Solid		X	х	х	x	x		1	I		$\dashv$	+	1		WINTER COLOR
PH05 (890-3910-3)	1/19/23	13 20 Mountain		Solid	T	$\frac{1}{x}$	X	x	х	X	$\dashv$	+	1			+	1		
		Wountain				1						╁			$\dashv$	_			
				_		<b>†</b>					_					_			
						<b>†</b>						+	T		$\neg \uparrow$	_	- Bladne		
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						-						+			1	+			***************************************
Note Since laboratory accreditations are subject to change Eurofins Envi aboratory does not currently maintain accreditation in the State of Origin li accreditation status should be brought to Eurofins Environment Testing So																			
Possible Hazard Identification					Sé	ample	Dis	oosal	(A	fee m	ay be	asse	ssed	if sa	mples	s are r	etain	ed longer than 1	
Unconfirmed Deliverable Requested                  Other (specify)	Primary Deliver	oblo Ponk	2			<u> </u>	eturr	To C	Clien	t	ш	Disp	osal E	3y La	b			hive For	Months
Empty Kit Relinquished by	Fillinary Deliver						instr	uction	ns/Q	C Rec	uirem	ents							
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elinquished by	Date/Time			Company		Rece	eived b	yc/			************				Date/T	ime			Company
Custody Seals Intact				<u> </u>		Cool	er Ten	nperatu	ıre(s)	°C and	Other F	Remar	<s< td=""><td></td><td></td><td></td><td></td><td></td><td>1</td></s<>						1
Δ Yes Δ No					Cooler Temperature(s) °C and Other Remarks														

## **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-3910-1

 SDG Number: 03D2024093

Login Number: 3910 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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	

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2/4/2023

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3910-1 SDG Number: 03D2024093

**List Source: Eurofins Midland** 

List Number: 2 Creator: Kramer, Jessica

Login Number: 3910

List Creation: 01/23/23 07:42 AM

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

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 2/3/2023 4:48:36 PM

# **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

## **JOB NUMBER**

890-3911-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/3/2023 4:48:36 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3911-1 SDG: 03D2024093

# **Table of Contents**

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## **Definitions/Glossary**

Job ID: 890-3911-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** S1-Surrogate recovery exceeds control limits, low biased.

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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: Harrier 35 Federal Com 001H

Job ID: 890-3911-1

SDG: 03D2024093

Job ID: 890-3911-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3911-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH06 (890-3911-1), PH06 (890-3911-2) and PH06 (890-3911-3).

#### **GC VOA**

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-45146 and analytical batch 880-45131 was outside the control limits.

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44707 and analytical batch 880-44800 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.

Matrix: Solid

Lab Sample ID: 890-3911-1

Job ID: 890-3911-1 SDG: 03D2024093

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

**Client Sample ID: PH06** 

Date Collected: 01/19/23 13:30 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 08:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130			01/31/23 14:43	02/01/23 08:40	1
1,4-Difluorobenzene (Surr)	82		70 - 130			01/31/23 14:43	02/01/23 08:40	1
Method: TAL SOP Total BTEX - 1	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/01/23 12:31	1
Method: SW846 8015 NM - Diese	l Pango Organ	ice (DPO) ((	CC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
		Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/03/23 17:32	Dil Fac
Analyte Total TPH		Qualifier U	RL 50.0		<u>D</u>	Prepared		
Analyte	Result <50.0	Qualifier U	RL 50.0		<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <50.0	Qualifier Unics (DRO) Qualifier	RL 50.0	mg/Kg			02/03/23 17:32	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL	mg/Kg		Prepared	02/03/23 17:32 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies	Result <50.0 sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0	mg/Kg  Unit  mg/Kg		Prepared 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 11:39	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 15:22 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 11:39 02/03/23 11:39	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0  (GC)  RL 50.0  50.0  50.0	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 11:39 02/03/23 11:39 02/03/23 11:39	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22 Prepared	02/03/23 17:32  Analyzed 02/03/23 11:39 02/03/23 11:39 02/03/23 11:39  Analyzed	1 Dil Fac 1 1 1 1 Dil Fac 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22  Prepared 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 11:39 02/03/23 11:39  Analyzed 02/03/23 11:39	Dil Fac  1  1  Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22  Prepared 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 11:39 02/03/23 11:39  Analyzed 02/03/23 11:39	1 Dil Fac 1 Dil Fac 1

**Client Sample ID: PH06** 

Date Collected: 01/19/23 13:40

Date Received: 01/20/23 09:06

Sample Depth: 3'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			01/31/23 14:43	02/01/23 09:01	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-3911-2

**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3911-2

Job ID: 890-3911-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH06** 

Date Collected: 01/19/23 13:40 Date Received: 01/20/23 09:06

Sample Depth: 3'

Method: SW846 8021B -	<b>Volatile Organic</b>	Compounds (	GC)	(Continued)	

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	83	70 - 130	01/31/23 14:43	02/01/23 09:01	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

Method: SW846 8015B	NM - Diesel Rand	ge Organics	(DRO)	(GC)
Michiga. Offord out ob	ININ - Dieser Rang	ge Organics	(DitO)	(00)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 12:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 12:43	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 12:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77	70 - 130	02/01/23 15:22	02/03/23 12:43	1
o-Terphenyl	76	70 - 130	02/01/23 15:22	02/03/23 12:43	1

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.8		5.04	mg/Kg			01/26/23 11:10	1

**Client Sample ID: PH06** Lab Sample ID: 890-3911-3

Date Collected: 01/19/23 13:50 Date Received: 01/20/23 09:06

Sample Depth: 6'

Welliou. Syvo40 002 ID - Volat	ne Organic Comp	ounus (GC	1					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130			01/31/23 14:43	02/01/23 09:22	1
1 4-Difluorobenzene (Surr)	95		70 130			01/31/23 14:43	02/01/23 09:22	1

Method: TAI	SOP Total RTFY	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/01/23 12:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/03/23 17:32	1

**Eurofins Carlsbad** 

Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3911-3

01/26/23 11:17

## **Client Sample Results**

Client: EnsolumJob ID: 890-3911-1Project/Site: Harrier 35 Federal Com 001HSDG: 03D2024093

Client Sample ID: PH06

Date Collected: 01/19/23 13:50 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:04	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:04	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	75		70 - 130			02/01/23 15:22	02/03/23 13:04	1
o-Terphenyl	74		70 - 130			02/01/23 15:22	02/03/23 13:04	1

4.97

7.98

mg/Kg

11

40

11

## **Surrogate Summary**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

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)	
890-3911-1	PH06	102	82	
890-3911-2	PH06	108	83	
890-3911-3	PH06	82	95	
890-3920-A-1-B MS	Matrix Spike	106	100	
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109	
LCS 880-45149/1-A	Lab Control Sample	101	108	
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104	
MB 880-45146/5-A	Method Blank	68 S1-	92	
MB 880-45149/5-A	Method Blank	74	91	
Surrogate Legend				
BFB = 4-Bromofluorobei	nzene (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)	
890-3911-1	PH06	81	80	
890-3911-1 MS	PH06	84	75	
890-3911-1 MSD	PH06	87	75	
890-3911-2	PH06	77	76	
890-3911-3	PH06	75	74	
LCS 880-45214/2-A	Lab Control Sample	87	84	
LCSD 880-45214/3-A	Lab Control Sample Dup	87	84	
MB 880-45214/1-A	Method Blank	96	102	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Job ID: 890-3911-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45146

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1

MB MB

MR MR

<0.00200 U

<0.00200 U

<0.00200 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A

**Matrix: Solid** 

Analyte

Benzene

Toluene

o-Xylene

Analysis Batch: 45131

Client Sample ID: Method Blank

Analyzed

02/01/23 03:51

02/01/23 03:51

02/01/23 03:51

Prepared

01/31/23 14:43

01/31/23 14:43

01/31/23 14:43

Prep Type: Total/NA

Prep Batch: 45149

Dil Fac

Ethylbenzene mg/Kg 02/01/23 03:51 m-Xylene & p-Xylene <0.00400 U 0.00400 mg/Kg 01/31/23 14:43 <0.00200 U 0.00200 mg/Kg 01/31/23 14:43 02/01/23 03:51 Xylenes, Total <0.00400 U 0.00400 01/31/23 14:43 02/01/23 03:51 mg/Kg

RL

0.00200

0.00200

0.00200

Unit

mg/Kg

mg/Kg

mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	01/31/23 14:4:	02/01/23 03:51	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23 14:4:	3 02/01/23 03:51	1

Lab Sample ID: LCS 880-45149/1-A

**Matrix: Solid** 

o-Xylene

Analysis Batch: 45131

Client Sample ID: Lab Control Sample

70 - 130

94

Prep Type: Total/NA Prep Batch: 45149

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1036 mg/Kg 104 70 - 130 Toluene 0.100 0.09150 mg/Kg 92 70 - 130 Ethylbenzene 0.100 0.09043 mg/Kg 90 70 - 130 0.200 m-Xylene & p-Xylene 0.1882 mg/Kg 94 70 - 130

0.09431

LCCD LCCD

0.100

Chiles

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	101	70 - 130
1.4-Difluorobenzene (Surr)	108	70 - 130

Lab Sample ID: LCSD 880-45149/2-A

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45149

	Spike	LCSD LCSD				70Rec		KPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1062	mg/Kg		106	70 - 130	2	35	

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## QC Sample Results

Client: Ensolum Job ID: 890-3911-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: LCSD 880-45149/2-A

**Matrix: Solid** Analysis Batch: 45131 Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 45149

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.09716		mg/Kg		97	70 - 130	6	35
Ethylbenzene	0.100	0.09608		mg/Kg		96	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	6	35
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130	6	35

LCSD LCSD

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

Lab Sample ID: 890-3920-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 45131

Prep Type: Total/NA

Prep Batch: 45149

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130	
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130	
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130	
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-3920-A-1-C MSD

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 45149

Spike MSD MSD RPD Sample Sample %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Benzene <0.00202 U 0.0996 0.1028 mg/Kg 103 70 - 130 14 35 Toluene <0.00202 U 0.0996 0.08344 mg/Kg 84 70 - 130 3 35 Ethylbenzene <0.00202 U 0.0996 0.07815 mg/Kg 78 70 - 130 35 m-Xylene & p-Xylene <0.00403 U 0.199 0.1543 77 70 - 130 35 mg/Kg 13 <0.00202 U 0.0996 o-Xylene 0.07563 mq/Kq 76 70 - 130 14 35

MSD MSD

Surroyate	76Recovery	Qualifier	Lillits		
4-Bromofluorobenzene (Surr)	92		70 - 130		
1,4-Difluorobenzene (Surr)	109		70 - 130		

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

Lab Sample ID: MB 880-45214/1-A

**Matrix: Solid** 

Analysis Batch: 45303

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

Prep Batch: 45214

мв мв Result Qualifier RL Unit Prepared <49.9 U 49.9 mg/Kg 02/01/23 15:22 02/03/23 09:09 Gasoline Range Organics

(GRO)-C6-C10

Project/Site: Harrier 35 Federal Com 001H

Client: Ensolum

Job ID: 890-3911-1 SDG: 03D2024093

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

Lab Sample ID: MB 880-45214/1-A **Matrix: Solid** 

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 45214 Analysis Batch: 45303

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130			02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45303 Prep Batch: 45214

ı		<b>Бріке</b>	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Gasoline Range Organics	999	861.4		mg/Kg		86	70 - 130	
	(GRO)-C6-C10								
	Diesel Range Organics (Over	999	983.6		mg/Kg		98	70 - 130	
	C10-C28)								
ı									

LCS LCS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 87 o-Terphenyl 84 70 - 130

Lab Sample ID: LCSD 880-45214/3-A Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA **Matrix: Solid** Analysis Batch: 45303 Prep Batch: 45214

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit D Gasoline Range Organics 999 830.8 mg/Kg 83 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over 999 938.1 mg/Kg 94 70 - 130 5 20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 890-3911-1 MS Client Sample ID: PH06 **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 45303 Prep Batch: 45214

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<50.0	U	1000	814.9		mg/Kg		78	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	<50.0	U	1000	956.9		mg/Kg		94	70 - 130	
C10-C28)										

Diesel Range Organics (Over C10-C28)	<50.0	U	1000	956.9	mg/Kg	94	70 - 130	
	MS	MS						
Surrogate	%Recovery	Qualifier	Limits					
1-Chlorooctane	84		70 - 130					
o-Terphenyl	75		70 - 130					

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C10-C28)

Client: Ensolum Job ID: 890-3911-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: 890-3911-1 MSD

**Matrix: Solid** 

Analysis Batch: 45303

Client Sample ID: PH06

Prep Type: Total/NA

Prep Batch: 45214 RPD RPD Limit Limits

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client Sample ID: PH06

Client Sample ID: PH06

**Prep Type: Soluble** 

Sample Sample Spike MSD MSD Result Qualifier Analyte Added Result Qualifier Unit %Rec Gasoline Range Organics <50.0 U 998 840.6 mg/Kg 81 70 - 130 3 20 (GRO)-C6-C10 998 972.0 Diesel Range Organics (Over <50.0 U mg/Kg 96 70 - 1302 C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	75		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44707/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 44800

мв мв

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 01/26/23 09:07

Lab Sample ID: LCS 880-44707/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44800** 

	Spike	e LCS	LCS				%Rec	
Analyte	Adde	d Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	271.9		mg/Kg	_	109	90 - 110	

Lab Sample ID: LCSD 880-44707/3-A

**Matrix: Solid** 

Analysis Batch: 44800

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	271.0		mg/Kg		108	90 - 110	0	20	

Lab Sample ID: 890-3911-1 MS

**Matrix: Solid** 

Analysis Batch: 44800

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	<4 96	U F1	248	293.3	F1	ma/Ka		117	90 110	

Lab Sample ID: 890-3911-1 MSD

Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 44800											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	<4.96	U F1	248	293.7	F1	mg/Kg		117	90 - 110	0	20

## **QC Association Summary**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 03D2024093

**GC VOA** 

Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8021B	45149
890-3911-2	PH06	Total/NA	Solid	8021B	45149
890-3911-3	PH06	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45149
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45149

Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	5035	<u> </u>
890-3911-2	PH06	Total/NA	Solid	5035	
890-3911-3	PH06	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	Total BTEX	
890-3911-2	PH06	Total/NA	Solid	Total BTEX	
890-3911-3	PH06	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015NM Prep	
890-3911-2	PH06	Total/NA	Solid	8015NM Prep	
890-3911-3	PH06	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-1 MS	PH06	Total/NA	Solid	8015NM Prep	
890-3911-1 MSD	PH06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015B NM	45214
890-3911-2	PH06	Total/NA	Solid	8015B NM	45214
890-3911-3	PH06	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214

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## **QC Association Summary**

Client: Ensolum Job ID: 890-3911-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

## GC Semi VOA (Continued)

## **Analysis Batch: 45303 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-1 MS	PH06	Total/NA	Solid	8015B NM	45214
890-3911-1 MSD	PH06	Total/NA	Solid	8015B NM	45214

### Analysis Batch: 45427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015 NM	
890-3911-2	PH06	Total/NA	Solid	8015 NM	
890-3911-3	PH06	Total/NA	Solid	8015 NM	

### **HPLC/IC**

#### Leach Batch: 44707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Soluble	Solid	DI Leach	_
890-3911-2	PH06	Soluble	Solid	DI Leach	
890-3911-3	PH06	Soluble	Solid	DI Leach	
MB 880-44707/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44707/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44707/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3911-1 MS	PH06	Soluble	Solid	DI Leach	
890-3911-1 MSD	PH06	Soluble	Solid	DI Leach	

### Analysis Batch: 44800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Soluble	Solid	300.0	44707
890-3911-2	PH06	Soluble	Solid	300.0	44707
890-3911-3	PH06	Soluble	Solid	300.0	44707
MB 880-44707/1-A	Method Blank	Soluble	Solid	300.0	44707
LCS 880-44707/2-A	Lab Control Sample	Soluble	Solid	300.0	44707
LCSD 880-44707/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44707
890-3911-1 MS	PH06	Soluble	Solid	300.0	44707
890-3911-1 MSD	PH06	Soluble	Solid	300.0	44707

Analysis

Analysis

300.0

300.0

Date Received: 01/20/23 09:06

Soluble

Soluble

Job ID: 890-3911-1

44800

44800

01/26/23 10:52

01/26/23 11:10

СН

СН

**EET MID** 

**EET MID** 

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Client Sample ID: PH06 Lab Sample ID: 890-3911-1 Date Collected: 01/19/23 13:30

**Matrix: Solid** 

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.00 g 5 mL 45149 01/31/23 14:43 EL **EET MID** Total/NA Analysis 8021B 1 5 mL 5 mL 45131 02/01/23 08:40 MNR EET MID Total/NA Analysis Total BTEX 45198 02/01/23 12:31 SM **EET MID** 8015 NM Total/NA Analysis 1 45427 02/03/23 17:32 AJ **EET MID** 8015NM Prep 45214 02/01/23 15:22 EET MID Total/NA 10.00 g 10 mL DM Prep Total/NA Analysis 8015B NM 1 uL 1 uL 45303 02/03/23 11:39 ΑJ **EET MID** Soluble 5.04 g 50 mL 44707 01/25/23 09:29 KS Leach DI Leach FFT MID

Client Sample ID: PH06 Lab Sample ID: 890-3911-2

Date Collected: 01/19/23 13:40 Matrix: Solid Date Received: 01/20/23 09:06

Dil Initial Final Batch Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.01 g 5 mL 45149 01/31/23 14:43 EL EET MID 8021B Total/NA Analysis 1 5 mL 5 mL 45131 02/01/23 09:01 MNR **EET MID** Total/NA Total BTEX 02/01/23 12:31 Analysis 1 45198 SM **EET MID** Total/NA Analysis 8015 NM 45427 02/03/23 17:32 **EET MID** Total/NA 8015NM Prep 10.02 g 10 mL 45214 02/01/23 15:22 DM **EET MID** Prep Total/NA Analysis 8015B NM 1 uL 1 uL 45303 02/03/23 12:43 AJ **EET MID** Soluble KS DI Leach 4.96 g 50 mL 44707 01/25/23 09:29 EET MID Leach

**Client Sample ID: PH06** Lab Sample ID: 890-3911-3

Date Collected: 01/19/23 13:50 **Matrix: Solid** Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 09:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45198	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45427	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 13:04	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44707	01/25/23 09:29	KS	EET MID
Soluble	Analysis	300.0		1			44800	01/26/23 11:17	CH	EET MID

**Laboratory References:** 

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

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3911-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### **Laboratory: Eurofins Midland**

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

Authority		ogram	Identification Number	<b>Expiration Date</b>	
Texas	NE	ELAP	T104704400-22-25	06-30-23	
The following analytes	and the almost and the Alaba management has		and the state of the second control of the s		
the agency does not of	• '	it the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for	
,	• '	Matrix	ed by the governing authority. This list ma	ay include analytes for	
the agency does not of	fer certification.	•	, , ,	ay include analytes for	

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## **Method Summary**

Job ID: 890-3911-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3911-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	D
890-3911-1	PH06	Solid	01/19/23 13:30	01/20/23 09:06	1'
890-3911-2	PH06	Solid	01/19/23 13:40	01/20/23 09:06	3'
890-3911-3	PH06	Solid	01/19/23 13:50	01/20/23 09:06	6'

Received by OCD: 11/19/2024/10:11/942/AM

Page 20 of 23

# **Chain of Custody**

Environment Testing Xenco

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

Work Order No:	
	-

www.xenco.com

Project Manager:	Hadlie Green				Bill to: (if	different	)	Kalei .	Jenning	gs												omments		
Company Name:	Ensolum, LLC	;			Company	y Name	:	Ensol	um, LL	С						Progr	am: U	ST/PS	Γ 🗌 PI	RP 🗌 E	Brown	ifields 🗌 RR	C 🗌 Sup	erfund [
Address:	601 N Marien	feld St S	uite 400		Address:			601 N	Marie	nfeld S	t Suite	100			- 1 1	State					_		_	
City, State ZIP:	Midland, TX 7	9701			City, Stat	te ZIP:		Midlar	nd, TX	79701												/UST   TRI		.evel lV∐
Phone:	817.683.2503			Email:	kjenning	gs@ens	solum	.com							_}	Delive	rables	EDD		Α	DaPT	Oth	er:	
Project Name:	Harrier 35 F	ederal C	com 001H	Turr	Around			ANALYSIS REQUEST								Preser	vative C	odes						
Project Number:	030	202409	3	☑ Routine	☐ Rush		Pres. Code													None: NO	DI W	ater: H <sub>2</sub> O		
Project Location: Sampler's Name:		County, I		Due Date: TAT starts th							1				1001 1 <b>010</b>	11801118	941					Cool: Cool HCL: HC	HNC	H: Me <sub>3</sub> : HN H: Na
O#: SAMPLE RECEI	-	Blank:	Yes No	the lab, if red Wet Ice:	(Yes	No	meters															H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NA		п: Na
Samples Received I		No lo M/A	Thermomet Correction F		TIME								- 1	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : Na										
Cooler Custody Seal Sample Custody Sea Total Containers:			Temperatur		11.	うえつ		15)	Se	EX (8021)	890	)-391	1 Chai	n of C	ustody							Zn Acetate+N NaOH+Ascor	laOH: Zn	SAPC
Sample Ider	ntification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		TPH (8015)	Chlorides	втех (8												Sampl	e Comm	ents
PHO	)6	s	1.19.23	1330	1'	G	1	х	х	х														
PHO	06	s	1.19.23	1340	3'	G	1	х	х	х		_												
PHO	06	s	1.19.23	1350	6'	G	1	х	х	х													ent Num	
			1.90.0	3																		NAPP	2225531	487
	NV )																							

