

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
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Page 2

## 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
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records

Jacob Laird, COG Operating, LLC

Appendix B Photographic Log

Appendix C Lithologic/Soil Sampling Logs

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

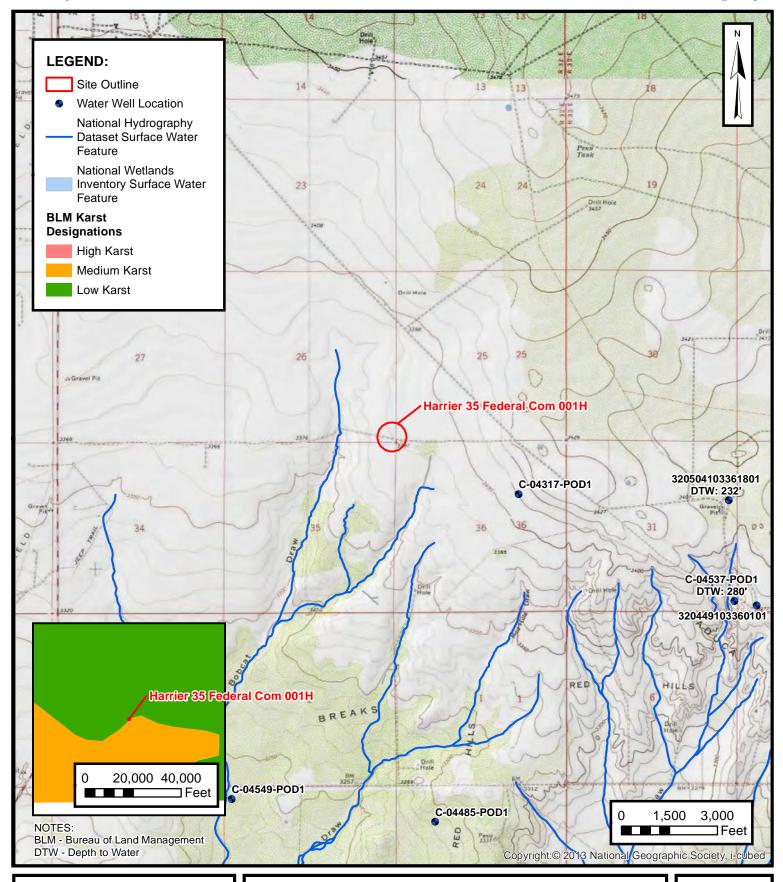
Appendix E Final C-141