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<sub>2</sub> Na Sr Tl Sn U V Zn Total 200.7 / 6010 200.8 / 6020: Hg: 1631 / 245.1 / 7470 / 7471 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Circle Method(s) and Metal(s) to be analyzed

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: (Signa		Received by: (Signature)	Date/Time
1 Ceros	Junear Dlef	1.00.03 9	06		
3			4		
5			6		Poissed Date: 08/25/2020 Rev. 20

## **Eurofins Carlsbad**

# **Chain of Custody Record**



Client Information (Sub Contract Lab)					ab PM Kramer Jessica					Carrier Tracking No(s)					COC No 890-1107 1			
Client Contact: Shipping/Receiving	Phone E-			E-M	-Mail lessica Kramer@et.eurofinsus com						State of Origin				 	Page Page 1 of 1		
ompany curofins Environment Testing South Centr					Accreditations Required (See note) NELAP - Texas								Job #: 890-3911-1					
Address 1211 W Florida Ave, ,	Due Date Requesto 1/26/2023	Due Date Requested 1/26/2023				Analysis Requested								Preservation Codes  A HCL M Hexane				
City Midland State Zip.	TAT Requested (days):				Н						4					B NaOH O C Zn Acetate P	None AsNaO2 Na2O4S Na2SO3	
TX, 79701 Phone 132-704-5440(Tel) Email.	PO #:  WO #:  Project #: 8900094				——————————————————————————————————————										F MeOH R NaZS2O3 G Amchlor S H2SO4 H Ascorbic Acid II Accorbe			
Project Name Harrier 35 Federal Com 001H					e (Yes or	ဖ		EACH Chlo	ор) втех						containers	J DI Water V MCAA		
Site	ssow#	ssow#				015NM		D/DI_L	Saic (M							oj	Other <sup>.</sup>	canon (opening)
		Sample	Sample Type (C=comp,	Matrix (W≕water S=solid, 0=waste/oil, BT≕Tissue,	Field Filtered 9	8015MOD_NM/8015NM	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Caic (MOD) BTEX	Total_BTEX_GCV						Total Number		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) Preservation	A=Air) on Code:	以	<u>                                     </u>	8	8	8	2			-	-		长	Special Instr	uctions/Note:
PH06 (890-3911-1)	1/19/23	13 30 Mountain		Solid	Ħ	X	Х	х	Х	Х						1		
PH06 (890-3911-2)	1/19/23	13 40 Mountain		Solid		х	х	х	Х	х						1		
PH06 (890-3911-3)	1/19/23	13 50 Mountain		Solid		х	х	х	х	х						1		
					$\prod$													
																- James		

Possible Hazard Identification			Sample Disposal ( A fee may be assessed if sa	mples are retained longer than 1	month)
Unconfirmed			Return To Client Disposal By La	b Archive For	Months
Deliverable Requested   II III IV Other (specify)	Primary Deliverable Rank 2		Special Instructions/QC Requirements		
Empty Kit Relinquished by	Date	Tir	me Method of	Shipment:	
Relinquished by .	Date/Time	Company	MANNER	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
Custody Seals Intact:			Cooler Temperature(s) °C and Other Remarks		

### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3911-1 SDG Number: 03D2024093

Login Number: 3911 List Source: Eurofins Carlsbad

List Number: 1 Creator: Stutzman, Amanda

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 True tampered with. Samples were received on ice. True True Cooler Temperature is acceptable. 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 True HTs) 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 N/A Sample Preservation Verified. There is sufficient vol. for all requested analyses, incl. any requested True MS/MSDs Containers requiring zero headspace have no headspace or bubble is N/A

<6mm (1/4").

Released to Imaging: 3/7/20254950814 PMM

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3911-1 SDG Number: 03D2024093

Login Number: 3911 List Source: Eurofins Midland
List Number: 2 List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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	N/A	

4

2

3

4

7

a

1 1

14

14

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 2/3/2023 4:48:32 PM

# **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

# **JOB NUMBER**

890-3912-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 2/3/2023 4:48:32 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of

Page 2 of 23

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3912-1 SDG: 03D2024093

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## **Definitions/Glossary**

Job ID: 890-3912-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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

**GC Semi VOA** 

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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: Harrier 35 Federal Com 001H

Job ID: 890-3912-1

SDG: 03D2024093

Job ID: 890-3912-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3912-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: PH07 (890-3912-1), PH07 (890-3912-2) and PH07 (890-3912-3).

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-45146 and analytical batch 880-45131 was outside the control limits.

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44760 and analytical batch 880-44877 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.

Lab Sample ID: 890-3912-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-3912-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Client Sample ID: PH07

Date Collected: 01/19/23 14:00 Date Received: 01/20/23 09:06

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:43	02/01/23 09:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			01/31/23 14:43	02/01/23 09:42	1
1,4-Difluorobenzene (Surr)	88		70 - 130			01/31/23 14:43	02/01/23 09:42	1
Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/01/23 12:31	1
Method: SW846 8015 NM - Diese Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/03/23 17:32	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130			02/01/23 15:22	02/03/23 13:25	1
o-Terphenyl	75		70 - 130			02/01/23 15:22	02/03/23 13:25	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: PH07 Lab Sample ID: 890-3912-2

21.6 F1

5.02

mg/Kg

Date Collected: 01/19/23 14:10 Date Received: 01/20/23 09:06

Sample Depth: 3'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/31/23 14:43	02/01/23 10:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			01/31/23 14:43	02/01/23 10:03	1

**Eurofins Carlsbad** 

01/27/23 18:47

**Matrix: Solid** 

Job ID: 890-3912-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH07** Lab Sample ID: 890-3912-2

Date Collected: 01/19/23 14:10 Matrix: Solid Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1 4-Difluorobenzene (Surr)	9.3	70 - 130	01/31/23 14:43	02/01/23 10:03	

### **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	ma/Ka			02/01/23 12:31	1

Method: SW846 8015 NM - Diesel I	D		101
	Rande Ordanics i	DROIG	7(.)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 13:45	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 13:45	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 13:45	1
Curromata	9/ Bassyany	Qualifier	Limita			Droporod	Anglyzad	Dil Eco

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130	02/01/23 15:22	02/03/23 13:45	1
o-Terphenyl	77		70 - 130	02/01/23 15:22	02/03/23 13:45	1

#### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		4.97	mg/Kg			01/27/23 19:01	1

**Client Sample ID: PH07** Lab Sample ID: 890-3912-3 **Matrix: Solid** 

Date Collected: 01/19/23 14:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

Mothodi	CIMOAC GOOAD	Valatile Or	ganic Compour	de (CC)
i wethod:	5W846 8U21B	- volatile Ur	danic Compour	ias (GC)

monious criticionalis	o organio oomp	Junua (Ju	,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		01/31/23 14:43	02/01/23 10:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			01/31/23 14:43	02/01/23 10:23	1

١	Surrogate	%Recovery	Quaimer	Limits	Prepared	Analyzea	DII Fac
	4-Bromofluorobenzene (Surr)	91		70 - 130	01/31/23 14:43	02/01/23 10:23	1
	1,4-Difluorobenzene (Surr)	96		70 - 130	01/31/23 14:43	02/01/23 10:23	1

#### **Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00404	U	0.00404	ma/Ka			02/01/23 12:31	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg	_		02/03/23 17:32	1

Lab Sample ID: 890-3912-3

# **Client Sample Results**

Client: Ensolum Job ID: 890-3912-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH07** 

Da

Sa

Date Collected: 01/19/23 14:20	Matrix: Solid
Date Received: 01/20/23 09:06	
Sample Depth: 6'	
-	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:06	1
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:06	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			02/01/23 15:22	02/03/23 14:06	1
o-Terphenyl	95		70 - 130			02/01/23 15:22	02/03/23 14:06	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.03		4.99	mg/Kg			01/27/23 19:06	

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3912-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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)	
890-3912-1	PH07	93	88	
890-3912-2	PH07	88	93	
890-3912-3	PH07	91	96	
890-3920-A-1-B MS	Matrix Spike	106	100	
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109	
LCS 880-45149/1-A	Lab Control Sample	101	108	
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104	
MB 880-45146/5-A	Method Blank	68 S1-	92	
MB 880-45149/5-A	Method Blank	74	91	
Surrogate Legend				
BFB = 4-Bromofluorober	nzene (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)	
890-3911-A-1-F MS	Matrix Spike	84	75	
890-3911-A-1-G MSD	Matrix Spike Duplicate	87	75	
890-3912-1	PH07	76	75	
890-3912-2	PH07	77	77	
890-3912-3	PH07	93	95	
LCS 880-45214/2-A	Lab Control Sample	87	84	
LCSD 880-45214/3-A	Lab Control Sample Dup	87	84	
MB 880-45214/1-A	Method Blank	96	102	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Released to Imaging: 3/7/20254 950814 PMM

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Client: Ensolum Job ID: 890-3912-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45146

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	1

MB MB

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Prepared Dil Fac Analyzed 01/31/23 14:29 01/31/23 17:14 01/31/23 14:29 01/31/23 17:14

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45149

Analysis Batch: 45131

Matrix: Solid

Lab Sample ID: MB 880-45149/5-A

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepa	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	01/31/23	14:43	02/01/23 03:51	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23	14:43	02/01/23 03:51	1

Lab Sample ID: LCS 880-45149/1-A

**Matrix: Solid** 

Analysis Batch: 45131

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 45149

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1036		mg/Kg		104	70 - 130	
Toluene	0.100	0.09150		mg/Kg		92	70 - 130	
Ethylbenzene	0.100	0.09043		mg/Kg		90	70 - 130	
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130	
o-Xylene	0.100	0.09431		mg/Kg		94	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	101	70 - 130
1.4-Difluorobenzene (Surr)	108	70 - 130

Lab Sample ID: LCSD 880-45149/2-A

Matrix: Solid							Prep 1	ype: To	tal/NA
Analysis Batch: 45131							Prep	Batch:	45149
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2	35

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## QC Sample Results

Client: Ensolum Job ID: 890-3912-1 SDG: 03D2024093 Project/Site: Harrier 35 Federal Com 001H

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

Lab Sample ID: LCSD 880-45149/2-A

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 45149

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.09716		mg/Kg		97	70 - 130	6	35
Ethylbenzene	0.100	0.09608		mg/Kg		96	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	6	35
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130	6	35

LCSD LCSD

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

Lab Sample ID: 890-3920-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 45131

Prep Type: Total/NA

Prep Batch: 45149

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130	
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130	
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130	
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-3920-A-1-C MSD

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45149

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0996	0.1028		mg/Kg		103	70 - 130	14	35
Toluene	<0.00202	U	0.0996	0.08344		mg/Kg		84	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0996	0.07815		mg/Kg		78	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1543		mg/Kg		77	70 - 130	13	35
o-Xylene	<0.00202	U	0.0996	0.07563		mg/Kg		76	70 - 130	14	35

MSD MSD

Surrogate	76Recovery	Qualifier	LIIIIII
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-45214/1-A

**Matrix: Solid** 

Analysis Batch: 45303

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

Prep Batch: 45214

мв мв Result Qualifier Unit Prepared <49.9 U 49.9 mg/Kg 02/01/23 15:22 02/03/23 09:09 Gasoline Range Organics (GRO)-C6-C10

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1

SDG: 03D2024093

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Dup

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

Lab Sample ID: MB 880-45214/1-A

**Matrix: Solid** 

Client: Ensolum

Analysis Batch: 45303

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 45214

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <49.9 U 49.9 02/01/23 15:22 02/03/23 09:09 Diesel Range Organics (Over mg/Kg C10-C28) 49.9 02/01/23 15:22 02/03/23 09:09 Oll Range Organics (Over C28-C36) <49.9 U mg/Kg

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1-Chlorooctane 96 70 - 130 02/01/23 15:22 02/03/23 09:09 102 70 - 130 02/01/23 15:22 02/03/23 09:09 o-Terphenyl

Lab Sample ID: LCS 880-45214/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** Analysis Batch: 45303

Prep Batch: 45214 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 999 861.4 86 70 - 130 mg/Kg (GRO)-C6-C10 999 983.6 Diesel Range Organics (Over 98 70 - 130mg/Kg C10-C28)

LCS LCS Qualifier Surrogate %Recovery Limits 1-Chlorooctane 70 - 130 87 o-Terphenyl 84 70 - 130

Lab Sample ID: LCSD 880-45214/3-A

Matrix: Solid

Analysis Batch: 45303							Prep	Batch:	45214
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	999	830.8		mg/Kg		83	70 - 130	4	20
(GRO)-C6-C10									
Diesel Range Organics (Over	999	938.1		mg/Kg		94	70 - 130	5	20
C10-C28)									

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 87 70 - 130 o-Terphenyl 84 70 - 130

Lab Sample ID: 890-3911-A-1-F MS

**Matrix: Solid** 

Analysis Batch: 45303

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

MS MS

Prep Batch: 45214

Spike %Rec Sample Sample %Rec Result Qualifier Added Result Qualifier Analyte Unit Limits <50.0 U 1000 814.9 Gasoline Range Organics 78 70 - 130mg/Kg (GRO)-C6-C10 1000 956.9 Diesel Range Organics (Over <50.0 U mg/Kg 94 70 - 130

C10-C28)

	IVIS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	75		70 - 130

## QC Sample Results

Client: Ensolum Job ID: 890-3912-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: 890-3911-A-1-G MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** Analysis Batch: 45303 Prep Type: Total/NA Prep Batch: 45214

Sample Sample Spike MSD MSD RPD Result Qualifier RPD Limit Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics <50.0 U 998 840.6 mg/Kg 81 70 - 130 3 20 (GRO)-C6-C10 998 972.0 Diesel Range Organics (Over <50.0 U mg/Kg 96 70 - 130 2

C10-C28)

MSD MSD

Surrogate	%Recovery Qualifie	r Limits
1-Chlorooctane	87	70 - 130
o-Terphenyl	75	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44760/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

мв мв

	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
l	Chloride	<5.00 U	5.00	mg/Kg			01/27/23 18:33	1

Lab Sample ID: LCS 880-44760/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44877** 

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	273.5		mg/Kg		109	90 - 110	

Lab Sample ID: LCSD 880-44760/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	27/ 0		ma/Ka		110	90 110		20	

Lab Sample ID: 890-3912-1 MS **Client Sample ID: PH07 Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	21.6	F1	251	308.8	F1	ma/Ka		11/	90 110	 

Lab Sample ID: 890-3912-1 MSD **Client Sample ID: PH07 Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 44877

Alialysis Datell. 44011											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	21.6	F1	251	309.6	F1	mg/Kg		115	90 - 110		20

# **QC Association Summary**

Client: Ensolum
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1 SDG: 03D2024093

**GC VOA** 

Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8021B	45149
890-3912-2	PH07	Total/NA	Solid	8021B	45149
890-3912-3	PH07	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45149
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45149

Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	5035	<u> </u>
890-3912-2	PH07	Total/NA	Solid	5035	
890-3912-3	PH07	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	Total BTEX	
890-3912-2	PH07	Total/NA	Solid	Total BTEX	
890-3912-3	PH07	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8015NM Prep	
890-3912-2	PH07	Total/NA	Solid	8015NM Prep	
890-3912-3	PH07	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8015B NM	45214
890-3912-2	PH07	Total/NA	Solid	8015B NM	45214
890-3912-3	PH07	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3912-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### GC Semi VOA (Continued)

### **Analysis Batch: 45303 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45214
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45214

### Analysis Batch: 45428

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	890-3912-1	PH07	Total/NA	Solid	8015 NM	
	890-3912-2	PH07	Total/NA	Solid	8015 NM	
l	890-3912-3	PH07	Total/NA	Solid	8015 NM	

### **HPLC/IC**

#### Leach Batch: 44760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Soluble	Solid	DI Leach	_
890-3912-2	PH07	Soluble	Solid	DI Leach	
890-3912-3	PH07	Soluble	Solid	DI Leach	
MB 880-44760/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44760/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44760/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3912-1 MS	PH07	Soluble	Solid	DI Leach	
890-3912-1 MSD	PH07	Soluble	Solid	DI Leach	

### **Analysis Batch: 44877**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Soluble	Solid	300.0	44760
890-3912-2	PH07	Soluble	Solid	300.0	44760
890-3912-3	PH07	Soluble	Solid	300.0	44760
MB 880-44760/1-A	Method Blank	Soluble	Solid	300.0	44760
LCS 880-44760/2-A	Lab Control Sample	Soluble	Solid	300.0	44760
LCSD 880-44760/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44760
890-3912-1 MS	PH07	Soluble	Solid	300.0	44760
890-3912-1 MSD	PH07	Soluble	Solid	300.0	44760

SDG: 03D2024093

Project/Site: Harrier 35 Federal Com 001H

Lab Sample ID: 890-3912-1

Matrix: Solid

**Client Sample ID: PH07** 

Client: Ensolum

Date Collected: 01/19/23 14:00 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 09:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45199	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45428	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 13:25	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 18:47	CH	EET MID

**Client Sample ID: PH07** Lab Sample ID: 890-3912-2 Matrix: Solid

Date Collected: 01/19/23 14:10

Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 10:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45199	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45428	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 13:45	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:01	CH	EET MID

**Client Sample ID: PH07** Lab Sample ID: 890-3912-3

Date Collected: 01/19/23 14:20 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 10:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45199	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45428	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 14:06	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:06	CH	EET MID

Laboratory References:

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

**Eurofins Carlsbad** 

**Matrix: Solid** 

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3912-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

## **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	06-30-23	
The following analytes	are included in this report, but	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes fo
the agency does not of	• •	ic and laboratory to flot corum	bu by the governing authority. This list his	ay include analytes to
,	• •	Matrix	Analyte	ay molude analytes to
the agency does not of	fer certification.	,	, , ,	

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# **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1

SDG: 03D2024093

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
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
I Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

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<u> 13</u>

# **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	D
890-3912-1	PH07	Solid	01/19/23 14:00	01/20/23 09:06	1'
890-3912-2	PH07	Solid	01/19/23 14:10	01/20/23 09:06	3'
890-3912-3	PH07	Solid	01/19/23 14:20	01/20/23 09:06	6'

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Received by OCD: 11/19/2024/10:11/942/AM