Appendix F NMOCD Notifications





**FIGURES** 

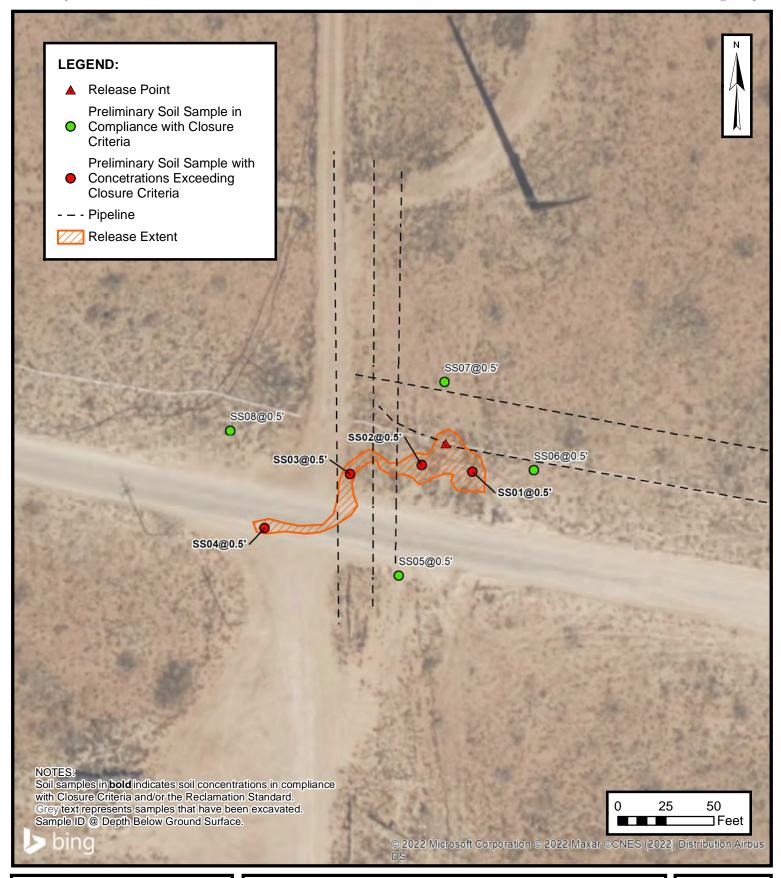




## SITE RECEPTOR MAP

COG OPERATING, LLC HARRIER 35 FEDERAL COM 001H NAPP2225531487

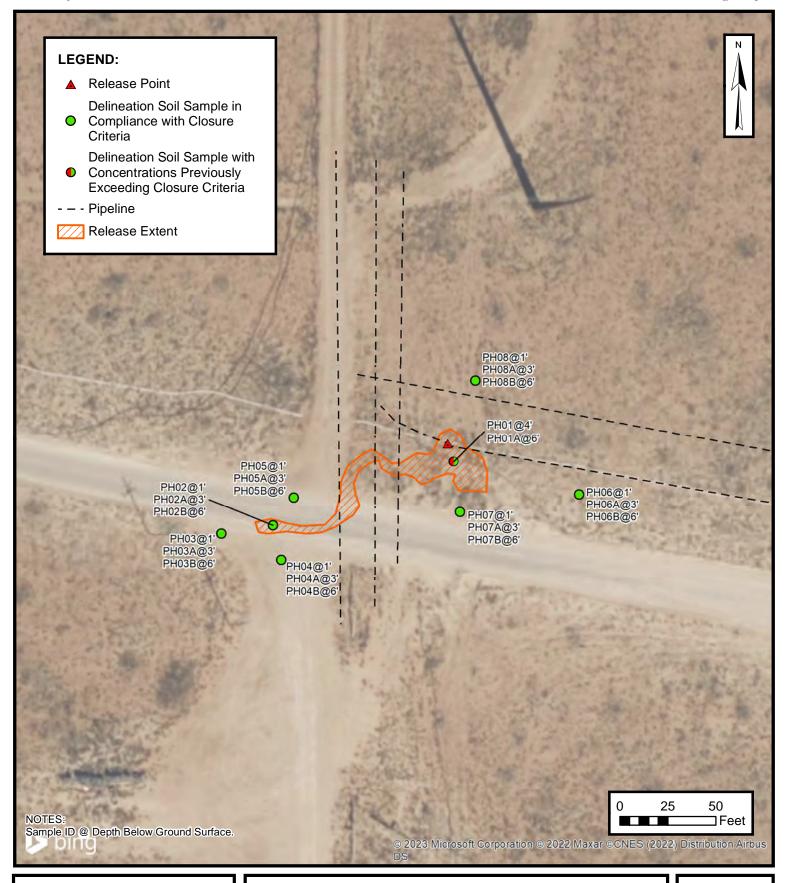
Unit M Sec 25 T25S R32E Lea County, New Mexico FIGURE





## PRELIMINARY SOIL SAMPLE LOCATIONS

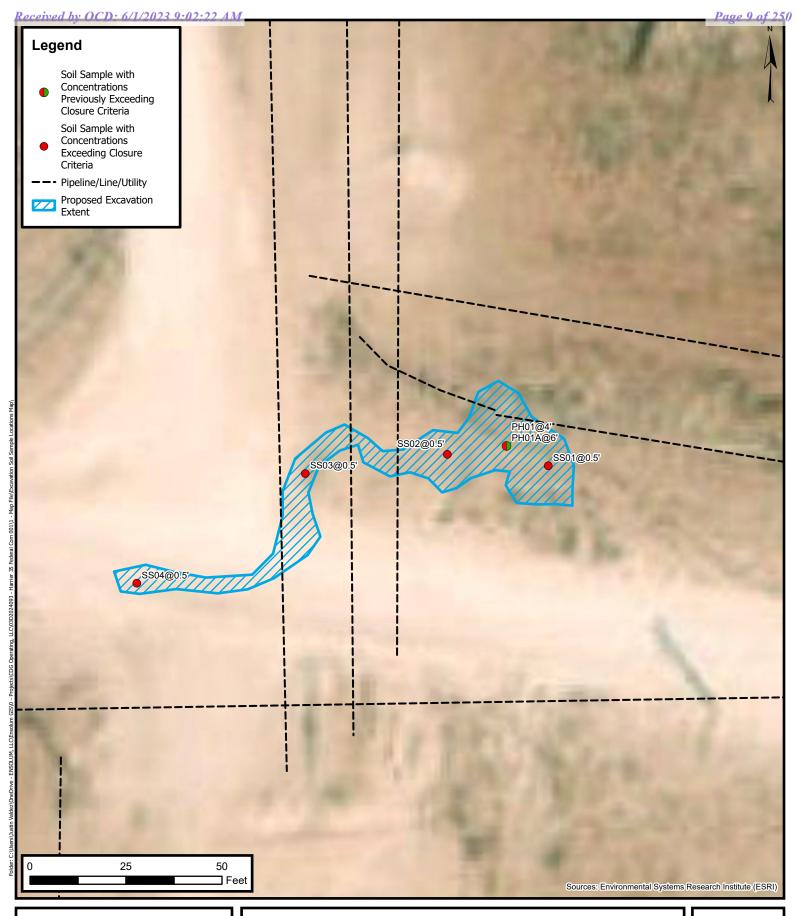
COG OPERATING, LLC HARRIER 35 FEDERAL COM 001H NAPP2225531487 Unit M Sec 25 T25S R32E Lea County, New Mexico **FIGURE** 





## **DELINEATION SOIL SAMPLE LOCATIONS**

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





## **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

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**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 (	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Preli	minary Soil Sa	mples				
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	mples				
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	osure 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.

\* indicates soil in the top 4 feet to be reclaimed

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

**Ensolum** 2 of 2



**APPENDIX A** 

Referenced Well Records

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 format
Output format

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

Date \$	Time 0	Water-level date-time accuracy	Parameter \$	Water level, feet below land surface		Referenced vertical \$ datum	Status \$	Method of preasurement	Measuring \$ agency	Source of pressurement	Ø Water-level approval status
1954-07-26		D	62610		3145.45	NGVD29	1	Z			A
1954-07-26		D	62611		3147.08	NAVD88	1	Ž			.A.
1954-07-26		D	72019	257.55			1	Z			A
1970-12-08		D	62610		3162.86	NGVD29	P	Z			A
1970-12-08		D	62611		3164.49	NAVD88	p	Z			A
1970-12-08		D	72019	240.14			р	Z			A
2013-01-16	19:45 UTC	m	62610		3170.04	NGVD29	1	S	USGS	S	A
2013-01-16	19:45 UTC	m	62611		3171.67	NAVD88	1	S	USGS	S	A
Released to Imaging: 8/2.	19:45 UTC 22/2023 12:58:00 PM	m	72019	232.96			1	S	USGS	S	A

## Received by OCD: 6/1/2023 9:02:22 AMew 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

Driller License:

20E6C

1706

631847 3550243

C 04537 POD1

Driller Company:

ELITE DRILLERS CORPORATION

Driller Name:

WALLACE, BRYCE J.LEE.NER

Drill Start Date: 06/11/2021 Drill Finish Date:

06/12/2021

Plug Date:

Log File Date:

06/21/2021

4.00

PCW Rcv Date:

Depth Well:

Source: Shallow

Pump Type: Casing Size: Pipe Discharge Size:

500 feet

Estimated Yield: Depth Water:

280 feet

5 GPM

Water Bearing Stratifications:

Top Bottom Description

220

340 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

500

300

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

Y	-4							Sample Name:PH01 Date:01/19/2023
		E	N	S	OI	_ U	M	Site Name: Harrier 35 Federal Com 001H_093 Incident Number: NAPP2225531487
-								
		LITHOL	OGI	r / sou s	AMPLING	106		Job Number: 03D2024093 Logged By: CS Method: Backhoe
Coordi				3.6371206	AIVIPLING	LOG		Logged By: CS Method: Backhoe Hole Diameter: N/A Total Depth: 6'
					ith HACH Ch	loride Test S	Strips and	PID for chloride and vapor, respectively. Chloride test
								n factors included.
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					1	0		
					-	1 - - -		
					- - -	2		
					- -	3	CCHE	Excavation at 3-feet, caliche.
D	3421	0.8	N	PH01	4 _	4	ССНЕ	Caliche, grey, coarse grained, well graded, no stain, no odor.
					-	_ 5 _		Caliaba mindrand areas areas areas and small areaded
D	<170	0.2	N	PH01A	6	- _ 6	CCHE TD	Caliche, pink and grey, coarse grained, well graded, no stain, no odor.  Total depth at 6-feet below ground surface.
					- - -	7		
					- - -	- - 8		
					- - -	- - 9 -		
					- - -	- _ 10		
					- - - -	11 1		
					-	12		

								Sample Name:PH02	Date:01/19/2023
			AI	6	OI		RA	Site Name: Harrier 35 Federal	
			N	3		_ U	IAI	Incident Number: NAPP22255	531487
								Job Number: 03D2024093	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
Coord	inates:32	.0946105	5, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'
								PID for chloride and vapor, res n factors included.	spectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
					1	0			
N N	ND ND	0.4	Z	PH02	1 - - -	- - 1 - - 2		Sand: brown, well grade no stain, no odor Caliche: white, tan, coar	ed, medium-coarse grained,
IN	ND	1	IN		-	- <sup>2</sup>	CCHE	no stain, no odor	se grained, wen graded,
N	ND	0.6	N	PH02	3 _	_ _ 3 -	CCHE	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 be	low ground surface.
					- - -	- 7 -			
					- - -	8			
					- - - -	- - 9 -			
					- - -	10			
					- - -	- _ 11 -			
					_	12			