**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:	

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Project Manager:	Hadli	e Green				Bill to: (if	differen	t)	Kalei .	Jennin	gs									W	ork O	rder (	Comments		
Company Name:	Enso	lum, LLC				Compan	y Name	<b>)</b> :	Ensol	um, LL	.c					]	Progr	m: US	T/PST	ПР	RP[]	Brow	nfields 🗌 RR	C Sup	erfund 🗌
Address:	601 N	Marienfe	eld St S	uite 400		Address:			601 N	Marie	nfeld S	St Suite	400			, ,		of Proj						_	
City, State ZIP:	Midla	nd, TX 79	701			City, Star	te ZIP:		Midlar	nd, TX	79701					_ 1	Reporting: Level II Devel III PST/UST TRRP Level IV						evel IVL		
Phone:	817.6	83.2503			Email:	kjenning	s@en	solum	.com							j l	Deliverables: EDD ADaPT Other:					er:			
Project Name:	Наг	rier 35 Fe	deral C	om 001H	Turr	Around						<del></del>		ANAL'	YSIS F	REQU	JEST						Presen	ative Co	odes
Project Number:	Tiai		202409		☑ Routine	Rush		Pres.		Γ													None: NO	DI W	ater: H₂O
Project Location:	1		ounty, N		Due Date:	1		Code															Cool: Cool	MeO	H: Me
Sampler's Name:			er Shor		TAT starts the														ļ				HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	HNO NaOI	•
PO#:	IDT		N	A/a Na	Wet Ice:	(Yes		ters							on <b>11</b> 000	ii iii	WHAN	<b>II</b> IIIII					H <sub>3</sub> PO <sub>4</sub> : HP		
SAMPLE RECE Samples Received		Temp E	No No	Yes No Thermomet		THAL		ame		l			\\\\\					MIM!					NaHSO₄: NAI	BIS	
Cooler Custody Sea		Yes No		Correction F			, 3	Par					IMM			$\mathbf{W}^{\mathbb{N}}$	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Custody  Zn Acetate+NaOH: Zn	SO <sub>3</sub>							
Sample Custody Se		Yes No	-/	Temperatur		4.	2				_		1/11/1	HIMIN	IMI MILI	f Cus									
Total Containers:				Corrected T	emperature:	1	0.		(8015)	Sa	8021		890-	3912	Jilaiii G				1				NaOH+Ascor	bic Acid:	SAPC
Sample Ide	ntificat	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp			Chlorides	BTEX (8021)												Sample	Comm	ents
PH	07		s	1.19.23	1400	1'	G	1	х	х	х														
PH	07		S	1.19.23	1410	3'	G	1	х	х	х														
PH	07		S	1.19.23	1420	6'	G	1	x	×	х												1	nt Num	
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Total 200.7 / 6		200.8 / 6																		Se	Ag Si	10 <sub>2</sub> N	a Sr Ti Sn	U V ZN	
Circle Method(s) a	and Me	tal(s) to b	e analy	zed	TCLP / S	SPLP 601	0: 8R	CRA	Sb A	s Ba	Be (	od Cr	Co	Ju Pb	Mn N	10 N	ı se	Ag II	U		ng.	1031/	245.1 / 7470	11411	

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
	Riceros State	1-20-23 90	6		
3		4	1		
5			3		
					Revised Date: 08/25/2020 Rev. 2020

## **Eurofins Carlsbad**

1089 N Canal St. Carlsbad, NM 88220

Phone 575-988-3199 Fax: 575-988-3199

# **Chain of Custody Record**



💸 eurofins

**Environment Testing** 

2/3/2023

Client Information (Sub Contract Lab)	Sampler <sup>-</sup>			Lab Pi Kram	M ner Je:	ssica						С	arrier T	rackin	g No(s	)			COC No. 890-1107 1		7 ~
Client Contact:	Phone <sup>-</sup>			E-Mail									ate of					F	Page		1
Shipping/Receiving Company					ca Kra Accredi							N	ew M	exico	)				Page 1 of 1		
Eurofins Environment Testing South Centr					NELA			iii eu (c	) 66 HO	10)									890-3912-1		
Address 1211 W Florida Ave, ,	Due Date Request 1/26/2023	ed							۸n	alvo	is Re		0040						Preservation Cod		1
City:	TAT Requested (d	ays)							All	alys	SIS RE	≠qu	este	a	T	1	1	277	A HCL B NaOH	M Hexane N None	
Midland		. ,																. "	C Zn Acetate	O AsNaO2 P Na2O4S	
State Zip: TX, 79701						표						İ							D Nitric Acid E NaHSO4	Q Na2SO3	
Phone	PO#	******				교					-								F MeOH G Amchlor	R Na2S2O3 S H2SO4	
432-704-5440(Tel) Email:	W0 #:				2	QQ (		oride			l								H Ascorbic Acid	T TSP Dodecahydrate U Acetone	1
Litali.	IVV #.				S (S	e d		Chic	ВТЕХ									e	I Ice J DI Water	V MCAA W pH 4-5	
Project Name. Harrier 35 Federal Com 001H	Project #: 89000094				Sample (Yes or No) SD (Yes or No)	5		ACH	6				1					aine	K EDTA L EDA	Y Trizma	
Site:	SSOW#:				ع او	ş		3	8									[ 중	Other	Z other (specify)	
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			1	Trix water	Filtered Samp TH MS/MSD (Y	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Caic (MOD)	Total_BTEX_GCV								夏			1
			Type s			8	00	RGF	/603/	BTE		ı						E N			
Sample Identification - Client ID (Lab ID)	Samula Data	Sample	(C=comp, BT=	Tissue,	Field Fill Perform	15M	715M	0_0	21B	jea		ı						Total			
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) A Preservation (	-Air)	*	1 ×	8	8	8	F			dional area	V-1	ado áneas	1		U	Special In	structions/Note	23
PH07 (890-3912-1)	1/19/23	14 00		XX.223X			امدد	الخدود				-	×			<u></u>	4	$\cap$	A de la companya de l		₹
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PH07 (890-3912-2)	1/19/23	14 10 Mountain	S	olid		X	Х	Х	Х	х								1			Page
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Note Since laboratory accreditations are subject to change, Eurofins Enviro laboratory does not currently maintain accreditation in the State of Origin list accreditation status should be brought to Eurofins Environment Testing Sou	ted above for analysis/test	s/matrix being	analyzed, the sample	es must be	e shippe	ed back	c to the	e Euro	nfins F	nviron	ment Te	estino	South	Centi	ral III	? lahor:	atoni c	or othe	er instructions will be	provided. Any changes to	
Possible Hazard Identification					Sa	mple	Dis	posa	I (A	fee r	nay be	e as	sess	ed if	samį	oles a	re re	tain	ed longer than 1	l month)	1 3
Unconfirmed						$\sqcup_R$	eturr	7 To 0	Clien	t	L	J Di	sposa	al By	Lab		Ш	Arch	nive For	Months	1
Deliverable Requested I II, III, IV, Other (specify)	Primary Deliver	able Rank	2		Sp	ecial	Instr	uctio	ns/Q	C Re	quiren	neni	s								
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# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3912-1 SDG Number: 03D2024093

Login Number: 3912 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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: 890-3912-1 SDG Number: 03D2024093

Login Number: 3912 **List Source: Eurofins Midland** List Number: 2

List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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	N/A	

Released to Imaging: 3/7/20254 950814 PMM

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701 Generated 2/3/2023 4:48:59 PM

# **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 03D2024093

# **JOB NUMBER**

890-3913-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

# **Job Notes**

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

# **Authorization**

Generated 2/3/2023 4:48:59 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

age 2 of 23 2/3/2023

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Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3913-1 SDG: 03D2024093

# **Table of Contents**

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## **Definitions/Glossary**

Job ID: 890-3913-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** 

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

#### **GC Semi VOA**

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

#### HPLC/IC

Qualifier **Qualifier Description** 

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

### **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
	indee comment accurations may or may not so proceed in the 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" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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: Harrier 35 Federal Com 001H

Job ID: 890-3913-1

SDG: 03D2024093

Job ID: 890-3913-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3913-1

#### Receipt

The samples were received on 1/20/2023 9:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

#### **Receipt Exceptions**

The following samples analyzed for method <FRACTION\_METHOD> were received and analyzed from an unpreserved bulk soil jar: PH08 (890-3913-1), PH08 (890-3913-2) and PH08 (890-3913-3).

#### **GC VOA**

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-45146 and analytical batch 880-45131 was outside the control limits.

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44760 and analytical batch 880-44877 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.

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Client: Ensolum Job ID: 890-3913-1

Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH08** Lab Sample ID: 890-3913-1 Date Collected: 01/19/23 14:25 Date Received: 01/20/23 09:06

Sample Depth: 1'

	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130			01/31/23 14:43	02/01/23 10:44	1
1,4-Difluorobenzene (Surr)	91		70 - 130			01/31/23 14:43	02/01/23 10:44	1
- Method: TAL SOP Total BTEX - '	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1
Analyte Total TPH	<49.9	Qualifier U	<b>RL</b> 49.9	Unit mg/Kg	D	Prepared	Analyzed 02/03/23 17:32	Dil Fac
Total TPH -	<49.9	U	49.9	mg/Kg			02/03/23 17:32	
							02/03/23 17:32	1
	•		• •					·
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte Gasoline Range Organics	•	Qualifier	• •	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared 02/01/23 15:22		·
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier U	RL		<u>D</u>		Analyzed	Dil Fac
Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9	Qualifier U	RL 49.9	mg/Kg	<u> </u>	02/01/23 15:22	<b>Analyzed</b> 02/03/23 14:28	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9   <49.9	Qualifier U	RL 49.9 49.9	mg/Kg	<u>D</u>	02/01/23 15:22 02/01/23 15:22	Analyzed 02/03/23 14:28 02/03/23 14:28	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9   <49.9   <49.9	Qualifier U U U	RL 49.9 49.9 49.9	mg/Kg	<u> </u>	02/01/23 15:22 02/01/23 15:22 02/01/23 15:22	Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U U U	RL 49.9 49.9 49.9 <i>Limits</i>	mg/Kg	<u> </u>	02/01/23 15:22 02/01/23 15:22 02/01/23 15:22 Prepared	Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28 Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier  U  U  Qualifier	RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	02/01/23 15:22 02/01/23 15:22 02/01/23 15:22 Prepared 02/01/23 15:22	Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28  Analyzed 02/03/23 14:28	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier  U  U  Qualifier	RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	02/01/23 15:22 02/01/23 15:22 02/01/23 15:22 Prepared 02/01/23 15:22	Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28  Analyzed 02/03/23 14:28	Dil Fac

**Client Sample ID: PH08** Lab Sample ID: 890-3913-2

Date Collected: 01/19/23 14:30 Date Received: 01/20/23 09:06

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/31/23 14:43	02/01/23 11:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130			01/31/23 14:43	02/01/23 11:04	1

**Eurofins Carlsbad** 

01/27/23 19:11

**Matrix: Solid** 

Sample Depth: 3'

Client: Ensolum Job ID: 890-3913-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH08** 

Lab Sample ID: 890-3913-2 Date Collected: 01/19/23 14:30 Date Received: 01/20/23 09:06

Sample Depth: 3'

Method: SW846 8021B - Volatile Organi	c Compounds (GC) (Continued)
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Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1 4-Difluorobenzene (Surr)	95	70 _ 130	01/31/23 14:43	02/01/23 11:04	1

Method: TAL So	OP Total BTFX	- Total BTEX	Calculation
INICIIIOG. IAL O	JI IOLAI DILA	- IUlai DILA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	1

Mathada OMO40 0045 NM Disasi Damas Omenica (DDO) (OO	Α.
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC	. 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:48	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77	70 - 130	02/01/23 15:22	02/03/23 14:48	1
o-Terphenyl	75	70 - 130	02/01/23 15:22	02/03/23 14:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.5		5.04	mg/Kg			01/27/23 19:16	1

**Client Sample ID: PH08** Lab Sample ID: 890-3913-3

Date Collected: 01/19/23 14:35 Date Received: 01/20/23 09:06

Sample Depth: 6'

Method:	· SW846 8021	B - Volatile	Organic Co	mpounds (GC)

Metriod. 344040 002 1D - Volatile	organic comp	ounus (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/31/23 14:43	02/01/23 11:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130			01/31/23 14:43	02/01/23 11:25	1

Surrogate	%Recovery Qualifier	Limits	Prepared	Anaiyzea	DII Fac
4-Bromofluorobenzene (Surr)	83	70 - 130	01/31/23 14:43	02/01/23 11:25	1
1,4-Difluorobenzene (Surr)	95	70 - 130	01/31/23 14:43	02/01/23 11:25	1

### **Method: TAL SOP Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	mg/Kg			02/01/23 12:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC
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Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

Lab Sample ID: 890-3913-3

01/27/23 19:30

# **Client Sample Results**

Client: Ensolum Job ID: 890-3913-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH08** 

Date Collected: 01/19/23 14:35 Date Received: 01/20/23 09:06

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 15:09	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 15:09	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 15:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130			02/01/23 15:22	02/03/23 15:09	1
o-Terphenyl -	74		70 - 130			02/01/23 15:22	02/03/23 15:09	1
- Method: EPA 300.0 - Anions, Ion	Chromatogran	hy - Solubl	e					
Analyte	• •	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

5.00

mg/Kg

105

3

7

8

10

13

# **Surrogate Summary**

Client: Ensolum Job ID: 890-3913-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		DED4	DED74	Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3913-1	PH08	80	91	
890-3913-2	PH08	84	95	
890-3913-3	PH08	83	95	
890-3920-A-1-B MS	Matrix Spike	106	100	
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109	
LCS 880-45149/1-A	Lab Control Sample	101	108	
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104	
MB 880-45146/5-A	Method Blank	68 S1-	92	
MB 880-45149/5-A	Method Blank	74	91	
Surrogate Legend				

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)	
390-3911-A-1-F MS	Matrix Spike	84	75	
390-3911-A-1-G MSD	Matrix Spike Duplicate	87	75	
390-3913-1	PH08	74	74	
390-3913-2	PH08	77	75	
390-3913-3	PH08	77	74	
LCS 880-45214/2-A	Lab Control Sample	87	84	
LCSD 880-45214/3-A	Lab Control Sample Dup	87	84	
MB 880-45214/1-A	Method Blank	96	102	

1CO = 1-Chlorooctane

DFBZ = 1,4-Difluorobenzene (Surr)

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

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13

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Client: Ensolum Job ID: 890-3913-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A

Analysis Batch: 45131

**Matrix: Solid** 

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

Prep Batch: 45146

1

	MD	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	•
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:29	01/31/23 17:14	,

мв мв

MR MR

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A

**Matrix: Solid** 

o-Xylene

Xylenes, Total

Analysis Batch: 45131

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

02/01/23 03:51

02/01/23 03:51

Prep Batch: 45149

7 inalyolo Batolii 10101							op Bato.	
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 03:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:43	02/01/23 03:51	1

0.00200

0.00400

mg/Kg

mg/Kg

MB MB

<0.00200 U

<0.00400 U

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	01/31/23 14:43	02/01/23 03:51	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23 14:43	02/01/23 03:51	1

Lab Sample ID: LCS 880-45149/1-A

**Matrix: Solid** 

Analysis Batch: 45131

**Client Sample ID: Lab Control Sample** 

01/31/23 14:43

01/31/23 14:43

Prep Type: Total/NA

Prep Batch: 45149

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1036		mg/Kg		104	70 - 130	
Toluene	0.100	0.09150		mg/Kg		92	70 - 130	
Ethylbenzene	0.100	0.09043		mg/Kg		90	70 - 130	
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130	
o-Xylene	0.100	0.09431		mg/Kg		94	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	101	70 - 130
1.4-Difluorobenzene (Surr)	108	70 - 130

Lab Sample ID: LCSD 880-45149/2-A

**Matrix: Solid** 

Analysis Batch: 45131

Client	Sample	ID: L	_ab	Contro	Sam	ple Dup
				Drop T	ma. T	Total/NIA

Prep Type: Total/NA

Prep Batch: 45149

	<b>Бріке</b>	LCSD LCSD				%Rec		RPD
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1062	mg/Kg		106	70 - 130	2	35

# **QC Sample Results**

Job ID: 890-3913-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: LCSD 880-45149/2-A

**Matrix: Solid** Analysis Batch: 45131 Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 45149

Spike LCSD LCSD %Rec **RPD** Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit D Toluene 0.100 0.09716 97 70 - 130 35 mg/Kg 6 Ethylbenzene 0.100 0.09608 mg/Kg 96 70 - 130 35 0.200 0.2004 m-Xylene & p-Xylene mg/Kg 70 - 130 35 100 6 o-Xylene 0.100 0.1003 mg/Kg 100 70 - 130 35

LCSD LCSD

Surrogate	%Recovery Q	ualifier L	mits
4-Bromofluorobenzene (Surr)	103	70	130
1,4-Difluorobenzene (Surr)	104	70	130

Lab Sample ID: 890-3920-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 45131

Prep Type: Total/NA

Prep Batch: 45149

MS MS %Rec Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits Benzene <0.00202 U 0.101 0.08904 mg/Kg 88 70 - 130 Toluene <0.00202 U 0.101 0.08562 85 70 - 130 mg/Kg Ethylbenzene <0.00202 U 0.101 0.08420 70 - 130 mg/Kg 84 0.202 m-Xylene & p-Xylene <0.00403 U 0.1762 87 70 - 130 mg/Kg o-Xylene <0.00202 U 0.101 0.08713 mg/Kg 86 70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-3920-A-1-C MSD

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45149

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0996	0.1028		mg/Kg		103	70 - 130	14	35
Toluene	<0.00202	U	0.0996	0.08344		mg/Kg		84	70 - 130	3	35
Ethylbenzene	<0.00202	U	0.0996	0.07815		mg/Kg		78	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1543		mg/Kg		77	70 - 130	13	35
o-Xylene	<0.00202	U	0.0996	0.07563		mg/Kg		76	70 - 130	14	35

MSD MSD

Surroyate	76Recovery	Qualifier	Lillins
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-45214/1-A

**Matrix: Solid** 

Analysis Batch: 45303

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

Prep Batch: 45214

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed <49.9 U 49.9 mg/Kg 02/01/23 15:22 02/03/23 09:09 Gasoline Range Organics (GRO)-C6-C10

Client: Ensolum Job ID: 890-3913-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Lab Sample ID: MB 880-45214/1-A **Matrix: Solid** 

Analysis Batch: 45303

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

Prep Batch: 45214

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <49.9 U 49.9 02/01/23 15:22 02/03/23 09:09 Diesel Range Organics (Over mg/Kg C10-C28) OII Range Organics (Over C28-C36) 49.9 02/01/23 15:22 02/03/23 09:09 <49.9 U mg/Kg

MB MB

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130	02/01/23 15:22	02/03/23 09:09	1

**Client Sample ID: Lab Control Sample** 

Lab Sample ID: LCS 880-45214/2-A **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45303 Prep Batch: 45214

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 999 861.4 86 70 - 130 mg/Kg (GRO)-C6-C10 999 983.6 Diesel Range Organics (Over mg/Kg 98 70 - 130C10-C28)

LCS LCS

Surrogate	%Recovery Qualifie	r Limits
1-Chlorooctane	87	70 - 130
o-Terphenyl	84	70 <sub>-</sub> 130

Lab Sample ID: LCSD 880-45214/3-A

**Matrix: Solid** 

**Analysis Batch: 45303** 

Client	Sample	ID: I	Lab	Contr	ol	San	nple	Dup
				D	<b>.</b>		T-4-	LIBLA

Prep Type: Total/NA Prep Batch: 45214

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	999	830.8		mg/Kg		83	70 - 130	4	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	999	938.1		mg/Kg		94	70 - 130	5	20	
C10-C28)										

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 87 70 - 130 o-Terphenyl 84 70 - 130

Lab Sample ID: 890-3911-A-1-F MS

**Matrix: Solid** 

Analysis Batch: 45303

Client Sample ID: Matrix Spike

Prep Type: Total/NA Prep Batch: 45214

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits <50.0 U 1000 814.9 70 - 130 Gasoline Range Organics 78 mg/Kg (GRO)-C6-C10 1000 956.9 Diesel Range Organics (Over <50.0 U mg/Kg 70 - 130

C10-C28)

	IVIS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	75		70 - 130

96

70 - 130

2

20

Job ID: 890-3913-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

<50.0 U

Lab Sample ID: 890-3911-A-1-G MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 45303 Prep Batch: 45214 Sample Sample MSD MSD RPD Spike Result Qualifier Analyte Added Result Qualifier %Rec Limits RPD Limit Unit D Gasoline Range Organics <50.0 U 998 840.6 mg/Kg 81 70 - 130 3 20

972.0

mg/Kg

998

Diesel Range Organics (Over C10-C28)

(GRO)-C6-C10

MSD MSD %Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 87 o-Terphenyl 75 70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44760/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

MB MB

Result Qualifier RL Unit Analyte D Prepared Analyzed Dil Fac Chloride <5.00 5.00 mg/Kg 01/27/23 18:33 U

Lab Sample ID: LCS 880-44760/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 273.5 90 - 110 mg/Kg 109

Lab Sample ID: LCSD 880-44760/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 44877** 

Spike LCSD LCSD RPD %Rec Analyte Added Result Qualifier Unit %Rec RPD Limits Limit Chloride 250 274.9 110 90 - 110 mg/Kg

Lab Sample ID: 890-3912-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 44877** 

Sample Sample Spike MS MS %Rec Qualifier Added Qualifier Analyte Result Result Unit %Rec Limits Chloride F1 251 308.8 F1 114 90 - 110 21.6 mg/Kg

Lab Sample ID: 890-3912-A-1-C MSD

Matrix: Solid

Analysis Batch: 44877

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Analyte Result Qualifier %Rec Limits RPD Limit Unit D 21.6 F1 Chloride 251 309.6 F1 115 90 - 110 20 mg/Kg 0

**Eurofins Carlsbad** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

**Prep Type: Soluble** 

# **QC Association Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

### **GC VOA**

### Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	8021B	45149
890-3913-2	PH08	Total/NA	Solid	8021B	45149
890-3913-3	PH08	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45149
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45149

#### Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	

### Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	5035	<u> </u>
890-3913-2	PH08	Total/NA	Solid	5035	
890-3913-3	PH08	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 45200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	Total BTEX	
890-3913-2	PH08	Total/NA	Solid	Total BTEX	
890-3913-3	PH08	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	8015NM Prep	
890-3913-2	PH08	Total/NA	Solid	8015NM Prep	
890-3913-3	PH08	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	8015B NM	45214
890-3913-2	PH08	Total/NA	Solid	8015B NM	45214
890-3913-3	PH08	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214

**Eurofins Carlsbad** 

Page 14 of 23

# **QC Association Summary**

Client: Ensolum Job ID: 890-3913-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

### GC Semi VOA (Continued)

### **Analysis Batch: 45303 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45214
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45214

### Analysis Batch: 45429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Total/NA	Solid	8015 NM	
890-3913-2	PH08	Total/NA	Solid	8015 NM	
890-3913-3	PH08	Total/NA	Solid	8015 NM	

### **HPLC/IC**

#### Leach Batch: 44760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Soluble	Solid	DI Leach	_
890-3913-2	PH08	Soluble	Solid	DI Leach	
890-3913-3	PH08	Soluble	Solid	DI Leach	
MB 880-44760/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44760/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44760/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3912-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3912-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 44877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3913-1	PH08	Soluble	Solid	300.0	44760
890-3913-2	PH08	Soluble	Solid	300.0	44760
890-3913-3	PH08	Soluble	Solid	300.0	44760
MB 880-44760/1-A	Method Blank	Soluble	Solid	300.0	44760
LCS 880-44760/2-A	Lab Control Sample	Soluble	Solid	300.0	44760
LCSD 880-44760/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44760
890-3912-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	44760
890-3912-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44760

Project/Site: Harrier 35 Federal Com 001H

**Client Sample ID: PH08** 

Client: Ensolum

Date Collected: 01/19/23 14:25 Date Received: 01/20/23 09:06

Lab Sample ID: 890-3913-1

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 10:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45200	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45429	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 14:28	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:11	CH	EET MID

**Client Sample ID: PH08** Lab Sample ID: 890-3913-2

Date Collected: 01/19/23 14:30 Date Received: 01/20/23 09:06 Matrix: Solid

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 11:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45200	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45429	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 14:48	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:16	CH	EET MID

**Client Sample ID: PH08** Lab Sample ID: 890-3913-3

Date Collected: 01/19/23 14:35 Date Received: 01/20/23 09:06

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 11:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45200	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45429	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 15:09	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:30	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 Job ID: 890-3913-1
Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

## **Laboratory: Eurofins Midland**

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

Authority		ogram	Identification Number	<b>Expiration Date</b>	
Texas		ELAP	T104704400-22-25	06-30-23	
The following analytes	are included in this report, bu	it the laboratory is not certifi	ed by the governing authority. This list ma	av include analytes for	
the agency does not of	fer certification.	•	, , ,	,	
the agency does not of Analysis Method	fer certification .  Prep Method	Matrix	Analyte	,	
0 ,		Matrix Solid	Analyte Total TPH		

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# **Method Summary**

Job ID: 890-3913-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3913-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dep
890-3913-1	PH08	Solid	01/19/23 14:25	01/20/23 09:06	1'
890-3913-2	PH08	Solid	01/19/23 14:30	01/20/23 09:06	3'
890-3913-3	PH08	Solid	01/19/23 14:35	01/20/23 09:06	6'

Received by OCD: 11/19/2024/10:11/942/AM

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**Environment Testing** 

## **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	J.COIII	rage	
Project Manager:	Hadli	e Green				Bill to: (i	differen	t)	Kalei	Kalei Jennings Ensolum, LLC					Work Order Comments									
Company Name:	Enso	lum, LLC				Compar	y Name	e:	Ensol						Program: UST/PST PRP Brownfields RRC Superfund									
Address:	601 N	N Marienfe	ld St S	uite 400		Address			601 N	Marie	nfeld S	t Suite	400				State of Project:							
City, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midla	Midland, TX 79701					Reporting: Level II						Level IV			
Phone:	817.6	83.2503			Email	kjennin	gs@en	solum	.com	o <u>m</u>														
Project Name:	Hai	rrier 35 Fe	deral C	om 001H	Turi	n Around					ANALYSIS RE			REQ	EQUEST				Preservative Codes					
Project Number:			202409		✓ Routine	Rusi	1	Pres.															None: NO	DI Water: H <sub>2</sub> O
Project Location:													Cool: Cool	MeOH: Me										
Sampler's Name: PO #:	e: Conner Shore				e day received by ceived by 4:30pm		£								********							HCL: HC HNO <sub>3</sub> : HN H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na		
SAMPLE RECEIPT		IPT Temp Blank;			Wet Ice:	(Yes)	No	nete				1		Piri			HIMA						H₃PO₄: HP	
Samples Received				er ID:	Tim	007	arar										MM					NaHSO <sub>4</sub> : NABIS		
Cooler Custody Seals: Yes No N/A Co		Correction I	actor:	-0.3		2 0.						HUNLI	AL MARKET		NO 1810 A 1860 MAI 1884				Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>					
Sample Custody Seals: Yes No		N/A	Temperatur	e Reading:	4.2					=	8	90-39	13 CI	nain of	in of Custody						Zn Acetate+NaOH: Zn			
Total Containers:		L		Corrected T	emperature:		0:		015)	es	802						1	1					NaOH+Ascorbic A	Acid: SAPC
Sample Ide	entificat	tion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	TPH (8015)	Chlorides	BTEX (8021)												Sample Co	omments
PH	80		s	1.19.23	1425	1'	G	1	×	х	х										ļ		1	
PH	80		s	1.19.23	1430	3'	G	1	х	x	х													
PH	80		S	1.19.23	1435	6'	G	1	х	x	х												Incident	Number
																						ļ	NAPP222	25531487
				1.70	23		<u> </u>															ļ		
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		200 0 / 0			DODA 40	DDM T	4.4	A L	O- A-	. D.	D. D	C4 C	- 0-	C- (	Fa	Dh	BAC B	n Ma	Ni V	So	Aa Si	O N	a Sr Tl Sn II \	/ 7n

Total 200.7 / 6010 200.8 / 6020: TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Circle Method(s) and Metal(s) to be analyzed

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
	Toronto Slot	1-20-23 90	ę.		
3			4		
5			6		evised Date 08/25/2020 Rev 20

## **Eurofins Carlsbad**

1089 N Canal St.

Carlsbad NM 88220 Phone 575-988-3199 Fax: 575-988-3199

## **Chain of Custody Record**

Lab PM

Sampler:



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Environment Testing

Client Information (Sub Contract Lab)	Sampler <sup>-</sup>							er, Jessica				Carrier Tracking No(s)						COC No: 890-1107 1		
Client Contact: Shipping/Receiving	Phone:			E-Mail	ca Kra	mer@	net e	urofii	neue	com			of Orig					Page: Page 1 of 1		1
Company <sup>-</sup>					Accredit	tations	Requ				***************************************	ivev	iviex	ico				Job#:		ł
Eurofins Environment Testing South Centr  Address	Due Date Requeste			NELAP - Texas										890-3913-1		1				
1211 W Florida Ave ,	1/26/2023							Analysis Requested								Preservation Cod  A HCL	es M Hexane	1		
City Midland	TAT Requested (da																B NaOH C Zn Acetate	N None O AsNaO2 P Na2O4S		
State, Zip: TX, 79701															distribution of the second	attorioride or	E NaHSO4 Q Na2S F MeOH R Na2S G Amchlor T TSP1 H Ascorbic Acid			
Phone 432-704-5440(Tel)	PO # <sup>-</sup>					0D) Ft		ride						Port		S H2SO4 T TSP Dodecahydrate				
Email	WO # <sup>-</sup>				S S	M) da		Chloride	втех								e	I Ice J DI Water	V MCAA W pH 4-5	
Project Name <sup>.</sup> Harrier 35 Federal Com 001H	Project #: 89000094				Sample (Yes or No) ISD (Yes or No)	A_S_P		LEACH	MOD) B								containe	K EDTA L EDA	Y Trizma Z other (specify)	
Site:	SSOW#					015N		_l0/0!	Calc (I	اج							9	Other <sup>.</sup>		
Some la Identification Client ID (Lab ID)		Sample	Sample (w Type st (C=comp, BT	atrix =water =solid, raste/oil, =Tissue,	Field Filtered ! Perform MS/M	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH	8021B/5035FP_Calc (MOD)	Total_BTEX_GCV							Total Number			
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) A Preservation (	CONTRACTOR SERVICE CONTRACTOR		8	8	3	8	<u> </u>		-		,			Þ	Special In	structions/Note	123
PH08 (890-3913-1)	1/19/23	14 25 Mountain	Kananda Majarah Kalanda Kalan	olid	$\uparrow$	х	Х	Х	х	х		1 2000		<u>amati</u>			1			21 of
PH08 (890-3913-2)	1/19/23	14 30 Mountain	S	olid		х	Х	х	x	х							1			Page 2
PH08 (890-3913-3)	1/19/23	14 35 Mountain	S	olid		х	Х	X	х	х							1			Pa
					+					_	-	-					-			1
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																	- Colombia			YUL
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Note: Since laboratory accreditations are subject to change Eurofins Environmen laboratory does not currently maintain accreditation in the State of Origin listed at accreditation status should be brought to Eurofins Environment Testing South Ce	bove for analysis/test	s/matrix being	analyzed, the sample	es must be	e shippe	d back	to the	e Euro	fins E	ovironm	ent Tes	tina Sa	outh Ce	entral I	I C lat	oratory	or oth	er instructions will be	provided. Any changes to	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Possible Hazard Identification					Sa		-		•		ay be	asse	ssed	if saı	nples	s are r	etain	ned longer than 1	month)	700%
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Deliverable Requested	Primary Deliver		Z		1	ecial	Instr	uction	ns/Q	J Req	uirem									
Empty Kit Relinquished by		Date			Time			///	/	-4	,		Meth	od of S						] .
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Relinquished by	Date/Time <sup>-</sup>		Comp	any		Rece	eived b	oy.							Date/T	ime.			Company	Pologeod to
Custody Seals Intact. Custody Seal No Δ Yes Δ No						Coole	er Ten	nperati	ure(s)	°C and	Other F	Remark	(S							Date

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3913-1 SDG Number: 03D2024093

Login Number: 3913 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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: 890-3913-1 SDG Number: 03D2024093

Login Number: 3913
List Source: Eurofins Midland
List Number: 2
List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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	N/A	

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<6mm (1/4").



**APPENDIX B** 

Lithologic Soil Sampling Log

SOIL BORING/MONITORING WELL LOG:

This log for field use only

PROJECT NUMBER 0302024093 DRILLING DATE 8 6 24 WELL DIAMETER & W C 3/4 PROJECT NAME Harrier 35 Fed DRILLER CASING NIA LATITUDE 37 08 717 2 CLIENT COE LOCATION E. S.L. C. N. LONGITUDE 100 641717 SCREEN NA PROJECT MANAGER Hedler 6 .... TOC Elevation N/ 1 SURFACE COMPLETION N/A COMMENTS State drilling technology used, outside auger diameter, sampler type, and LOGGED BY SAD CHECKED BY DTW BORING Well Completion Material Description Grout Interval Depth (ft) State lithology, color, plasticity (fine grain soils only), moisture Bentonite Interval density, and odor Open Bore 10 SAND Fine years, poorly fortal, Port, Dry No odor, Some (. 1. cho (cleahed) 20 Sand, Fire grain, poorly sorrel, Pont Dry Noodo Gravel layer @ 25 8 34 Clay, dark reddish BEN. Dry Nooder 40 Sandy Clay, deck redd. st BRN. D. No odi 10 50 Sendstone pak, dry, NoOdor sendroley reddish Ben Dry Noode 60 70 Sandy clay, reddish BRN, Dry NoOde Sand Fine graned, some clay, Reddish Drown 80 Dry No oder food, fine grain, Consolidord, pink, Poolly socred, Dry, No Oder 90 sendy flay, dark reddet Bin, Dry No odor 100 20 sundyclay dark redd. st BEN. Dry Noodor 110

Released to Imaging: 3/17/202541:550814 IPAN



APPENDIX C

Photographic Log



## **Photographic Log**

COG Operating, LLC
Harrier 35 Federal Com 001H
Incident Number NAPP2225531487



Sep 21, 2023 9:21:45 AM 32.09448557N 103.6373042W 256° W Altitude:3333.0ft Speed:0.0mi/h

Date: 9/2/2023

Photograph: 1 Date: 9/20/2023

Description: Excavation activities

View: Southwest

Photograph: 2

Description: Excavation activities

View: West





Photograph: 3 Date: 9/20/2023

Description: Excavation activities

View: Southwest

Photograph: 4 Date: 8/6/2024

Description: Depth to water boring location

View: Southeast



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

## **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701

Generated 9/28/2023 4:14:51 PM

## **JOB DESCRIPTION**

Harrier 35 Federal Com 001H SDG NUMBER 32.0947,-103.63701

## **JOB NUMBER**

890-5319-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

## **Eurofins Carlsbad**

## **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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 9/28/2023 4:14:51 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-5319-1 SDG: 32.0947,-103.63701

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### **Definitions/Glossary**

Job ID: 890-5319-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

#### **Qualifiers**

**GC VOA** 

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

**GC Semi VOA** 

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

**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

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA Minimum Detectable Concentration (Radiochemistry) MDC

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** 

Presumptive **PRES** QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TFO

**TNTC** Too Numerous To Count

#### Case Narrative

Client: Ensolum

Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

Job ID: 890-5319-1

**Laboratory: Eurofins Carlsbad** 

Narrative

#### Job Narrative 890-5319-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 9/21/2023 1:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-5319-1), FS02 (890-5319-2), FS03 (890-5319-3), FS04 (890-5319-4), FS05 (890-5319-5), FS06 (890-5319-6), FS07 (890-5319-7), SW01 (890-5319-8), SW02 (890-5319-9), SW03 (890-5319-10), SW04 (890-5319-11) and SW05 (890-5319-12).

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63094 and analytical batch 880-63185 was outside the control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (890-5319-1), FS03 (890-5319-3), FS04 (890-5319-4) and FS05 (890-5319-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63185 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW04 (890-5319-11) and SW05 (890-5319-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63317 recovered above the upper control limit for Toluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-63317/51).

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-63317/2), (CCV 880-63317/20) and (MB 880-63018/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5314-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### GC Semi VOA

Method 8015MOD NM: Surrogate recovery for the following sample was outside control limits: (890-5310-A-1-H MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

#### Case Narrative

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-5319-1

SDG: 32.0947,-103.63701

#### Job ID: 890-5319-1 (Continued)

#### **Laboratory: Eurofins Carlsbad (Continued)**

Method 8015MOD NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-63132/20), (CCV 880-63132/31), (CCV 880-63132/47), (CCV 880-63132/5), (CCV 880-63132/58) and (LCS 880-63115/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD NM: The method blank for preparation batch 880-63115 and analytical batch 880-63132 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-63096/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-63096 and analytical batch 880-63134 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### HPLC/IC

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

## **Client Sample Results**

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS01** 

Date Collected: 09/21/23 09:10 Date Received: 09/21/23 13:04

Sample Depth: 4

Lab Sample ID: 890-5319-1

**Matrix: Solid** 

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130			09/22/23 14:56	09/25/23 16:10	1
1,4-Difluorobenzene (Surr)	95		70 - 130			09/22/23 14:56	09/25/23 16:10	1

Method: IAL SUP Total BTEX - Tot	al BIEX Calculation						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398 U	0.00398	mg/Kg			09/25/23 16:10	1
_							

Method: SW846 8015 NM - Diesel Ra	ange Organi	ics (DRO) (G	C)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/23/23 15:04	1

Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

	Surrogate	%Recovery	Qualifier	Limits	F	repared	Analyzed	DII Fac
	1-Chlorooctane	80		70 - 130	09/2	22/23 14:59	09/23/23 15:04	1
	o-Terphenyl	87		70 - 130	09/2	22/23 14:59	09/23/23 15:04	1
1	<u> </u>							

Method: EPA 300.0 - Anions, ion Chromatography - Soluble								
	Analyte	Result (	Qualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	2610	24.9	mg/Kg			09/26/23 11:03	5

**Client Sample ID: FS02** Lab Sample ID: 890-5319-2 Date Collected: 09/21/23 09:15

Date Received: 09/21/23 13:04

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			09/22/23 14:56	09/25/23 17:54	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

Lab Sample ID: 890-5319-2

Client: Ensolum

Job ID: 890-5319-1

Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

Client Sample ID: FS02

Date Collected: 09/21/23 09:15 Date Received: 09/21/23 13:04

Sample Depth: 4

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	79	70 - 130	09/22/23 14:56	09/25/23 17:54	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			09/25/23 17:54	1

1		
Method: SW846 8015 NM -	Discal Dance Occasion	(DDO) (CC)
I WETDOO'S WAAH AU15 NIVI .	. Diesei Ranne Ornanics	(I)R()) ((=(.)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/23/23 15:46	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	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78	70 - 130	09/22/23 14:59	09/23/23 15:46	1
o-Terphenyl	87	70 - 130	09/22/23 14:59	09/23/23 15:46	1

#### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte		alifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	167	4.97	mg/Kg			09/26/23 11:09	1

Client Sample ID: FS03 Lab Sample ID: 890-5319-3

Date Collected: 09/21/23 09:20 Date Received: 09/21/23 13:04

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		09/22/23 14:56	09/25/23 18:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			09/22/23 14:56	09/25/23 18:19	1

4-Bromofluorobenzene (Surr)	137 S1+	70 - 130	09/22/23 14:56	09/25/23 18:19	1
1,4-Difluorobenzene (Surr)	113	70 - 130	09/22/23 14:56	09/25/23 18:19	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			09/25/23 18:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			09/23/23 16:07	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

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Lab Sample ID: 890-5319-3

09/26/23 11:15

Lab Sample ID: 890-5319-4

**Matrix: Solid** 

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS03** 

Date Collected: 09/21/23 09:20 Date Received: 09/21/23 13:04

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			09/22/23 14:59	09/23/23 16:07	1
o-Terphenyl	92		70 - 130			09/22/23 14:59	09/23/23 16:07	1
Method: EPA 300.0 - Anions, Ion	Chromatogran	hv - Solubl	•					

25.1

mg/Kg

4450

**Client Sample ID: FS04** 

Date Collected: 09/21/23 09:25

Date Received: 09/21/23 13:04

Sample Depth: 4

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			09/22/23 14:56	09/25/23 18:45	1
1,4-Difluorobenzene (Surr)	111		70 - 130			09/22/23 14:56	09/25/23 18:45	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 18:45	1
•								
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) ((	GC)					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (	GC)	Unit	D	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 09/23/23 16:28	Dil Fac
Analyte Total TPH		Qualifier U			<u>D</u>	Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Dies	Result <50.1	Qualifier U			D_	Prepared Prepared		1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte	Result <50.1	Qualifier Unics (DRO) Qualifier	RL 50.1	mg/Kg		<u> </u>	09/23/23 16:28	1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <50.1 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.1 (GC)	mg/Kg		Prepared	09/23/23 16:28  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.1 sel Range Orga	Qualifier U  nics (DRO) Qualifier U	RL 50.1 (GC)	mg/Kg		Prepared	09/23/23 16:28  Analyzed	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U  nics (DRO) Qualifier U	RL 50.1  (GC)  RL 50.1  50.1	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 09/22/23 14:59 09/22/23 14:59	09/23/23 16:28  Analyzed  09/23/23 16:28  09/23/23 16:28	Dil Fac
Analyte	Result sel Range Orga Result 	Qualifier U  nics (DRO) Qualifier U	RL 50.1 (GC) RL 50.1	mg/Kg  Unit  mg/Kg		Prepared 09/22/23 14:59	09/23/23 16:28  Analyzed  09/23/23 16:28	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.1  (GC)  RL 50.1  50.1  50.1  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 09/22/23 14:59 09/22/23 14:59 09/22/23 14:59 Prepared	09/23/23 16:28  Analyzed 09/23/23 16:28 09/23/23 16:28 09/23/23 16:28 Analyzed	1 Dil Fac 1 1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result	Qualifier U  nics (DRO) Qualifier U  U	RL 50.1  (GC)  RL 50.1  50.1  50.1	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 09/22/23 14:59 09/22/23 14:59	09/23/23 16:28  Analyzed 09/23/23 16:28  09/23/23 16:28  09/23/23 16:28	1 Dil Fac 1