								Sample Name:PH03	Date:01/19/2023
			AI	C	0 1		RA	Site Name: Harrier 35 Federa	Il Com 001H_093
			N	3		_ U		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 a factors included.	spectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	c Descriptions
					1	0			
N	ND	0.5	N	PH03	1 _ - - -	- - - 1 - - - 2	SP-SM	Sand: brown, well grade no stain, no odor	ed, medium-coarse grained,
N	ND	1	N	PH03	3 <u>-</u> -	_ 3 	ССНЕ	Caliche: grey, coarse grand no odor	ained, well graded, no stain,
					- - - -	4 - 4			
N	ND	0.5	N	PH03	6 <u>-</u>	_ 5 - - - 6	CCHE TD	SAA Total depth at 6-feet be	slow ground surface
					- - - -	7		Total depth at 0 rect be	now ground surface.
					- - -	- 8 -			
					- - -	9			
					- - - -	- 10 - - - 11			
					- - -	12			

								Sample Name:PH04	Date:01/19/2023
			AI	C	0 1			Site Name: Harrier 35 Federa	l Com 001H_093
			N	3		_ U		Incident Number: NAPP22255	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, reson factors included.	spectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
					1	0			
N	ND	0.3	N	PH04	1 -	- - - 1 - - - 2	SP-SM	Sand: brown, well grade no stain, no odor	ed, medium-coarse grained,
N	ND	1.3	N	PH04	3 _	_ 3 	ССНЕ	Caliche: grey, coarse gra	ained, well graded, no stain,
					- - - -	- - 4 -			
N	ND	1.3	N	PH04	- - - 6	_ 5 - - _ 6	ССНЕ	SAA	
					- - - -	- - - 7	TD	Total depth at 6-feet be	low ground surface.
					- - - -	- - 8 -			
					- - - -	- 9 			
					- -	10			
					- - - -	11 - 12			

								Sample Name:PH05	Date:01/19/2023
1	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	nates:32	.0946105	, -103	3.6371206				Hole Diameter: N/A	Total Depth: 6'
								PID for chloride and vapor, respec factors included.	tively. Chloride test
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	Ν	PH05	1 _	1 - 1	SP-SM	Sand: brown, well graded, r no stain, no odor	medium-coarse grained,
N	ND	0.4	N	PH05	3 _	2 - - - 3	ССНЕ	Caliche: grey, coarse graine	d, well graded, no stain,
					- - -	4			
						- - 5 -			
N	ND	0.4	N	PH05	6 <u>-</u>	- 6 -	CCHE TD	SAA Total depth at 6-feet below	ground surface.
					- -	7 -			
					- - -	8 -			
					- - -	- - -			
					- - -	10			
					- - -	11			
					_	12			

								Sample Name:PH06	Date:01/19/2023
ľ	7						<b>B.</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	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 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	<u> </u>			
N	ND	0.2	N	PH06	1 -	1 - - - - 2	SP-SM	Sand: brown, well graded, r no stain, no odor	medium-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>	_ 6 -	TD	SAA Total depth at 6-feet below	ground surface.
					- -	_ 7 _			
					- - -	8 -			
					- - -	9 -			
					- - -	10			
					- - -	11			
					-	12			

								Sample Name:PH07	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, respect factors included.	tively. Chloride test
perior	ineu witi	1 1.4 ullu	.1011 16	actor or sor	i to distilled	water. 40%		Tractors 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 - - - - 2	SP-SM	Sand: brown, well graded, i no stain, no odor	medium-coarse grained,
N	ND	1	N	PH07	3 _	- _ 3 -	ССНЕ	Caliche: grey, coarse graine no odor	d, well graded, no stain,
					- - -	4			
					- -	5 -			
N	ND	0.8	N	PH07	6 _	- _ 6 -	CCHE TD	<u>SAA</u> Total depth at 6-feet below	ground surface.
					- - -	<del>-</del> - 7 -			
					_ - -	- _ 8			
					- - -	9			
					- - -	- - 10			
					- - -	- - _ 11			
					- - -	12			

								Cample Name: DHO9	Date:01/19/2023
7	7							Sample Name:PH08 Site Name: Harrier 35 Federal Com	•
		E	N	5	OL	_ U	M	Incident Number: NAPP222553148	
								Job Number: 03D2024093	57
		LITHOL	OGIO	^ / SOIL S	SAMPLING	LOG		Logged By: CS	Method: Backhoe
Coord				3.6371206	, Liive			Hole Diameter: N/A	Total Depth: 6'
Comments: Field screening conducted with HACH Chloride Test Strips at					ith HACH Ch	Strips and	· ·	· ·	
			_					factors included.	,
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Des	scriptions
N	ND	0.7	N	PH08	1 _ - 1 _ - - -	0 1 2	SP-SM	Sand: brown, well graded, n no stain, no odor	nedium-coarse grained,
N	ND	0.5	N	PH08	3 <u> </u>	3 - - - - - - - - 5	CCHE	Caliche: grey, coarse grained no odor	d, well graded, no stain,
N	ND	0.4	Z	PH08	6	- 6 - 7 - 7 - 8 - 9 - 10 - 11	CCHE TD	SAA Total depth at 6-feet below	ground surface.



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

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**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:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings

RAMER

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.

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

**Table of Contents** 

1
2
3
4
5
12
13
17
20
23
24
25
26
27

3

4

6

8

10

11

13

## **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

**Eurofins Carlsbad** 

## 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

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

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 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	el Range Organ	ics (DRO) (	3C)					
		() (						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Total TPH	Result < 50.0			Mg/Kg	<u>D</u>	Prepared	Analyzed 10/07/22 09:09	Dil Fac
Total TPH	<50.0	U	50.0		<u>D</u>	Prepared		
Total TPH	<50.0	U	50.0		<u>D</u> 	Prepared Prepared		1
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	<50.0	nics (DRO) Qualifier	RL 50.0	mg/Kg	=		10/07/22 09:09	1
Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	<50.0 sel Range Orga Result	nics (DRO) Qualifier	RL	mg/Kg	=	Prepared	10/07/22 09:09  Analyzed	1 Dil Fac
Total TPH  Method: SW846 8015B NM - Dies	<50.0 sel Range Orga Result <50.0	nics (DRO) Qualifier U	(GC) RL 50.0	mg/Kg  Unit  mg/Kg	=	Prepared 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 15:11	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0  sel Range Orga Result <50.0 <50.0	nics (DRO) Qualifier U	RL 50.0  (GC)  RL 50.0  50.0	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 15:11  10/06/22 15:11	1 Dil Fac 1 1
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)	<50.0  sel Range Orga Result <50.0 <50.0 <50.0	Dics (DRO) Qualifier U U	RL 50.0  (GC)  RL 50.0  50.0  50.0	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 10/06/22 08:40 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	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	<50.0 sel Range Orga Result <50.0 <50.0 <50.0 %Recovery	Dics (DRO) Qualifier U U	RL 50.0  (GC)  RL 50.0  50.0  50.0 <i>Limits</i>	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 15:11 10/06/22 15:11 4nalyzed Analyzed	Dil Fac
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	<50.0 sel Range Orga Result <50.0 <50.0 <50.0 %Recovery 84 78	Onics (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 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	1 Dil Fac 1
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	<50.0 sel Range Orga Result <50.0 <50.0 <50.0 %Recovery 84 78 s, Ion Chromato	Onics (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 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	1 Dil Fac 1 Dil Fac 1

**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** 

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

Sample Depth: 0.5'

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

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

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	< 0.00396	U	0.00396	mg/Kg			10/12/22 11:46	1

ı							
ı	Method: SW846	2015 NM	- Diacal	Pango (	Organice	(DRO) (GC)	

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

	Mothod: SW046 904ED NM Diocol Dan	go Organico (DBO) (CC)	v
ı	Method: SW846 8015B NM - Diesel Ran	ge Organics (DRO) (GC)	,

	= 10001 11011 30 013011100 (= 110) (0 1)							
Analyte	Result Qua	lifier RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics	<49.9 U	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1	
(GRO)-C6-C10								
Diesel Range Organics (Over	210	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1	
C10-C28)								
Oll Range Organics (Over C28-C36)	199	49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1	
Surrogato	%Pecovery Oua	difier l'imite			Propared	Analyzad	Dil Esc	

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'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/10/22 13:48	10/11/22 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 1 Differenchemanne (Cerry)	00		70 400			40/40/00 40:40	40/44/00 00:05	

Surrogate	%Recovery Qua	alifier Limits	Prepared	Anaiyzea	DII 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