Lab Sample ID: 890-5319-4

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS04** 

Date Collected: 09/21/23 09:25 Date Received: 09/21/23 13:04

Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	255		4.99	mg/Kg			09/26/23 11:21	1	

**Client Sample ID: FS05** Lab Sample ID: 890-5319-5 Matrix: Solid

Date Collected: 09/21/23 09:30 Date Received: 09/21/23 13:04

Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 19:10	
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 19:10	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	145	S1+	70 - 130			09/22/23 14:56	09/25/23 19:10	
1,4-Difluorobenzene (Surr)	111		70 - 130			09/22/23 14:56	09/25/23 19:10	
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 19:10	
Method: SW846 8015 NM - Diese Analyte		ics (DRO) (0 Qualifier	GC)	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<50.2	U	50.2	mg/Kg			09/23/23 16:49	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	
OII Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	84		70 - 130			09/22/23 14:59	09/23/23 16:49	
o-Terphenyl	91		70 - 130			09/22/23 14:59	09/23/23 16:49	
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	<b>e</b>					
Ameliate	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Analyte	Result			•			·	

Lab Sample ID: 890-5319-6

Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS06** 

Date Collected: 09/21/23 09:35 Date Received: 09/21/23 13:04

Sample Depth: 2

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130			09/22/23 14:56	09/25/23 19:35	1
1,4-Difluorobenzene (Surr)	103		70 - 130			09/22/23 14:56	09/25/23 19:35	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 19:35	1
Analyte Total TPH	Result <49.9	Qualifier U	49.9 ———	Unit mg/Kg	D	Prepared	Analyzed 09/23/23 17:10	Dil Fac
Total TPH					— —	Prepared		
- Method: SW846 8015B NM - Die	eol Pango Orga	nice (DPO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9		49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1
(GRO)-C6-C10				3 3				
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			09/22/23 14:59	09/23/23 17:10	1
o-Terphenyl	95		70 - 130			09/22/23 14:59	09/23/23 17:10	1
Method: EPA 300.0 - Anions, Ior	n Chromatograp	hy - Solubl	e					

**Client Sample ID: FS07** 

193

Date Collected: 09/21/23 09:40 Date Received: 09/21/23 13:04

Sample Depth: 2

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			09/22/23 14:56	09/25/23 20:00	

5.02

mg/Kg

**Eurofins Carlsbad** 

09/26/23 11:33

Lab Sample ID: 890-5319-7

**Matrix: Solid** 

Lab Sample ID: 890-5319-7

## **Client Sample Results**

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS07** 

Date Collected: 09/21/23 09:40 Date Received: 09/21/23 13:04

Sample Depth: 2

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	88	70 - 130	09/22/23 14:56	09/25/23 20:00	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			09/25/23 20:00	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			09/23/23 17:32	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		09/22/23 14:59	09/23/23 17:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:32	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	79	70 - 130	09/22/23 14:59	09/23/23 17:32	1
o-Terphenyl	87	70 - 130	09/22/23 14:59	09/23/23 17:32	1

#### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte		ualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	182	4.96	mg/Kg			09/26/23 11:51	1

Lab Sample ID: 890-5319-8 Client Sample ID: SW01

Date Collected: 09/21/23 09:45 Date Received: 09/21/23 13:04

Sample Depth: 0-4

ı	Method: SW846 8021B	Valatila Ossasia	O = (OO)

			,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Toluene	< 0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			09/22/23 14:56	09/25/23 20:25	1
1 1 Differenchemanne (Comm)	70		70 120			00/22/22 14:56	00/05/03 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Anaiyzea	DII Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	09/22/23 14:56	09/25/23 20:25	1
1,4-Difluorobenzene (Surr)	79		70 - 130	09/22/23 14:56	09/25/23 20:25	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			09/25/23 20:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			09/23/23 17:53	1

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**Matrix: Solid** 

Lab Sample ID: 890-5319-8

09/26/23 11:57

Job ID: 890-5319-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: SW01** Date Collected: 09/21/23 09:45 Date Received: 09/21/23 13:04

Sample Depth: 0-4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			09/22/23 14:59	09/23/23 17:53	1
o-Terphenyl	104		70 - 130			09/22/23 14:59	09/23/23 17:53	1
- -								
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	е					
Analyte	Posult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: SW02 Lab Sample ID: 890-5319-9 Matrix: Solid

5.05

mg/Kg

193

74

84

Date Collected: 09/21/23 09:50 Date Received: 09/21/23 13:04

Sample Depth: 0-4

1-Chlorooctane

o-Terphenyl

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			09/22/23 14:56	09/25/23 20:51	1
1,4-Difluorobenzene (Surr)	87		70 - 130			09/22/23 14:56	09/25/23 20:51	1
Total BTEX  Method: SW846 8015 NM - Diese Analyte			0.00399 GC)	mg/Kg Unit	D	Prepared	09/25/23 20:51  Analyzed	1 Dil Fac
Total TPH	- <del> </del>		50.5	mg/Kg			09/23/23 18:14	1
Method: SW846 8015B NM - Dies Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1

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09/23/23 18:14

09/22/23 14:59

70 - 130

70 - 130

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

SDG: 32.0947,-103.63701

**Client Sample ID: SW02** Lab Sample ID: 890-5319-9 Date Collected: 09/21/23 09:50

Matrix: Solid

Job ID: 890-5319-1

Sample Depth: 0-4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble							
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	184	5.05	mg/Kg			09/26/23 12:14	1

**Client Sample ID: SW03** Lab Sample ID: 890-5319-10

Date Collected: 09/21/23 09:55 Matrix: Solid

Date Received: 09/21/23 13:04

Date Received: 09/21/23 13:04

Sample Depth: 0-4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			09/22/23 14:56	09/25/23 21:16	1
1,4-Difluorobenzene (Surr)	93		70 - 130			09/22/23 14:56	09/25/23 21:16	1
- Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 21:16	1
Analyte Total TPH	<50.1	Qualifier U	50.1	Mg/Kg	<u>D</u>	Prepared	Analyzed 09/23/23 18:35	Dil Fac
Total TPH - -	<50.1	U	50.1	mg/Kg			09/23/23 18:35	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.1	U	50.1	mg/Kg		09/22/23 14:59	00/00/00 40 05	
(GRO)-C6-C10			33	mg/kg			09/23/23 18:35	1
	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 18:35	1
Diesel Range Organics (Over	<50.1 <50.1							1
Diesel Range Organics (Over C10-C28)		U	50.1	mg/Kg		09/22/23 14:59	09/23/23 18:35	
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.1	U	50.1 50.1	mg/Kg		09/22/23 14:59 09/22/23 14:59	09/23/23 18:35 09/23/23 18:35	1 Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<50.1 <b>%Recovery</b>	U	50.1 50.1	mg/Kg		09/22/23 14:59 09/22/23 14:59 <b>Prepared</b>	09/23/23 18:35 09/23/23 18:35 <b>Analyzed</b>	Dil Fac
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<50.1  **Recovery  83  91	U Qualifier	50.1  50.1  Limits  70 - 130  70 - 130	mg/Kg		09/22/23 14:59 09/22/23 14:59 <b>Prepared</b> 09/22/23 14:59	09/23/23 18:35 09/23/23 18:35 <b>Analyzed</b> 09/23/23 18:35	1
Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<50.1  **Recovery 83 91  Chromatograp	U Qualifier	50.1  50.1  Limits  70 - 130  70 - 130	mg/Kg	D	09/22/23 14:59 09/22/23 14:59 <b>Prepared</b> 09/22/23 14:59	09/23/23 18:35 09/23/23 18:35 <b>Analyzed</b> 09/23/23 18:35	1 1 Dil Fac

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

Client Sample ID: SW04 Lab Sample ID: 890-5319-11

Date Collected: 09/21/23 10:00 Matrix: Solid Date Received: 09/21/23 13:04

Sample Depth: 0-2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130			09/22/23 14:53	09/27/23 14:00	1
1,4-Difluorobenzene (Surr)	99		70 - 130			09/22/23 14:53	09/27/23 14:00	1
- Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/27/23 14:00	1
Method: SW846 8015 NM - Diese	ol Banga Organ	ice (DBO) (	3C)					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
								D uo
Total TPH	<50.0	U	50.0	mg/Kg			09/23/23 18:56	1
- -				mg/Kg				
Total TPH  Method: SW846 8015B NM - Dies  Analyte	sel Range Orga			mg/Kg		Prepared		1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	(GC)		<u>D</u>	Prepared 09/22/23 14:59	09/23/23 18:56	1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier	(GC)	Unit	<u>D</u>	<u>·</u>	09/23/23 18:56  Analyzed	1 Dil Fac
Thethod: SW846 8015B NM - Dies	sel Range Orga Result <50.0	nics (DRO) Qualifier U	(GC) RL 50.0	Unit mg/Kg	<u>D</u>	09/22/23 14:59	09/23/23 18:56  Analyzed  09/23/23 18:56	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <50.0	nics (DRO) Qualifier U	(GC) RL 50.0	Unit mg/Kg mg/Kg	<u>D</u>	09/22/23 14:59 09/22/23 14:59	09/23/23 18:56  Analyzed  09/23/23 18:56  09/23/23 18:56	1 Dil Fac 1 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <50.0 <50.0 <50.0	nics (DRO) Qualifier U	(GC) RL 50.0 50.0	Unit mg/Kg mg/Kg	<u>D</u>	09/22/23 14:59 09/22/23 14:59 09/22/23 14:59	09/23/23 18:56  Analyzed 09/23/23 18:56 09/23/23 18:56 09/23/23 18:56	Dil Fac  1  1  Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <50.0   <50.0   <50.0     %Recovery	nics (DRO) Qualifier U	(GC)  RL  50.0  50.0  50.0 <i>Limits</i>	Unit mg/Kg mg/Kg	<u>D</u>	09/22/23 14:59 09/22/23 14:59 09/22/23 14:59 <b>Prepared</b>	09/23/23 18:56  Analyzed 09/23/23 18:56 09/23/23 18:56 09/23/23 18:56  Analyzed	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	sel Range Orga           Result         <50.0	nics (DRO) Qualifier U U Qualifier	(GC)  RL 50.0  50.0  50.0  Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg	<u>D</u>	09/22/23 14:59 09/22/23 14:59 09/22/23 14:59 <b>Prepared</b> 09/22/23 14:59	09/23/23 18:56  Analyzed 09/23/23 18:56  09/23/23 18:56  Analyzed  09/23/23 18:56	1 Dil Fac 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	sel Range Orga           Result         <50.0	nics (DRO) Qualifier U U Qualifier	(GC)  RL 50.0  50.0  50.0  Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg	<u>D</u>	09/22/23 14:59 09/22/23 14:59 09/22/23 14:59 <b>Prepared</b> 09/22/23 14:59	09/23/23 18:56  Analyzed 09/23/23 18:56  09/23/23 18:56  Analyzed  09/23/23 18:56	1 Dil Fac 1 Dil Fac 1

**Client Sample ID: SW05** Lab Sample ID: 890-5319-12 Matrix: Solid

Date Collected: 09/21/23 10:05 Date Received: 09/21/23 13:04

Sample Depth: 0-2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)		S1+	70 - 130			09/22/23 14:53	09/27/23 14:26	1

Lab Sample ID: 890-5319-12

## **Client Sample Results**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

Client Sample ID: SW05

Date Collected: 09/21/23 10:05 Date Received: 09/21/23 13:04

Sample Depth: 0-2

Analyte

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	91		70 - 130			09/22/23 14:53	09/27/23 14:26	
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00404	U	0.00404	mg/Kg			09/27/23 14:26	•
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
						•		
<u> </u>	<49.6	U	49.6	mg/Kg	— <u> </u>		09/23/23 17:53	
Total TPH			49.6	mg/Kg		· · ·	09/23/23 17:53	
Total TPH  Method: SW846 8015B NM - Dies	sel Range Orga		49.6	mg/Kg		Prepared	09/23/23 17:53 Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Dies  Analyte  Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	49.6 <b>(GC)</b>			Prepared 09/22/23 17:09		Dil Fac
Total TPH  Method: SW846 8015B NM - Dies  Analyte  Gasoline Range Organics  GRO)-C6-C10  Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier	49.6 (GC)	Unit			Analyzed	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.6	nics (DRO) Qualifier U	49.6  (GC)  RL  49.6	Unitmg/Kg		09/22/23 17:09	<b>Analyzed</b> 09/23/23 17:53	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) DII Range Organics (Over C28-C36)	sel Range Orga Result <49.6	nics (DRO) Qualifier U	49.6  (GC)  RL  49.6  49.6	<b>Unit</b> mg/Kg mg/Kg		09/22/23 17:09 09/22/23 17:09	Analyzed 09/23/23 17:53 09/23/23 17:53	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.6   <49.6	nics (DRO) Qualifier U	49.6  (GC)  RL  49.6  49.6  49.6  49.6	<b>Unit</b> mg/Kg mg/Kg		09/22/23 17:09 09/22/23 17:09 09/22/23 17:09	Analyzed 09/23/23 17:53 09/23/23 17:53	

4.98

Unit

mg/Kg

Prepared

Analyzed

09/26/23 12:32

Dil Fac

Result Qualifier

164

## **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-5314-A-1-B MS	Matrix Spike	90	111	
890-5314-A-1-C MSD	Matrix Spike Duplicate	146 S1+	103	
890-5315-A-1-D MS	Matrix Spike	90	96	
890-5315-A-1-E MSD	Matrix Spike Duplicate	112	97	
890-5319-1	FS01	136 S1+	95	
890-5319-2	FS02	99	79	
890-5319-3	FS03	137 S1+	113	
890-5319-4	FS04	137 S1+	111	
890-5319-5	FS05	145 S1+	111	
890-5319-6	FS06	132 S1+	103	
890-5319-7	FS07	116	88	
890-5319-8	SW01	121	79	
890-5319-9	SW02	125	87	
890-5319-10	SW03	110	93	
890-5319-11	SW04	149 S1+	99	
890-5319-12	SW05	141 S1+	91	
LCS 880-63093/1-A	Lab Control Sample	126	105	
LCS 880-63094/1-A	Lab Control Sample	98	97	
LCSD 880-63093/2-A	Lab Control Sample Dup	116	92	
LCSD 880-63094/2-A	Lab Control Sample Dup	106	105	
MB 880-63018/5-A	Method Blank	69 S1-	79	
MB 880-63093/5-A	Method Blank	78	101	
	Method Blank	68 S1-	90	

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 Limit
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-5310-A-1-G MS	Matrix Spike	81	71	
890-5310-A-1-H MSD	Matrix Spike Duplicate	79	69 S1-	
390-5315-A-1-H MS	Matrix Spike	79	75	
890-5315-A-1-I MSD	Matrix Spike Duplicate	80	77	
890-5319-1	FS01	80	87	
890-5319-2	FS02	78	87	
890-5319-3	FS03	83	92	
890-5319-4	FS04	91	99	
890-5319-5	FS05	84	91	
890-5319-6	FS06	86	95	
890-5319-7	FS07	79	87	
890-5319-8	SW01	91	104	
890-5319-9	SW02	74	84	
890-5319-10	SW03	83	91	
890-5319-11	SW04	84	91	
890-5319-12	SW05	84	75	

OTPH = o-Terphenyl

## **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

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

Matrix: Solid Prep Type: Total/NA

Project/Site: Harrier 35 Federal Com 001H

Client: Ensolum

Job ID: 890-5319-1

SDG: 32.0947,-103.63701

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

Lab Sample ID: MB 880-63018/5-A

**Matrix: Solid** 

Analysis Batch: 63317

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63018

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/23 16:34	09/26/23 14:50	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	
1,4-Difluorobenzene (Surr)	79		70 - 130	

09/21/23 16:34 09/26/23 14:50 09/21/23 16:34 09/26/23 14:50

Analyzed

Prepared

Lab Sample ID: MB 880-63093/5-A Client Sample ID: Method Blank Matrix: Solid

Analysis Batch: 63317

Prep Type: Total/NA

Prep Batch: 63093

ı		мв	МВ						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
	Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
	Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
	m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
	o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
	Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/23 14:53	09/27/23 04:21	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	09/22/23 14:53	09/27/23 04:21	1
1,4-Difluorobenzene (Surr)	101		70 - 130	09/22/23 14:53	09/27/23 04:21	1

Lab Sample ID: LCS 880-63093/1-A

**Matrix: Solid** 

Analysis Batch: 63317

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 63093

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1022		mg/Kg		102	70 - 130	
Toluene	0.100	0.1116		mg/Kg		112	70 - 130	
Ethylbenzene	0.100	0.1086		mg/Kg		109	70 - 130	
m-Xylene & p-Xylene	0.200	0.2164		mg/Kg		108	70 - 130	
o-Xylene	0.100	0.1014		mg/Kg		101	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifie	er Limits
4-Bromofluorobenzene (Surr)	126	70 - 130
1,4-Difluorobenzene (Surr)	105	70 - 130

Lab Sample ID: LCSD 880-63093/2-A

Matrix: Solid

**Analysis Batch: 63317** 

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

Prep Batch: 63093

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09848		mg/Kg		98	70 - 130	4	35

**Eurofins Carlsbad** 

Dil Fac

### QC Sample Results

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

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

Lab Sample ID: LCSD 880-63093/2-A

**Matrix: Solid** 

**Analysis Batch: 63317** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 63093

Spike LCSD LCSD %Rec **RPD** Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit D 0.100 Toluene 0.1088 109 70 - 130 35 mg/Kg 3 Ethylbenzene 0.100 0.1032 mg/Kg 103 70 - 130 35 0.200 0.2043 m-Xylene & p-Xylene mg/Kg 102 70 - 130 35 6 o-Xylene 0.100 0.1031 mg/Kg 103 70 - 130 2 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 890-5314-A-1-B MS

**Matrix: Solid** 

Analysis Batch: 63317

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 63093

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.1135		mg/Kg	_	113	70 - 130	
Toluene	<0.00200	U	0.0998	0.1190		mg/Kg		119	70 - 130	
Ethylbenzene	<0.00200	U	0.0998	0.1155		mg/Kg		114	70 - 130	
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2255		mg/Kg		113	70 - 130	
o-Xylene	<0.00200	U	0.0998	0.1108		mg/Kg		111	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	90	70 - 130
1,4-Difluorobenzene (Surr)	111	70 - 130

Lab Sample ID: 890-5314-A-1-C MSD

**Matrix: Solid** 

**Analysis Batch: 63317** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 63093

%Rec Spike MSD MSD **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Benzene <0.00200 U 0.0990 0.1229 mg/Kg 124 70 - 130 8 35 Toluene <0.00200 U 0.0990 0.1162 mg/Kg 117 70 - 130 2 35 Ethylbenzene <0.00200 U 0.0990 0.1079 mg/Kg 107 70 - 130 35 m-Xylene & p-Xylene <0.00399 U 0.198 0.2125 107 70 - 130 35 mg/Kg <0.00200 U 0.0990 o-Xylene 0.1110 mg/Kg 112 70 - 130 35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-63094/5-A

**Matrix: Solid** 

Analysis Batch: 63185

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63094

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg	_	09/22/23 14:56	09/25/23 11:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/23 14:56	09/25/23 11:44	1

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Client: Ensolum

Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

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

Lab Sample ID: MB 880-63094/5-A

**Matrix: Solid** 

Analysis Batch: 63185

Prep Type: Total/NA

Prep Batch: 63094

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/23 14:56	09/25/23 11:44	1

MR MR

мв мв

П							
	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	09/22/23 14:56	09/25/23 11:44	1
	1,4-Difluorobenzene (Surr)	90		70 - 130	09/22/23 14:56	09/25/23 11:44	1

**Client Sample ID: Lab Control Sample** 

Lab Sample ID: LCS 880-63094/1-A

**Matrix: Solid** 

**Analysis Batch: 63185** 

Prep Type: Total/NA

Prep Batch: 63094

	Spike	LUS	LUS				70 KeC	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1071		mg/Kg		107	70 - 130	
Toluene	0.100	0.1060		mg/Kg		106	70 - 130	
Ethylbenzene	0.100	0.1059		mg/Kg		106	70 - 130	
m-Xylene & p-Xylene	0.200	0.2085		mg/Kg		104	70 - 130	
o-Xylene	0.100	0.09705		mg/Kg		97	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	98	70 - 130
1.4-Difluorobenzene (Surr)	97	70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63094

Matrix: Solid Analysis Batch: 63185

Lab Sample ID: LCSD 880-63094/2-A

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1106		mg/Kg		111	70 - 130	3	35
Toluene	0.100	0.1118		mg/Kg		112	70 - 130	5	35
Ethylbenzene	0.100	0.1033		mg/Kg		103	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2073		mg/Kg		104	70 - 130	1	35
o-Xylene	0.100	0.1041		mg/Kg		104	70 - 130	7	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1.4-Difluorobenzene (Surr)	105	70 - 130