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

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

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

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

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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'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
C10-C28)								
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 - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
			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
	40,00000							
Total BTEX	< 0.00399	U	0.00399	mg/Kg			10/12/22 11:46	1
•				mg/Kg			10/12/22 11:46	1
: Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)		_			
Method: SW846 8015 NM - Diese Analyte	Range Organ	ics (DRO) (	GC)	Unit	D	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)		<u>D</u>	Prepared		
Method: SW846 8015 NM - Diese Analyte	Range Organ Result <a href="#">&lt;49.8</a>	ics (DRO) ( Qualifier	RL 49.8	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Range Organ Result <a href="#">&lt;49.8</a> sel Range Organ	ics (DRO) ( Qualifier	RL 49.8	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	Range Organ Result <a href="#">&lt;49.8</a> sel Range Organ	Qualifier Unics (DRO) Qualifier	RL 49.8 (GC)	Unit mg/Kg		<u> </u>	Analyzed 10/07/22 09:09	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	Range Organ Result <a href="#">&lt;49.8</a> sel Range Orga Result	Qualifier U nics (DRO) Qualifier U u	RL 49.8 (GC)	Unit mg/Kg		Prepared	Analyzed 10/07/22 09:09 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	Range Organ Result <a href="#">&lt;49.8</a> sel Range Orga Result <a href="#">&lt;49.8</a>	Qualifier U nics (DRO) Qualifier U u	GC)  RL 49.8  (GC)  RL 49.8	Unit mg/Kg  Unit mg/Kg		Prepared 10/06/22 08:40	Analyzed 10/07/22 09:09  Analyzed 10/06/22 16:14	Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Range Organ Result <a href="#">&lt;49.8</a> sel Range Orga Result <a href="#">&lt;49.8</a>	cics (DRO) (On Qualifier Unics (DRO) Qualifier U	GC)  RL 49.8  (GC)  RL 49.8	Unit mg/Kg  Unit mg/Kg		Prepared 10/06/22 08:40	Analyzed 10/07/22 09:09  Analyzed 10/06/22 16:14	Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Range Organ Result 49.8 sel Range Orga Result  49.8 49.8	cics (DRO) (Control of the property of the pro	GC)  RL  49.8  (GC)  RL  49.8  49.8	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 10/06/22 08:40 10/06/22 08:40	Analyzed 10/07/22 09:09  Analyzed 10/06/22 16:14 10/06/22 16:14	Dil Fac  Dil Fac  1  1  1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result 49.8 Sel Range Organ Result 49.8 49.8 449.8 449.8	cics (DRO) (Control of the property of the pro	GC)  RL 49.8  (GC)  RL 49.8  49.8  49.8	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 10/06/22 08:40 10/06/22 08:40 10/06/22 08:40	Analyzed 10/07/22 09:09  Analyzed 10/06/22 16:14 10/06/22 16:14	Dil Fac  Dil Fac  1

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## **Client Sample Results**

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

**Client Sample ID: SS04** 

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

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

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

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

Sample Depth: 0.5'

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	1
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: TAL SOP Total BTEX - T	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/12/22 11:46	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte		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	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		10/06/22 08:40	10/06/22 16:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/06/22 08:40	10/06/22 16:34	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/06/22 08:40	10/06/22 16:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130			10/06/22 08:40	10/06/22 16:34	1
o-Terphenyl	77		70 - 130			10/06/22 08:40	10/06/22 16:34	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

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## **Client Sample Results**

 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

Matrix: Solid

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 -	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
Method: SW846 8015 NM - Diese	el Pange Organ	ice (DBO) ((	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared		
· ······ <i>j</i> ···			KL	Unit	U	Frepareu	Analyzed	Dil Fac
Total TPH	<49.8		49.8	mg/Kg			10/07/22 09:09	Dil Fac
	<49.8	U	49.8			Frepareu		
Total TPH	<49.8	U	49.8		<u>D</u>	Prepared		1
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics	<49.8	unics (DRO) Qualifier	49.8 (GC)	mg/Kg	<del>-</del>		10/07/22 09:09	1 Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte	<49.8 sel Range Orga Result	unics (DRO) Qualifier	49.8 (GC)	mg/Kg	<del>-</del>	Prepared	10/07/22 09:09  Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	<49.8 sel Range Orga Result <49.8	unics (DRO) Qualifier U	49.8 (GC) RL 49.8	mg/Kg  Unit  mg/Kg	<del>-</del>	Prepared 10/06/22 08:40	10/07/22 09:09  Analyzed  10/06/22 16:55	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.8 sel Range Orga Result <49.8 <49.8	Unics (DRO) Qualifier U	49.8  (GC)  RL  49.8  49.8	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 16:55  10/06/22 16:55	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.8 sel Range Orga Result <49.8 <49.8 <49.8	unics (DRO) Qualifier U	49.8  (GC)  RL  49.8  49.8  49.8	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 16:55 10/06/22 16:55	Dil Face 1 1 1 Dil Face
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<49.8 sel Range Orga Result <49.8 <49.8 <49.8 %Recovery	unics (DRO) Qualifier U	49.8  (GC)  RL  49.8  49.8  49.8  Limits	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 16:55 10/06/22 16:55 Analyzed	Dil Fac
Total TPH  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	<49.8 sel Range Orga Result <49.8 <49.8 <49.8 %Recovery 86 78	U unics (DRO) Qualifier U U Qualifier	49.8  (GC)  RL  49.8  49.8  49.8  49.8  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	10/07/22 09:09  Analyzed  10/06/22 16:55  10/06/22 16:55  Analyzed  10/06/22 16:55	
Total TPH  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 o-Terphenyl	49.8 Seel Range Organ Result 49.8 49.8 49.8 %Recovery 86 78 s, Ion Chromato	U unics (DRO) Qualifier U U Qualifier	49.8  (GC)  RL  49.8  49.8  49.8  49.8  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	10/07/22 09:09  Analyzed  10/06/22 16:55  10/06/22 16:55  Analyzed  10/06/22 16:55	Dil Fac

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** 

Matrix: Solid

## **Client Sample Results**

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 Date Received: 10/05/22 09:10

Sample Depth: 0.5'

Method: SW846 8021E	- Volatile Organic	Compounds (	(GC) (Continued)
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Surrogate	%Recovery Qualifi	er Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	89	70 - 130	10/10/22 13:48	10/11/22 23:48	1

Method: TAI	SOP Total BTEX	- Total BTFX	Calculation
Mictilou. IAL	- OOI TOTAL DIEA	- IOIGI DIEA	Calculation

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

н					
ı	Method: SW846 8015 NM -	Diocal Bango (	Pragnice /	(DDO)	(CC)
П	INICITION. 344040 OUTS ININI -	Diesei Kalige	Jiyailics	וטאט	1001

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 - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/06/22 08:40	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	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86	70 - 130	10/06/22 08:40	10/06/22 17:16	1
o-Terphenyl	82	70 - 130	10/06/22 08:40	10/06/22 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.2		4.98	mg/Kg			10/11/22 10:16	1

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

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

Sample Depth: 0.5'

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

momous official social	othodi otto to obzi za rotatno organio compoundo (oc)									
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 Diffuorabanzana (Surr)	02		70 120			10/10/22 12:40	10/12/22 00:00	1		

Surrogate	%Recovery	Quaimer	Limits	Prepared	Analyzea	DII 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 Calculation**

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

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

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**Matrix: Solid** 

# **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'

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

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Released to Imaging: 8/22/2023 12:58:00 PM

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# **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 (Acceptance Limits)
		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	
	Method Blank	106	84	

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

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## 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

	IVID	IVID						
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

MD MD

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

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

**Matrix: Solid** 

**Analysis Batch: 36625** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 36590

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

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** 

Prep Type: Total/NA

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 Qua	alifier	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

## 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 4-Bromofluorobenzene (Surr)	%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 RPD

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

MSD MSD

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

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

мв мв Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <50.0 Ū 50.0 mg/Kg 10/06/22 08:40 10/06/22 09:43 Gasoline Range Organics

(GRO)-C6-C10

o-Terphenyl

# QC Sample Results

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)

93

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

Prep Type: Total/NA Analysis Batch: 36216 Prep Batch: 36226 MB MB

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)								
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			10/06/22 08:40	10/06/22 09:43	

Lab Sample ID: LCS 880-36226/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA

70 - 130

Analysis Batch: 36216 Prep Batch: 36226

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

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

Lab Sample ID: LCSD 880-36226/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 36216 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 Client Sample ID: Matrix Spike

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 36216 Prep Batch: 36226

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

mg/Kg

82

70 - 130

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

101

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C10-C28)

10/06/22 08:40

10/06/22 09:43

# QC Sample Results

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

SDG: 03D2024093

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

Lab Sample ID: 880-20033-A-1-D MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** 

Prep Type: Total/NA Prep Batch: 36226 Analysis Batch: 36216

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	892.0		mg/Kg		86	70 - 130	7	20
Diesel Range Organics (Over	101		999	803.4		mg/Kg		70	70 - 130	14	20

C10-C28)

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36242/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

MB MB

**Analysis Batch: 36598** 

Result Qualifier RL Unit Analyte D Prepared Analyzed Dil Fac Chloride <5.00 5.00 mg/Kg 10/11/22 07:11

Lab Sample ID: LCS 880-36242/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 36598** 

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

Lab Sample ID: LCSD 880-36242/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 36598