Lab Sample ID: 890-5315-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 63185

Official Campic ID. Matrix Opine
Prep Type: Total/NA
Prop Patch: 62004

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.0998	0.09256		mg/Kg		93	70 - 130	
Toluene	< 0.00199	U	0.0998	0.09644		mg/Kg		97	70 - 130	
Ethylbenzene	<0.00199	U	0.0998	0.08653		mg/Kg		86	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1704		mg/Kg		85	70 - 130	
o-Xylene	<0.00199	U	0.0998	0.08172		mg/Kg		82	70 - 130	

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

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

Lab Sample ID: 890-5315-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 63185

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 63094

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 90 70 - 130 1,4-Difluorobenzene (Surr) 96 70 - 130

Lab Sample ID: 890-5315-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 63185

Prep Type: Total/NA

Prep Batch: 63094

-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U	0.0990	0.1076		mg/Kg		109	70 - 130	15	35
Toluene	<0.00199	U	0.0990	0.1095		mg/Kg		111	70 - 130	13	35
Ethylbenzene	<0.00199	U	0.0990	0.1048		mg/Kg		105	70 - 130	19	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.2084		mg/Kg		105	70 - 130	20	35
o-Xylene	<0.00199	U	0.0990	0.1029		mg/Kg		104	70 - 130	23	35

MSD MSD

MS MS

%Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene (Surr) 112 70 - 130 1,4-Difluorobenzene (Surr) 97 70 - 130

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

Lab Sample ID: MB 880-63096/1-A

**Matrix: Solid** 

Analysis Batch: 63134

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63096

	INID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	09/22/23 14:	59 09/23/23 08:04	1
o-Terphenyl	126		70 - 130	09/22/23 14:	59 09/23/23 08:04	1

Lab Sample ID: LCS 880-63096/2-A

**Matrix: Solid** 

Analysis Batch: 63134

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 63096

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	 1000	848.5		mg/Kg		85	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	746.1		mg/Kg		75	70 - 130	
040,000)								

C10-C28)

	LUS	LUS			
Surrogate	%Recovery	Qualifier	Limits		
1-Chlorooctane	59	S1-	70 - 130		
o-Terphenyl	62	S1-	70 - 130		

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Released to Imaging: 3/7/20254950814 PMM

Client: Ensolum

Job ID: 890-5319-1 SDG: 32.0947,-103.63701

Project/Site: Harrier 35 Federal Com 001H Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-63096/3-A **Matrix: Solid** 

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

Analysis Batch: 63134

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	890.5		mg/Kg		89	70 - 130	5	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	743.5		mg/Kg		74	70 - 130	0	20	
C10-C28)										

Prep Batch: 63096

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

LCSD LCSD %Recovery Qualifier Limits 70 - 130

75

82

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 63096

Lab Sample ID: 890-5315-A-1-H MS Matrix: Solid

Analysis Batch: 63134

		Sample	Sample	Spike	MS	MS				%Rec	
A	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Gasoline Range Organics GRO)-C6-C10	<50.3	U F1	995	718.3	F1	mg/Kg		69	70 - 130	
	Diesel Range Organics (Over C10-C28)	<50.3	U	995	759.7		mg/Kg		76	70 - 130	

70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
1-Chlorooctane	79	70 - 130
o-Terphenyl	75	70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 63096

Analysis Batch: 63134

**Matrix: Solid** 

Lab Sample ID: 890-5315-A-1-I MSD

Lab Sample ID: LCS 880-63115/2-A

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Limit Analyte Result Qualifier Unit %Rec Limits RPD <50.3 U F1 Gasoline Range Organics 995 740.6 20 mg/Kg 71 70 - 130 3 (GRO)-C6-C10 Diesel Range Organics (Over <50.3 U 995 782.1 79 70 - 130 20 mg/Kg 3 C10-C28)

**Matrix: Solid** 

**Analysis Batch: 63132** 

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	77		70 - 130

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 63115

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	726.2		mg/Kg		73	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	892.4		mg/Kg		89	70 - 130	
C10-C28)								

C10-C28)

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 132 S1+ 70 - 130

Job ID: 890-5319-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H

Limits

70 - 130

SDG: 32.0947,-103.63701

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

LCS LCS

%Recovery Qualifier

Lab Sample ID: LCS 880-63115/2-A **Matrix: Solid** 

Analysis Batch: 63132

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 63115

o-Terphenyl 138 S1+

Lab Sample ID: LCSD 880-63115/3-A **Matrix: Solid** 

Surrogate

**Analysis Batch: 63132** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63115

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Gasoline Range Organics 1000 832.8 mg/Kg 83 70 - 130 14 20 (GRO)-C6-C10 1000 Diesel Range Organics (Over 976.0 mg/Kg 98 70 - 130 9 20 C10-C28)

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

Lab Sample ID: 890-5310-A-1-G MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 63132** 

Prep Type: Total/NA

Prep Batch: 63115

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Analyte Unit %Rec Limits Gasoline Range Organics <50.1 U 1010 713.8 71 70 - 130 mg/Kg (GRO)-C6-C10 <50.1 U 1010 725.5 Diesel Range Organics (Over mg/Kg 72 70 - 130 C10-C28)

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	71		70 - 130

Lab Sample ID: 890-5310-A-1-H MSD

**Matrix: Solid** 

**Analysis Batch: 63132** 

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

Prep Batch: 63115

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier %Rec Limit Analyte Unit Limits RPD D 1010 <50.1 U 20 Gasoline Range Organics 709.5 mg/Kg 70 70 - 130 (GRO)-C6-C10 1010 712.9 Diesel Range Organics (Over <50.1 U mg/Kg 71 70 - 1302 20 C10-C28)

MSD MSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 79 o-Terphenyl 69 S1-70 - 130

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-5319-1 SDG: 32.0947,-103.63701

Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

Lab Sample ID: MB 880-63115/1-A

**Matrix: Solid** Analysis Batch: 63132

Client: Ensolum

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

Prep Batch: 63115

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
(GRO)-C6-C10 - IN3								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
C10-C28) - IN3								
OII Range Organics (Over C28-C36) -	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
IN3								

	IVID IVID				
Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane - IN3	111	70 - 130	09/22/23 17:09	09/23/23 08:04	1
o-Terphenyl - IN3	111	70 - 130	09/22/23 17:09	09/23/23 08:04	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63118/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 63312

MB MB

Analyte Result Qualifier RL Unit Prepared Dil Fac Analyzed Chloride <5.00 U 5.00 mg/Kg 09/26/23 09:53

Lab Sample ID: LCS 880-63118/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 63312** 

		Spike	LCS	LCS				%Rec	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	 	250	241.9		mg/Kg		97	90 - 110	

Lab Sample ID: LCSD 880-63118/3-A

**Matrix: Solid** 

Analysis Batch: 63312

	Spike	LCSD	LCSD			%Rec		RPD
Analyte	Added	Result	Qualifier Unit	: <b>D</b>	%Rec	Limits	RPD	Limit
Chloride	250	241 4	ma/	 Ka	97	90 - 110		20

Lab Sample ID: 890-5319-6 MS

**Matrix: Solid** 

Analysis Batch: 63312

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	193	-	251	430.8		ma/Ka		95	90 - 110	 

Lab Sample ID: 890-5319-6 MSD

**Matrix: Solid** 

Analysis Batch: 63312

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	193		251	430.3		mg/Kg	_	95	90 - 110	0	20

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**Prep Type: Soluble** 

Client Sample ID: Lab Control Sample Dup

Client Sample ID: FS06 **Prep Type: Soluble** 

Client Sample ID: FS06

**Prep Type: Soluble** 

## **QC Association Summary**

Client: Ensolum

Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

### **GC VOA**

### Prep Batch: 63018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63018/5-A	Method Blank	Total/NA	Solid	5035	

#### Prep Batch: 63093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-11	SW04	Total/NA	Solid	5035	
890-5319-12	SW05	Total/NA	Solid	5035	
MB 880-63093/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63093/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63093/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5314-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-5314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Prep Batch: 63094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-5319-1	FS01	Total/NA	Solid	5035	
890-5319-2	FS02	Total/NA	Solid	5035	
890-5319-3	FS03	Total/NA	Solid	5035	
890-5319-4	FS04	Total/NA	Solid	5035	
890-5319-5	FS05	Total/NA	Solid	5035	
890-5319-6	FS06	Total/NA	Solid	5035	
890-5319-7	FS07	Total/NA	Solid	5035	
890-5319-8	SW01	Total/NA	Solid	5035	
890-5319-9	SW02	Total/NA	Solid	5035	
890-5319-10	SW03	Total/NA	Solid	5035	
MB 880-63094/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63094/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63094/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5315-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-5315-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 63185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8021B	63094
890-5319-2	FS02	Total/NA	Solid	8021B	63094
890-5319-3	FS03	Total/NA	Solid	8021B	63094
890-5319-4	FS04	Total/NA	Solid	8021B	63094
890-5319-5	FS05	Total/NA	Solid	8021B	63094
890-5319-6	FS06	Total/NA	Solid	8021B	63094
890-5319-7	FS07	Total/NA	Solid	8021B	63094
890-5319-8	SW01	Total/NA	Solid	8021B	63094
890-5319-9	SW02	Total/NA	Solid	8021B	63094
890-5319-10	SW03	Total/NA	Solid	8021B	63094
MB 880-63094/5-A	Method Blank	Total/NA	Solid	8021B	63094
LCS 880-63094/1-A	Lab Control Sample	Total/NA	Solid	8021B	63094
LCSD 880-63094/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63094
890-5315-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	63094
890-5315-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63094

Analysis Batch: 63317										
	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch				
	890-5319-11	SW04	Total/NA	Solid	8021B	63093				

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

**GC VOA (Continued)** 

#### **Analysis Batch: 63317 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8021B	63093
MB 880-63018/5-A	Method Blank	Total/NA	Solid	8021B	63018
MB 880-63093/5-A	Method Blank	Total/NA	Solid	8021B	63093
LCS 880-63093/1-A	Lab Control Sample	Total/NA	Solid	8021B	63093
LCSD 880-63093/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63093
890-5314-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	63093
890-5314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63093

#### Analysis Batch: 63349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	Total BTEX	
890-5319-2	FS02	Total/NA	Solid	Total BTEX	
890-5319-3	FS03	Total/NA	Solid	Total BTEX	
890-5319-4	FS04	Total/NA	Solid	Total BTEX	
890-5319-5	FS05	Total/NA	Solid	Total BTEX	
890-5319-6	FS06	Total/NA	Solid	Total BTEX	
890-5319-7	FS07	Total/NA	Solid	Total BTEX	
890-5319-8	SW01	Total/NA	Solid	Total BTEX	
890-5319-9	SW02	Total/NA	Solid	Total BTEX	
890-5319-10	SW03	Total/NA	Solid	Total BTEX	
890-5319-11	SW04	Total/NA	Solid	Total BTEX	
890-5319-12	SW05	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Prep Batch: 63096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015NM Prep	
890-5319-2	FS02	Total/NA	Solid	8015NM Prep	
890-5319-3	FS03	Total/NA	Solid	8015NM Prep	
890-5319-4	FS04	Total/NA	Solid	8015NM Prep	
890-5319-5	FS05	Total/NA	Solid	8015NM Prep	
890-5319-6	FS06	Total/NA	Solid	8015NM Prep	
890-5319-7	FS07	Total/NA	Solid	8015NM Prep	
890-5319-8	SW01	Total/NA	Solid	8015NM Prep	
890-5319-9	SW02	Total/NA	Solid	8015NM Prep	
890-5319-10	SW03	Total/NA	Solid	8015NM Prep	
890-5319-11	SW04	Total/NA	Solid	8015NM Prep	
MB 880-63096/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63096/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63096/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5315-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5315-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Prep Batch: 63115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8015NM Prep	
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

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# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

# GC Semi VOA (Continued)

#### Prep Batch: 63115 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 63132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8015B NM	63115
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015B NM	63115
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63115
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63115
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	63115
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63115

#### Analysis Batch: 63134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015B NM	63096
890-5319-2	FS02	Total/NA	Solid	8015B NM	63096
890-5319-3	FS03	Total/NA	Solid	8015B NM	63096
890-5319-4	FS04	Total/NA	Solid	8015B NM	63096
890-5319-5	FS05	Total/NA	Solid	8015B NM	63096
890-5319-6	FS06	Total/NA	Solid	8015B NM	63096
890-5319-7	FS07	Total/NA	Solid	8015B NM	63096
890-5319-8	SW01	Total/NA	Solid	8015B NM	63096
890-5319-9	SW02	Total/NA	Solid	8015B NM	63096
890-5319-10	SW03	Total/NA	Solid	8015B NM	63096
890-5319-11	SW04	Total/NA	Solid	8015B NM	63096
MB 880-63096/1-A	Method Blank	Total/NA	Solid	8015B NM	63096
LCS 880-63096/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63096
LCSD 880-63096/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63096
890-5315-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	63096
890-5315-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63096

#### Analysis Batch: 63160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015 NM	
890-5319-2	FS02	Total/NA	Solid	8015 NM	
890-5319-3	FS03	Total/NA	Solid	8015 NM	
890-5319-4	FS04	Total/NA	Solid	8015 NM	
890-5319-5	FS05	Total/NA	Solid	8015 NM	
890-5319-6	FS06	Total/NA	Solid	8015 NM	
890-5319-7	FS07	Total/NA	Solid	8015 NM	
890-5319-8	SW01	Total/NA	Solid	8015 NM	
890-5319-9	SW02	Total/NA	Solid	8015 NM	
890-5319-10	SW03	Total/NA	Solid	8015 NM	
890-5319-11	SW04	Total/NA	Solid	8015 NM	
890-5319-12	SW05	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 63118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Soluble	Solid	DI Leach	
890-5319-2	FS02	Soluble	Solid	DI Leach	

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# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

## **HPLC/IC (Continued)**

#### Leach Batch: 63118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-3	FS03	Soluble	Solid	DI Leach	_
890-5319-4	FS04	Soluble	Solid	DI Leach	
890-5319-5	FS05	Soluble	Solid	DI Leach	
890-5319-6	FS06	Soluble	Solid	DI Leach	
890-5319-7	FS07	Soluble	Solid	DI Leach	
890-5319-8	SW01	Soluble	Solid	DI Leach	
890-5319-9	SW02	Soluble	Solid	DI Leach	
890-5319-10	SW03	Soluble	Solid	DI Leach	
890-5319-11	SW04	Soluble	Solid	DI Leach	
890-5319-12	SW05	Soluble	Solid	DI Leach	
MB 880-63118/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63118/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63118/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5319-6 MS	FS06	Soluble	Solid	DI Leach	
890-5319-6 MSD	FS06	Soluble	Solid	DI Leach	

#### Analysis Batch: 63312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Soluble	Solid	300.0	63118
890-5319-2	FS02	Soluble	Solid	300.0	63118
890-5319-3	FS03	Soluble	Solid	300.0	63118
890-5319-4	FS04	Soluble	Solid	300.0	63118
890-5319-5	FS05	Soluble	Solid	300.0	63118
890-5319-6	FS06	Soluble	Solid	300.0	63118
890-5319-7	FS07	Soluble	Solid	300.0	63118
890-5319-8	SW01	Soluble	Solid	300.0	63118
890-5319-9	SW02	Soluble	Solid	300.0	63118
890-5319-10	SW03	Soluble	Solid	300.0	63118
890-5319-11	SW04	Soluble	Solid	300.0	63118
890-5319-12	SW05	Soluble	Solid	300.0	63118
MB 880-63118/1-A	Method Blank	Soluble	Solid	300.0	63118
LCS 880-63118/2-A	Lab Control Sample	Soluble	Solid	300.0	63118
LCSD 880-63118/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63118
890-5319-6 MS	FS06	Soluble	Solid	300.0	63118
890-5319-6 MSD	FS06	Soluble	Solid	300.0	63118

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Date	Collectea:	09/21/23	09:10
Date	Received:	09/21/23	13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 16:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 16:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 15:04	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 15:04	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		5			63312	09/26/23 11:03	CH	EET MID

**Client Sample ID: FS02** Lab Sample ID: 890-5319-2 Date Collected: 09/21/23 09:15

Date Received: 09/21/23 13:04

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 17:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 17:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 15:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 15:46	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:09	CH	EET MID

**Client Sample ID: FS03** Lab Sample ID: 890-5319-3

Date Collected: 09/21/23 09:20 Date Received: 09/21/23 13:04

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 18:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 18:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:07	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		5			63312	09/26/23 11:15	CH	EET MID

**Client Sample ID: FS04** Lab Sample ID: 890-5319-4

Date Collected: 09/21/23 09:25 Date Received: 09/21/23 13:04 **Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 18:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 18:45	SM	EET MID

**Eurofins Carlsbad** 

Job ID: 890-5319-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS04** Lab Sample ID: 890-5319-4 Date Collected: 09/21/23 09:25 Matrix: Solid

Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:28	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:28	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:21	CH	EET MID

**Client Sample ID: FS05** Lab Sample ID: 890-5319-5

Date Collected: 09/21/23 09:30 **Matrix: Solid** 

Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 19:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 19:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:49	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:26	CH	EET MID

**Client Sample ID: FS06** Lab Sample ID: 890-5319-6

Date Collected: 09/21/23 09:35 Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 19:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 19:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 17:10	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:33	CH	EET MID

**Client Sample ID: FS07** Lab Sample ID: 890-5319-7

Date Collected: 09/21/23 09:40 Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:32	SM	EET MID
Total/NA Total/NA	Prep Analysis	8015NM Prep 8015B NM		1	10.02 g 1 uL	10 mL 1 uL	63096 63134	09/22/23 14:59 09/23/23 17:32	TKC SM	EET MID EET MID

**Eurofins Carlsbad** 

**Matrix: Solid** 

**Matrix: Solid** 

Job ID: 890-5319-1

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: FS07** Lab Sample ID: 890-5319-7

Date Collected: 09/21/23 09:40 Matrix: Solid Date Received: 09/21/23 13:04

		Batch	Batch		Dil	Initial	Final	Batch	Prepared		
ı	Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
3	Soluble	Leach	DI Leach			5.04 g	50 mL	63118	09/22/23 18:03	AG	EET MID
5	Soluble	Analysis	300.0		1			63312	09/26/23 11:51	CH	EET MID

Client Sample ID: SW01 Lab Sample ID: 890-5319-8

Date Collected: 09/21/23 09:45 **Matrix: Solid** Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:53	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 17:53	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:57	CH	EET MID

Client Sample ID: SW02 Lab Sample ID: 890-5319-9

Date Collected: 09/21/23 09:50 **Matrix: Solid** Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:14	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:14	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:14	CH	EET MID

**Client Sample ID: SW03** Lab Sample ID: 890-5319-10

Date Collected: 09/21/23 09:55 Matrix: Solid Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 21:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 21:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:20	CH	EET MID

**Eurofins Carlsbad** 

Client: Ensolum Job ID: 890-5319-1 Project/Site: Harrier 35 Federal Com 001H SDG: 32.0947,-103.63701

**Client Sample ID: SW04** Lab Sample ID: 890-5319-11

Date Collected: 09/21/23 10:00 Matrix: Solid Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63093	09/22/23 14:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 14:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/27/23 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.007 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:56	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:26	СН	EET MID

**Client Sample ID: SW05** Lab Sample ID: 890-5319-12 Matrix: Solid

Date Collected: 09/21/23 10:05 Date Received: 09/21/23 13:04

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	63093	09/22/23 14:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 14:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/27/23 14:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:53	SM	EET MIC
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 17:53	SM	EET MIC
Soluble	Leach	DI Leach			5.02 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:32	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
 Job ID: 890-5319-1

 Project/Site: Harrier 35 Federal Com 001H
 SDG: 32.0947,-103.63701

### **Laboratory: Eurofins Midland**

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

Authority	P	rogram	Identification Number	Expiration Date
Texas	N	ELAP	T104704400-23-26	06-30-24
The following analytes the agency does not of	' '	ut the laboratory is not certif	ied by the governing authority. This list ma	y include analytes for whi
Analysis Method	Prep Method	Matrix	Analyte	
8015 NM		Solid	Total TPH	
Total BTEX		Solid	Total BTEX	

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## **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-5319-1

SDG: 32.0947,-103.63701

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

# **Sample Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-5319-1

SDG: 32.0947,-103.63701

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5319-1	FS01	Solid	09/21/23 09:10	09/21/23 13:04	4
890-5319-2	FS02	Solid	09/21/23 09:15	09/21/23 13:04	4
890-5319-3	FS03	Solid	09/21/23 09:20	09/21/23 13:04	4
890-5319-4	FS04	Solid	09/21/23 09:25	09/21/23 13:04	4
890-5319-5	FS05	Solid	09/21/23 09:30	09/21/23 13:04	3
890-5319-6	FS06	Solid	09/21/23 09:35	09/21/23 13:04	2
890-5319-7	FS07	Solid	09/21/23 09:40	09/21/23 13:04	2
890-5319-8	SW01	Solid	09/21/23 09:45	09/21/23 13:04	0-4
890-5319-9	SW02	Solid	09/21/23 09:50	09/21/23 13:04	0-4
890-5319-10	SW03	Solid	09/21/23 09:55	09/21/23 13:04	0-4
890-5319-11	SW04	Solid	09/21/23 10:00	09/21/23 13:04	0-2
890-5319-12	SW05	Solid	09/21/23 10:05	09/21/23 13:04	0-2

Received by OCD: 11/19/2024/10:11/942/MM

# **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 Or	der No:		 

																				www	xence	o.com	Page		of	$\leq$
Project Manager:	Hadlie	Green				Bill to: (if	different	ent) Hadlie Green						Work Order Comments												
Company Name:	Ensol	um, LLC				Compan	pany Name: Ensolum, LLC						Program: UST/PST PRP Brownfields RRC Superfund							nd 🔲						
Address:		I Marienfe	ld St St	uite 400		Address	:	601 N Marienfeld St Suite 400						State of Project:												
City, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midla	nd, TX	79701						Reporting: Level II Level III PST/UST TRRP Level IV							IV 🗌		
Phone:	432-5	57-8895			Email:	hgreen	@enso	lum.co	<u>om</u>								Deliv	erable	EDI			ADaP	Т	Other:		
Project Name:	На	rrier 35 Ec	deral (	Com 001H	Turn	Around								ANAI	YSIS	REC	UES						Pres	servat	ive Codes	;
Project Number:	110		202409		☑ Routine	Rush		Pres. Code		Γ	<u> </u>						T						None: NC		DI Water:	H₂O
	-	32.0947			Due Date:			Code					_	um		1681	1011111		11 HI II		_		Cool: Coo	1	MeOH: M	e
Project Location: Sampler's Name:			Van Pai		TAT starts the	e day rece	ived by											Ш					HCL: HC		HNO <sub>3</sub> : HN	- 1
PO#:					the lab, if red			20															H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>		NaOH: Na	ì
SAMPLE RECE	IPT	Temp B	lank:	(Yes No	Wet Ice:	Yes	No	neters	6					11111	5319 (	MINN H			40 4001 100			1	H₃PO₄: H	>		
Samples Received I			No	Thermometer		man			300.0)					- 030-	5515	Jilaii	01 00	stody					NaHSO₄:			
Cooler Custody Sea	ls:	Yes No	(N/A)	Gorrection Fa	ctor:	-0.		9	A A	ļ				-			-	ļ	-		1		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> :			
Sample Custody Se	als:	Yes No	QVA	Temperature	Reading:	2.0			S		=												Zn Acetat			
Total Containers:				Corrected Te	mperature:	2.	4			015)	805												NaOH+As	corbic	Acid: SAP	;
Sample Ide	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		CHLORIDES (EPA:	TPH (8015)	BTEX (8021)												San	ple C	omments	
FS	01		Soil	9/21/2023	910	4	Comp	1	х	х	x			1												
FS	02		Soil	9/21/2023	915	4	Comp	1	х	x	×										<u> </u>					
FSC	03		Soil	9/21/2023	920	4	Comp	1	х	x	х										ļ	<u> </u>				
FS	04		Soil	9/21/2023	925	4	Comp	1	х	x	х			1							<u> </u>					
FS0	05		Soil	9/21/2023	930	3	Comp	1	х	x	×											_	ļ			
FSC	06		Soil	9/21/2023	935	2	Comp	1	х	X	х															
FS	07		Soil	9/21/2023	940	2	Comp	1	х	х	×										ļ	ļ				
SW	01		Soil	9/21/2023	945	0-4	Comp	1	х	x	X															
SW	02		Soil	9/21/2023	950	0-4	Comp	1	х	х	×								1 2			-				
SW	03		Soil	9/21/2023	955	0-4	Comp	1	х	х	х						<u></u>				<u> </u>		<u> </u>			
Total 200 7 / 6	010	200.8/6	020.	8	RCRA 13P	PM Te	xas 11	AI S	Sb As	Bal	Be B	Cd C	a Cr	Co C	u Fe	Pb	Mg N	n Mo	Ni K	Se /	Ag Si	O <sub>2</sub> Ni	a Sr TI S	n U \	/ Zn	

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Februar Botte	Cel_	9-21 17:04	2		
3			4		
5			6		Portrad Data: 08/25/2020 Pay 2020

Received by OCD: 11/19/2024/10:11/942/MM

### **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:	
WOIR Older No.	 

www.xenco.com

Project Manager:	Hadli	e Green				Bill to: (if	different	)	Hadlie Green						Work Order Comments								
		lum, LLC				Compan			Ensolum, LLC						Program: UST/PST PRP Brownfields RRC Superfund State of Project:  Reporting: Level II Level III PST/UST TRRP Level IV								
Address:		Marienfe	ld St Si	uite 400		Address	:		601 N Marienfeld St Suite 400														
City, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midland, TX 79701														
Phone:		57-8895			Email:	hgreen	@enso	lum.co	<u>om</u>								Delive	ables:	EDD		AD	DaPT Othe	r:
			adoral (	Com 001H	Turn	Around								ΔΝΔΙ	YSIS F	REQ	UEST					Preserv	ative Codes
Project Name:	на		202409		✓ Routine	Rush		Pres.											T	T		None: NO	DI Water: H₂O
Project Number:						1		Code														Cool: Cool	MeOH: Me
Project Location: Sampler's Name:		32.0947	,-103.6 Van Pa		Due Date: TAT starts the	o dou rece	ived by											- 1				HCL: HC	HNO₃: HN
PO #:		reter	vaiii a	tten	the lab, if red			y														H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH: Na
SAMPLE RECEI	PT	Temp B	lank:	Yes No	Wet ice:	Yes	No	eter	6													H₃PO₄: HP	
Samples Received In			No	Thermometer				aramete	300.0)													NaHSO₄: NAE	IIS
Cooler Custody Sea		Yes No	N/A-	Correction Fa	ctor.			Pa	1 2													Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaS	
Sample Custody Sea	ıls:	Yes No	N/A	Temperature	Reading:				S (EP		=											Zn Acetate+N	
Total Gontainers:				Corrected Te	mperature:	L			SIDE	015)	802											NaOH+Ascort	oic Acid: SAPC
Sample Ider	ntificat	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		CHLORIDES	TPH (8015)	BTEX (8021)											Sample	Comments
SWI	04		Soil	9/21/2023	1000	0-2	Comp	1	х	х	х												
SW	05		Soil	9/21/2023	1005	0-2	Comp	1	х	х	х												
															- 1								
						12	te																
					10	an CC																	
				Col							1												
				1				eg.															
								12												_			
														-					l.				
Total 200.7 / 6	010	200.8 / 6	020:	8	RCRA 13F	PM Te	xas 11	AI S	Sb As	Ba I	Зе В	Cd Ca	Cr	Co C	u Fe F	Pb I	/lg Mr	Мо	Vi K	Se A	g SiO₂	Na Sr Tl Sn U	J V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Poter Van Potte	al	4-21 13:04	2		
3			4		
5			6		prised Date: 09/05/2020 Rev 20

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-5319-1

SDG Number: 32.0947,-103.63701

Login Number: 5319 List Source: Eurofins Carlsbad List Number: 1

Creator: Lopez, Abraham

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.	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: 890-5319-1 SDG Number: 32.0947,-103.63701

List Source: Eurofins Midland

List Number: 2 Creator: Rodriguez, Leticia

Login Number: 5319

List Creation: 09/22/23 10:54 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").	False	



APPENDIX E

Final C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

# **Release Notification**

# **Responsible Party**

Responsible	Party			OGRID				
Contact Nam	ne			Contact To	t Telephone			
Contact ema	il			Incident #	(assigned by OCD	9)		
Contact mail	ing address			1				
			Location	of Release So	ource			
Latitude				Longitude				
			(NAD 83 in de	cimal degrees to 5 decir	nal places)			
Site Name				Site Type				
Date Release	Discovered			API# (if app	plicable)			
Unit Letter	Section	Township	Range	Cour	nty	7		
Crude Oi		l(s) Released (Select al Volume Release	ll that apply and attach	d Volume of l		e volumes provided below) overed (bbls)		
Produced	Water	Volume Release	ed (bbls)		Volume Recovered (bbls)			
		Is the concentrate produced water	tion of dissolved c >10,000 mg/l?	chloride in the	Yes N	No		
Condensa	nte	Volume Release			Volume Reco	overed (bbls)		
Natural G	ias	Volume Release	ed (Mcf)		Volume Reco	overed (Mcf)		
Other (de	scribe)	Volume/Weight	Released (provide	e units)	Volume/Weight Recovered (provide units)			
Cause of Rel	ease							

Received by OCD: 11/19/2024/10:11/42MM
From C-17-1

Page 2

Oil Conservation Division

Page	305	of 3	53
- "8"		-	

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the respon	nsible party consider this a major release?
19.15.29.7(A) NMAC?		
☐ Yes ☐ No		
If VES, was immediate no	otice given to the OCD? By whom? To wh	nom? When and by what means (phone, email, etc)?
Tr TES, was immediate in	side given to the OOB. By whom. To wi	what means (phone, eman, etc).
	Initial R	esponse
The responsible p	party must undertake the following actions immediated	y unless they could create a safety hazard that would result in injury
☐ The source of the rele	ease has been stopped.	
☐ The impacted area has	s been secured to protect human health and	the environment.
Released materials ha	we been contained via the use of berms or o	likes, absorbent pads, or other containment devices.
-	ecoverable materials have been removed an	
If all the actions described	d above have <u>not</u> been undertaken, explain	why:
has begun, please attach a	a narrative of actions to date. If remedial	emediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred blease attach all information needed for closure evaluation.
regulations all operators are public health or the environn failed to adequately investigations.	required to report and/or file certain release notinent. The acceptance of a C-141 report by the Cate and remediate contamination that pose a three	best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name		Title:
Signature:	tanisparinger _	Date:
	1431	Telephone:
OCD Only		
Received by:	elyn Harimon	Date: 09/12/2022
,		

					L	48 Spill Vo	olume Estimate	Form	
Received by OCD	): 11719	720248	10:11942MMer.	Harrier 35					Page 306 of 353
			Asset Area:	Delaware east					
	Releas	se Disco	overy Date & Time:	9/4/22 7am					
	Release Type:				Produced Water				
Provide a	ny know	n detail	is about the event:				-		
					Spif	<b>Calculation</b>	- On Pad Surface	Pool Spill	
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	each of the	No. of boundaries of "shore" in each area	The second secon	Estimated Average Depth	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated <u>Pool</u> Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Tota Vol
---	-----------------	-------------	---	---	--	--	---	-----------------------------------	-------------

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	each of the areas (in.)	No. of boundaries of "shore" in each area	Area (sq. ft.)	Average Depth (ft.)	of each pool area (bbl.)	Penetration allowance (ft.)	
Dantanala A	20.0	40.0	0.50	2	200,000	0.044	0.404	0.004	

3

270.0

Released to Imaging: 3/7/20254 950814 PMM1

Rectangle C

Rectangle D Rectangle E

Rectangle F

Rectangle G

Rectangle H Rectangle I

8.0

0.50

rectangles	(ft.)	(ft.)	areas (in.)	of "shore" in each area	(sq. ft.)	Depth (ft.)	(bbl.)	(ft.)	(bbl.)
Rectangle A	20.0	10.0	0.50	3	200.000	0.014	0.494	0.001	0.495
Rectangle B	30.0	10.0	0.50	2	300.000	0.021	1.113	0.001	1.114

into a series of rectangles	Length (ft.)	Width (ft.)	each of the areas (in.)	of "shore" in each area	4 47 14 14 14 14 14 14 14	Average Depth (ft.)	of each pool area (bbl.)	allowance (ft.)	Volume of Spil (bbl.)
Destanale A	20.0	400	0.50	2	200 000	0.044	0.404	0.004	0.406

2160.000

0.000

0.000

0.000

0.000

0.000

0.000

0.000

0.014

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5.340

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0.001

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Total Volume Release:

5.344

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6.952

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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 142261

#### CONDITIONS

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	142261
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Cre	ated By	Condition	Condition Date
jha	arimon	None	9/12/2022

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	1 1180 000 0) 00
Incident ID	NAPP2225531487
District RP	
Facility ID	fAPP2203945184
Application ID	

# **Site Assessment/Characterization**

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</u> (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 <b>not</b> 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.			
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> </ul>			
<ul> <li>✓ Depth to water determination</li> <li>✓ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> </ul>			

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.

Boring or excavation logs

Topographic/Aerial maps

Photographs including date and GIS information

☐ Laboratory data including chain of custody

Received by OCD: 11/19/2024/10:11/42MM State of New Mexico
Page 4 Oil Conservation Division

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Incident ID	NAPP2225531487
District RP	
Facility ID	fAPP2203945184
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:Jacob Laird	Title: _Environmental Engineer	
Signature: Jacob Laird	Date:6/1/2023	
email:Jacob.Laird@conocophillips.com	Telephone:575-703-5482	
OCD Only		
Received by:	Date:	

Page 310 of 353

	1 480 010 01
Incident ID	NAPP2225531487
District RP	
Facility ID	fAPP2203945184
Application ID	

# **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be included in the plan.			
<ul> <li>☑ Detailed description of proposed remediation technique</li> <li>☑ Scaled sitemap with GPS coordinates showing delineation points</li> <li>☑ Estimated volume of material to be remediated</li> </ul>			
☐ Closure criteria is to Table 1 specifications subject to 19.15.29 ☐ Proposed schedule for remediation (note if remediation plan ti			
Deferral Requests Only: Each of the following items must be co	onfirmed as part of any request for deferral of remediation.		
Contamination must be in areas immediately under or around deconstruction.	production equipment where remediation could cause a major facility		
Extents of contamination must be fully delineated.			
Contamination does not cause an imminent risk to human heal	th, the environment, or groundwater.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.			
Printed Name:Jacob Laird	Title:Environmental Engineer		
Signature: <u>Jacob Laird</u>	Date:6/1/2023		
email:Jacob.Laird@conocophillips.com	Telephone:575-703-5482		
OCD Only			
Received by:	Date:		
Approved With Attached Conditions o see text box below - NV	f Approval		
Signature: Nelson Velaz	Date: 08/22/2023		

## Conditions of approval are as follows;

- 1. Exploratory groundwater soil boring should be in relatively close proximity to the point of release.
- 2. Remediation Due date has been set to November 20, 2023 (90-days) for the appropriate reporting documentation or the final closure report.



**APPENDIX F** 

**NMOCD Notifications** 

From: OCDOnline@state.nm.us

To: Kalei Jennings

Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 163605

**Date:** Thursday, January 5, 2023 3:27:48 PM

#### [ \*\*EXTERNAL EMAIL\*\*]

To whom it may concern (c/o Kalei Jennings for COG OPERATING LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2225531487, with the following conditions:

• Work Plan Approved with Conditions. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater. Lateral samples should be delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release.

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you, Jennifer Nobui Environmental Specialist-Advanced 505-470-3407 Jennifer.Nobui@emnrd.nm.gov

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

Santa Fe, NM 87505

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

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 222614

#### **CONDITIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	222614
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	Conditions of approval are as follows; 1. Exploratory groundwater soil boring should be in relatively close proximity to the point of release. 2. Remediation Due date has been set to November 20, 2023 (90-days) for the appropriate reporting documentation or the final closure report.	8/22/2023

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

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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**

QUESTIONS

Action 375431

#### **QUESTIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2225531487
Incident Name	NAPP2225531487 HARRIER 35 FEDERAL COM 001H @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2203945184] HARRIER 35 FED COM #001H RT BAT

Location of Release Source		
Please answer all the questions in this group.		
Site Name	HARRIER 35 FEDERAL COM 001H	
Date Release Discovered	09/04/2022	
Surface Owner	Federal	

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Valve   Produced Water   Released: 7 BBL   Recovered: 0 BBL   Lost: 7 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170 District IV

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Ea NIM 97505

QUESTIONS, Page 2

Action 375431

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462	i Fe, NIVI 67505
OUESTI	ONS (continued)
Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137  Action Number: 375431
·	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)
QUESTIONS	
Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release  With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.i.	Unavailable.
with the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or haring of natural gas (i.e.	e. gas only) are to be submitted on the C-129 form.
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  True	
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.
	ation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of valuation in the follow-up C-141 submission.
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 require 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 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.	
	Name: Brittany Esparza

Title: Environmental Technician

Date: 08/20/2024

Email: brittany.Esparza@ConocoPhillips.com

I hereby agree and sign off to the above statement

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

QUESTIONS, Page 3

Action 375431

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

to the appropriate district office no later than 90 days after the release discovery date.
Yes
on associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.
Yes
No
nilligrams per kilograms.)
28000
409
210
0.1
0.1
ed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC
09/20/2023
09/20/2023
09/20/2023
1400
220
1400
220
the time of submission and may (be) change(d) over time as more remediation efforts are completed.

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

District I

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 **District II** 

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

QUESTIONS, Page 4

Action 375431

#### **QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HARRIER 35 FED COM #001H RT BAT [fAPP2203945184]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

I hereby agree and sign off to the above statement

Name: Brittany Esparza
Title: Environmental Technician

Email: brittany.Esparza@ConocoPhillips.com

Date: 08/20/2024

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 5

Action 375431

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Deferral Requests Only		
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.		
	Requesting a deferral of the remediation closure due date with the approval of this submission	No

**District I** 

District III

1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

<u>District II</u> 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

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

QUESTIONS, Page 6

Action 375431

#### **QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	375435
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/20/2023
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1400

Remediation Closure Request				
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.				
Requesting a remediation closure approval with this submission	Yes			
Have the lateral and vertical extents of contamination been fully delineated	Yes			
Was this release entirely contained within a lined containment area	No			
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes			
What was the total surface area (in square feet) remediated	1400			
What was the total volume (cubic yards) remediated	220			
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes			
What was the total surface area (in square feet) reclaimed	1400			
What was the total volume (in cubic yards) reclaimed	220			
Summarize any additional remediation activities not included by answers (above)	excavation of impacted and waste-containing soil. Depth to groundwater verified to be greater than 100 feet below ground surface per requirements of approved Remediation Work Plan.			

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 (in .pdf format) 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.

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.

Name: Brittany Esparza

I hereby agree and sign off to the above statement

Title: Environmental Technician
Email: brittany.Esparza@ConocoPhillips.com
Date: 08/20/2024

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

QUESTIONS, Page 7

Action 375431

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### QUESTIONS

Reclamation Report		
Only answer the questions in this group if all reclamation steps have been completed.		
Requesting a reclamation approval with this submission	No	

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

CONDITIONS

Action 375431

#### **CONDITIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	375431
	Action Type:
	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

#### CONDITIONS

Created	Condition	Condition
Ву		Date
nvelez	Remediation closure report approved, release resolved.	10/8/2024



**APPENDIX B** 

Photographic Log

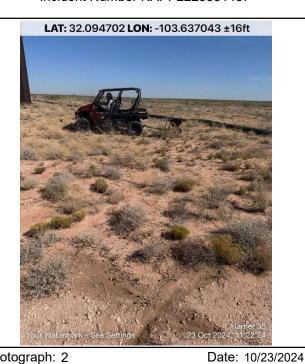
# **ENSOLUM**

#### **Photographic Log**

COG Operating, LLC
Harrier 35 Federal Com 001H
Incident Number NAPP2225531487



Photograph: 1 Date: 10/23/2024 Description: Seed mix utilized for reseeding activities



Photograph: 2 [Description: Reseeding activities]



Photograph: 3
Description: Reseeding activities



Photograph: 4 Date: 10/24/2024

Description: Backfill sampling activities

View: East



**APPENDIX C** 

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 10/28/2024 12:46:13 PM

# **JOB DESCRIPTION**

HARRIER 35 FEDERAL COM 001 H 03D2024093

# **JOB NUMBER**

890-7307-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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 10/28/2024 12:46:13 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Client: Ensolum Project/Site: HARRIER 35 FEDERAL COM 001 H Laboratory Job ID: 890-7307-1 SDG: 03D2024093

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## **Definitions/Glossary**

Job ID: 890-7307-1 Client: Ensolum Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** 

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

**GC Semi VOA** 

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

74 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** 

Detection Limit (DoD/DOE) DL

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 Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NFG 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)

Relative Percent Difference, a measure of the relative difference between two points RPD

TEF Toxicity Equivalent Factor (Dioxin) TEQ Toxicity Equivalent Quotient (Dioxin)

**TNTC** Too Numerous To Count

### **Case Narrative**

Client: Ensolum Job ID: 890-7307-1

Project: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1 Eurofins Carlsbad

# Job Narrative 890-7307-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these
  situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise
  specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The sample was received on 10/24/2024 2:42 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C.

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: BF 01 (890-7307-1).

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-94091 and analytical batch 880-93912 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.

#### Diesel Range Organics

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.

**Eurofins Carlsbad** 

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Q Q

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1 1

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Matrix: Solid

Lab Sample ID: 890-7307-1

## **Client Sample Results**

Client: Ensolum Job ID: 890-7307-1 Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

**Client Sample ID: BF 01** 

Date Collected: 10/24/24 12:00 Date Received: 10/24/24 14:42

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	
Toluene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	•
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/25/24 08:26	10/25/24 14:49	
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/25/24 08:26	10/25/24 14:49	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	120		70 - 130			10/25/24 08:26	10/25/24 14:49	
1,4-Difluorobenzene (Surr)	106		70 - 130			10/25/24 08:26	10/25/24 14:49	
Method: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/25/24 14:49	•
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/25/24 21:59	,
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	,
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	104		70 - 130			10/25/24 07:33	10/25/24 21:59	1
o-Terphenyl	87		70 - 130			10/25/24 07:33	10/25/24 21:59	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	177		10.0	mg/Kg			10/26/24 03:42	1

## **Surrogate Summary**

Client: Ensolum Job ID: 890-7307-1
Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

-				Percent Surrogate Re
		BFB1	DFBZ1	_
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-7307-1	BF 01	120	106	
890-7309-A-61-B MS	Matrix Spike	109	100	
890-7309-A-61-C MSD	Matrix Spike Duplicate	108	102	
LCS 880-94091/1-A	Lab Control Sample	107	94	
LCSD 880-94091/2-A	Lab Control Sample Dup	111	102	
MB 880-94091/5-A	Method Blank	163 S1+	121	
Surrogate Legend				
BFB = 4-Bromofluorober	nzene (Surr)			
DFBZ = 1,4-Difluorobenz	zene (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)	
890-7304-A-1-B MS	Matrix Spike	101	104	
890-7304-A-1-C MSD	Matrix Spike Duplicate	102	104	
890-7307-1	BF 01	104	87	
LCS 880-94078/2-A	Lab Control Sample	119	109	
LCSD 880-94078/3-A	Lab Control Sample Dup	125	113	
MB 880-94078/1-A	Method Blank	106	88	
Surrogate Legend				

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

Released to Imaging: 3/7/2025 1:50:14 PM

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Client: Ensolum Job ID: 890-7307-1 Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-94091/5-A

**Matrix: Solid** Analysis Batch: 93912 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 94091

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/24 08:26	10/25/24 11:37	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepa	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	163	S1+	70 - 130	10/25/24	08:26	10/25/24 11:37	1
1,4-Difluorobenzene (Surr)	121		70 - 130	10/25/24	08:26	10/25/24 11:37	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Lab Sample ID: LCS 880-94091/1-A **Matrix: Solid** Prep Batch: 94091 **Analysis Batch: 93912** LCS LCS Spike

Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.09606 mg/Kg 96 70 - 130 Toluene 0.100 0.1028 mg/Kg 103 70 - 130 0.100 Ethylbenzene 0.1189 mg/Kg 119 70 - 130 70 - 130 0.200 122 m-Xylene & p-Xylene 0.2439 mg/Kg 0.100 70 - 130 o-Xylene 0.1253 mg/Kg 125

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	94	70 - 130

Lab Sample ID: LCSD 880-94091/2-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 93912

Prep Type: Total/NA Prep Batch: 94091

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1012		mg/Kg		101	70 - 130	5	35	
Toluene	0.100	0.09790		mg/Kg		98	70 - 130	5	35	
Ethylbenzene	0.100	0.1093		mg/Kg		109	70 - 130	8	35	
m-Xylene & p-Xylene	0.200	0.2151		mg/Kg		108	70 - 130	13	35	
o-Xylene	0.100	0.1238		mg/Kg		124	70 - 130	1	35	

LCSD LCSD %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 111 70 - 130 1,4-Difluorobenzene (Surr) 102 70 - 130

Lab Sample ID: 890-7309-A-61-B MS

**Matrix: Solid** 

Analysis Batch: 93912

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

Prep Batch: 94091

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.100	0.09603		mg/Kg	_	96	70 - 130	
Toluene	<0.00201	U	0.100	0.1029		mg/Kg		103	70 - 130	

## QC Sample Results

Job ID: 890-7307-1 Client: Ensolum Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

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

Lab Sample ID: 890-7309-A-61-B MS

**Matrix: Solid** 

Analysis Batch: 93912

Client	Sample	ID:	Matrix	Spike
Onone	Cumpic	ю.	mutin	Opino

Prep Type: Total/NA

Prep Batch: 94091

	Sample	Sample	<b>Spike</b>	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00201	U	0.100	0.1095		mg/Kg		110	70 - 130	
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2416		mg/Kg		121	70 - 130	
o-Xylene	<0.00201	U	0.100	0.1207		mg/Kg		121	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 94091

Lab Sample ID: 890-7309-A-61-C MSD **Matrix: Solid** 

**Analysis Batch: 93912** 

Sample Sample Spike MSD MSD RPD Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits 0.100 Benzene <0.00201 U 0.09961 mg/Kg 100 70 - 130 4 35 Toluene <0.00201 U 0.100 0.1017 mg/Kg 102 70 - 130 35 Ethylbenzene <0.00201 U 0.100 0.1059 mg/Kg 106 70 - 130 3 35 <0.00402 U 0.200 70 - 130 35 m-Xylene & p-Xylene 0.2282 mg/Kg 114 6 0.100 <0.00201 U 0.1251 125 70 - 130 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-94078/1-A

**Matrix: Solid** 

Analysis Batch: 94159

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

Prep Batch: 94078

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	10/25/24 07:33	10/25/24 15:57	1
o-Terphenyl	88		70 - 130	10/25/24 07:33	10/25/24 15:57	1

Lab Sample ID: LCS 880-94078/2-A

**Matrix: Solid** 

**Analysis Batch: 94159** 

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

Prep Batch: 94078

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1190		mg/Kg		119	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	935.3		mg/Kg		94	70 - 130
C10-C28)							

Prep Type: Total/NA

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 94078

Job ID: 890-7307-1 Client: Ensolum Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

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

109

Lab Sample ID: LCS 880-94078/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 94159

Surrogate

o-Terphenyl

C10-C28)

1-Chlorooctane

LCS LCS %Recovery Qualifier Limits 119 70 - 130

Lab Sample ID: LCSD 880-94078/3-A

Analysis Batch: 94159

Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA Prep Batch: 94078

70 - 130

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 1210 121 70 - 1302 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 921.0 92 mg/Kg 70 - 1302 20

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-7304-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 94159** Prep Batch: 94078 Sample Sample MS MS Spike Analyte Result Qualifier hahhA Result Qualifier Unit D %Rec Limits

Gasoline Range Organics <50.0 U 997 913.2 mg/Kg 92 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over 784 997 1488 mg/Kg 71 70 - 130

C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 101 o-Terphenyl 104 70 - 130

Lab Sample ID: 890-7304-A-1-C MSD

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

**Analysis Batch: 94159** Prep Batch: 94078 Sample Sample MSD MSD RPD Spike %Rec

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 997 912.8 92 Gasoline Range Organics mg/Kg 70 - 130 n 20 (GRO)-C6-C10 Diesel Range Organics (Over 784 997 1491 mg/Kg 71 70 - 130 20

C10-C28)

MSD MSD Qualifier Surrogate %Recovery Limits 1-Chlorooctane 102 70 - 130 104 70 - 130 o-Terphenyl

## QC Sample Results

Job ID: 890-7307-1 Client: Ensolum Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-94122/1-A

**Matrix: Solid** 

Analysis Batch: 94163

Client Sample ID: Method Blank

**Prep Type: Soluble** 

MB MB Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride <10.0 U 10.0 mg/Kg 10/26/24 02:02

Lab Sample ID: LCS 880-94122/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Analysis Batch: 94163** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 267.6 mg/Kg 107 90 - 110

Lab Sample ID: LCSD 880-94122/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 94163

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 268.0 mg/Kg 107 90 - 110

Lab Sample ID: 880-50236-A-35-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 94163** 

MS MS Sample Sample Spike %Rec Analyte Qualifier Added Result Result Qualifier Unit %Rec Limits Chloride 23.9 251 284.7 104 90 - 110 mg/Kg

Lab Sample ID: 880-50236-A-35-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 94163

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 251 Chloride 23.9 284.7 mg/Kg 104 90 - 110 0 20

## **QC Association Summary**

Client: Ensolum Job ID: 890-7307-1
Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

#### **GC VOA**

#### Analysis Batch: 93912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8021B	94091
MB 880-94091/5-A	Method Blank	Total/NA	Solid	8021B	94091
LCS 880-94091/1-A	Lab Control Sample	Total/NA	Solid	8021B	94091
LCSD 880-94091/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	94091
890-7309-A-61-B MS	Matrix Spike	Total/NA	Solid	8021B	94091
890-7309-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	94091

## Prep Batch: 94091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	5035	
MB 880-94091/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-94091/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-94091/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-7309-A-61-B MS	Matrix Spike	Total/NA	Solid	5035	
890-7309-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 94156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

## Prep Batch: 94078

<b>Lab Sample ID</b> 890-7307-1	Client Sample ID BF 01	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
MB 880-94078/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-94078/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-94078/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-7304-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-7304-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 94159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8015B NM	94078
MB 880-94078/1-A	Method Blank	Total/NA	Solid	8015B NM	94078
LCS 880-94078/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	94078
LCSD 880-94078/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	94078
890-7304-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	94078
890-7304-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	94078

#### Analysis Batch: 94243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8015 NM	

## HPLC/IC

### Leach Batch: 94122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Soluble	Solid	DI Leach	
MB 880-94122/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-94122/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-94122/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

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## **QC Association Summary**

Client: Ensolum Job ID: 890-7307-1
Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

## HPLC/IC (Continued)

## Leach Batch: 94122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-50236-A-35-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-50236-A-35-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 94163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Soluble	Solid	300.0	94122
MB 880-94122/1-A	Method Blank	Soluble	Solid	300.0	94122
LCS 880-94122/2-A	Lab Control Sample	Soluble	Solid	300.0	94122
LCSD 880-94122/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	94122
880-50236-A-35-B MS	Matrix Spike	Soluble	Solid	300.0	94122
880-50236-A-35-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	94122

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## Lab Chronicle

Client: Ensolum Job ID: 890-7307-1
Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

Client Sample ID: BF 01 Lab Sample ID: 890-7307-1

Date Collected: 10/24/24 12:00 Matrix: Solid
Date Received: 10/24/24 14:42

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	94091	10/25/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	93912	10/25/24 14:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			94156	10/25/24 14:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			94243	10/25/24 21:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	94078	10/25/24 07:33	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	94159	10/25/24 21:59	TKC	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	94122	10/25/24 11:34	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	94163	10/26/24 03:42	CH	EET MID

#### **Laboratory References:**

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

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## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-7307-1 Project/Site: HARRIER 35 FEDERAL COM 001 H

SDG: 03D2024093

## **Laboratory: Eurofins Midland**

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

Authority	Progr	am	Identification Number	Expiration Date	
Texas	NELA	P	T104704400	06-30-25	
,	are included in this report, but	it the laboratory is not certif	fied by the governing authority. This lis	t may include analytes	
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		
Total BTEX		Solid	Total BTEX		

## **Method Summary**

Client: Ensolum

Job ID: 890-7307-1 Project/Site: HARRIER 35 FEDERAL COM 001 H SDG: 03D2024093

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

## **Sample Summary**

Client: Ensolum

Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1

SDG: 03D2024093

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-7307-1	BF 01	Solid	10/24/24 12:00	10/24/24 14:42	1

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Received by OCD: 11/19/2024 10:11:42 AM

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**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.

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ddress: 3122 National Parks Hwy ity, State ZIP: Carlsbad, NM 88220			Address						State of Project:														
				City, State ZIP:							Reporting: Level II Level III PST/UST TRRP Level IV												
hone:	432-5	57-8895			Email:	hgreen		um.c	om								Deliverables: ED	0 🗆	ADaF	PT Other:			
roject Name:	На	errior 35 I	Endoral	Com 001H	T	A							- 12	1111	101111111		I BITO TILBORIO TORRAR IN UNI RANDI DA	111111	the same and	Preservati	ve Codes:		
roject Number:			Harrier 35 Federal Com 001H Turn Around  03D2024093  Routine Rush Rote				None: NO				None: NO	DI Water: H											
	$\vdash$				Due Date:			Code				$\vdash$								Cool: Cool	MeOH: Me		
roject Location: ampler's Name:	32.0947, -103.63701 Kaoru Shimada			he day received by		day to solved by		day taceized by								11111	7207		<u> </u>			HCL: HC	HNO, HN
O#:		1130	. C CHAIR		the lab, if rec			-						-090	-/30/	<u>Unail</u>	n of Custody			H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na		
AMPLE RECEI	PT	Temp	Blank:	(Yes)No	Wet ice:	Yes	No	Parametera										1 1		H <sub>3</sub> PO <sub>4</sub> : HP			
amples Received In	ntact:	Yes	,	Thermometer	ID:	Twn	007	E												NaHSO4: NABIS			
Cooler Custody Seals	s:	Yes N	o N/A	Correction Fac	ctor:	-0.	2	<u>.</u>	(300)											Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	6. <b>T</b> a		
ample Custody Sea	als:	Yes N	o N/A	Temperature F	Reading:	4.0	0,		5 (3	<u>\$</u>	=		Tost							Zn Acetate+NaOl- NaOH+Ascorbic A			
otal Containers:				Corrected Ten	nperature:	3.	8		RIDE	10151	(802		Filter							NEOTIVASCORDE	OG. OTT		
Sample Iden	ntificat	ion	Matrix	Date Sampled	Time Sampled	Depth		# of Cont	CHLORIDES	TPH (8015M)	BTEX (8021)	IZ I	Paint	TCLP	000	SVOC				Sample Co	omments		
BF0	)1		soil	10/24/2024	1200	0.25	Comp	1	х	х	x									Incident ID:			
																		+					
											<u> </u>							++-		Cost Center:			
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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-7307-1 SDG Number: 03D2024093

Login Number: 7307 List Source: Eurofins Carlsbad

List Number: 1

Creator: Bruns, Shannon

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: 890-7307-1 SDG Number: 03D2024093

**List Source: Eurofins Midland** 

List Creation: 10/25/24 08:44 AM

Creator: Rios, Minerva

Login Number: 7307

List Number: 2

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	N/A	

Released to Imaging: 3/7/2025 1:50:14 PM

<6mm (1/4").

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

QUESTIONS

Action 404706

#### **QUESTIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2225531487
Incident Name	NAPP2225531487 HARRIER 35 FEDERAL COM 001H @ 0
Incident Type	Produced Water Release
Incident Status	Reclamation Report Received
Incident Facility	[fAPP2203945184] HARRIER 35 FED COM #001H RT BAT

Location of Release Source	
Please answer all the questions in this group.	
Site Name	HARRIER 35 FEDERAL COM 001H
Date Release Discovered	09/04/2022
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release		
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.		
Crude Oil Released (bbls) Details	Not answered.	
Produced Water Released (bbls) Details	Cause: Corrosion   Valve   Produced Water   Released: 7 BBL   Recovered: 0 BBL   Lost: 7 BBL.	
Is the concentration of chloride in the produced water >10,000 mg/l	Yes	
Condensate Released (bbls) Details	Not answered.	
Natural Gas Vented (Mcf) Details	Not answered.	
Natural Gas Flared (Mcf) Details	Not answered.	
Other Released Details	Not answered.	
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.	

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

QUESTIONS, Page 2

Action 404706

QUESTIONS (	contir	nued)
		OGRID:

COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)
QUESTIONS	
Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i	i.e. gas only) are to be submitted on the C-129 form.
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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.
	diation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative o eted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of evaluation in the follow-up C-141 submission.
to report and/or file certain release notifications and perform corrective actions for rele the OCD does not relieve the operator of liability should their operations have failed to	knowledge and understand that pursuant to OCD rules and regulations all operators are required eases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface out does not relieve the operator of responsibility for compliance with any other federal, state, or
I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024

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Phone: (505) 629-6116 Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS, Page 3

Action 404706

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Site Characterization		
Please answer all the questions in this group (only required when seeking remediation plan approva release discovery date.	l and beyond). This information must be provided to the appropriate district office no later than 90 days after the	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)	
What method was used to determine the depth to ground water	Direct Measurement	
Did this release impact groundwater or surface water	No	
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:		
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)	
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)	
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)	
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)	
Any other fresh water well or spring	Greater than 5 (mi.)	
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)	
A wetland	Between ½ and 1 (mi.)	
A subsurface mine	Greater than 5 (mi.)	
An (non-karst) unstable area	Greater than 5 (mi.)	
Categorize the risk of this well / site being in a karst geology	None	
A 100-year floodplain	Greater than 5 (mi.)	
Did the release impact areas not on an exploration, development, production, or storage site	Yes	

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission	Yes	
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated	Yes	
Was this release entirely contained within a lined containment area	No	
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride (EPA 300.0 or SM4500 CI B)	28000	
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	409	
GRO+DRO (EPA SW-846 Method 8015M)	210	
BTEX (EPA SW-846 Method 8021B or 8260B)	0.1	
Benzene (EPA SW-846 Method 8021B or 8260B)	0.1	
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence	09/20/2023	
On what date will (or did) the final sampling or liner inspection occur	09/20/2023	
On what date will (or was) the remediation complete(d) 09/20/2023		
What is the estimated surface area (in square feet) that will be reclaimed 1400		
What is the estimated volume (in cubic yards) that will be reclaimed	220	
What is the estimated surface area (in square feet) that will be remediated	1400	
What is the estimated volume (in cubic yards) that will be remediated	220	
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.		

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 4

Action 404706

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the	appropriate district office no later than 90 days after the release discovery date.
This remediation will (or is expected to) utilize the following processes to remediate	/ reduce contaminants:
(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HARRIER 35 FED COM #001H RT BAT [fAPP2203945184]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

Name: Brittany Esparza
Title: Environmental Technician
Email: brittany.Esparza@ConocoPhillips.com
Date: 08/20/2024

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 5

Action 404706

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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

QUESTIONS, Page 6

Action 404706

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	375435
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/20/2023
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1400

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	1400
What was the total volume (cubic yards) remediated	220
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1400
What was the total volume (in cubic yards) reclaimed	220
Summarize any additional remediation activities not included by answers (above)	excavation of impacted and waste-containing soil. Depth to groundwater verified to be greater than 100 feet below ground surface per requirements of approved Remediation Work Plan.

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 (in .pdf format) 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.

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.

Name: Brittany Esparza

Title: Environmental Technician

Email: brittany.Esparza@ConocoPhillips.com

Date: 08/20/2024

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

QUESTIONS, Page 7

Action 404706

Operator: COG OPERATING LLC	OGRID: 229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)
QUESTIONS	
Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	1400
What was the total volume of replacement material (in cubic yards) for this site	220
	four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 ver must include a top layer, which is either the background thickness of topsoil or one foot of suitable material
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeding commence(d)	10/23/2024
Summarize any additional reclamation activities not included by answers (above)	na
	eclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13
I heraby certify that the information given above is true and complete to the heat of my king.	nowledge and understand that nursuant to OCD rules and regulations all apparators are required
to report and/or file certain release notifications and perform corrective actions for releas the OCD does not relieve the operator of liability should their operations have failed to a water, human health or the environment. In addition, OCD acceptance of a C-141 report	nowledge and understand that pursuant to OCD rules and regulations all operators are required ses which may endanger public health or the environment. The acceptance of a C-141 report by dequately investigate and remediate contamination that pose a threat to groundwater, surface does not relieve the operator of responsibility for compliance with any other federal, state, or ally restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed g notification to the OCD when reclamation and re-vegetation are complete.

Email: brittany.Esparza@ConocoPhillips.com

Date: 11/19/2024

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

QUESTIONS, Page 8

Action 404706

**QUESTIONS** (continued)

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### QUESTIONS

Revegetation Report	
Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.	
Requesting a restoration complete approval with this submission	No
Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.	

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

CONDITIONS

Action 404706

#### **CONDITIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	404706
	Action Type:
	[C-141] Reclamation Report C-141 (C-141-v-Reclamation)

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	None	3/7/2025