Spike LCSD LCSD RPD %Rec Analyte Added Result Qualifier Unit %Rec RPD Limits Limit Chloride 250 260.8 104 90 - 110 mg/Kg 0

Lab Sample ID: 890-3147-4 MS Client Sample ID: SS04 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 36598** 

Sample Sample Spike MS MS %Rec Qualifier Added Qualifier Analyte Result Result Unit %Rec Limits Chloride F1 5000 18090 F1 192 90 - 110 8500 mg/Kg

Lab Sample ID: 890-3147-4 MSD **Client Sample ID: SS04 Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 36598** 

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

 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

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 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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 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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10/11/22 09:06

СН

**EET MID** 

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	Type	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	CH	EET MID
Soluble	Analysis	300.0		50			36598	10/11/22 08:59	CH	EET MID

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

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

Dil Initial Final Batch 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 SM **EET MID** 1 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** Soluble Leach DI Leach 5 g 50 mL 36242 10/06/22 09:53 CH **EET MID** 

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

20

Date Collected: 10/04/22 08:50 **Matrix: Solid** 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			5.03 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 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 15:53	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36242	10/06/22 09:53	CH	EET MID
Soluble	Analysis	300.0		20			36598	10/11/22 09:14	CH	EET MID

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

Date Collected: 10/04/22 08:55 **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			5.01 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** 

Date Received: 10/05/22 09:10

Soluble

Analysis

300.0

Client: Ensolum

Project/Site: Harrier 35 Fed Com 001

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

**Client Sample ID: SS04** 

Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-4 Date Collected: 10/04/22 08:55

Matrix: Solid

	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			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	CH	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	СН	EET MID
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	Туре	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	CH	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	Type	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

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Page 21 of 28

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**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

Date Received: 10/05/22 09:10

Matrix: Solid

	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

Date Received: 10/05/22 09:10

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			5.01 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

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# **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		ogram	Identification Number	Expiration Date		
Texas	NI	ELAP	T104704400-22-24	06-30-23		
The following analytes the agency does not of	. ,	ut the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes fo		
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

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

Project/Site: Harrier 35 Fed Com 001

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'
90-3147-2	SS02	Solid	10/04/22 08:45	10/05/22 09:10	0.5'
90-3147-3	SS03	Solid	10/04/22 08:50	10/05/22 09:10	0.5'
00-3147-4	SS04	Solid	10/04/22 08:55	10/05/22 09:10	0.5'
0-3147-5	SS05	Solid	10/04/22 09:00	10/05/22 09:10	0.5'
0-3147-6	SS06	Solid	10/04/22 09:05	10/05/22 09:10	0.5'
90-3147-7	SS07	Solid	10/04/22 09:10	10/05/22 09:10	0.5'
0-3147-8	SS08	Solid	10/04/22 09:15	10/05/22 09:10	0.5'

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Page 26 of 28

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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:		
AADIK OIGEI IAO.		

www.xenco.com

Project Manager:	Kalei	Kalei Jennings Bill to: (if different)			1)	Kalei Jennings						Work Order Comments													
Company Name:	Ensol	um				Compan	y Name	:									Prog	ram: U	ST/PS	T 🗌 F	RP	Brown	nfields 🗌 Ri	RC 🗌 S	perfund 🗌
Address:	3122	National I	Parks H	wy		Address												of Pro	•						_
City, State ZIP:	Carlst	oad, NM 8	38220			City, Sta	te ZIP:										Repo	rting: L	evel II	Le	vel III	☐ PS7	T/UST   TF	RP 🗌	Level IV
Phone:		87-2946			Email:	kjenning	gs@en	solum	.com								Deliv	erables	: EDI			ADaP1	T 🗆 01	her:	
Project Name:	Т	larrier 35	Fed Co	m 001	Turr	Around								ANAI	YSIS	REQ	UES1						Prese	rvative	Codes
Project Number:		03D2	202409	3	☑ Routine	☐ Rush		Pres.															None: NO	DI	Water: H <sub>2</sub> O
Project Location:		32.0947	-103.6	3701	Due Date:																		Cool: Cool	Me	OH: Me
Sampler's Name:			Parke		TAT starts th																		HCL: HC		O <sub>3</sub> : HN
PO #:					the lab, if red	ceived by 4	:30pm	2					160	11111111111	4 (3)(1.14)	1111111	186 (1894)		<b>5</b> 1				H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	Na	DH: Na
SAMPLE RECE	IPT	Temp E	Blank:	YSS No	Wet Ice:	(es)	No	net	300.0)				- 1111										H₃PO₄: HP		
Samples Received	-		No	Thermomet		TAM	-00	a Ze	300				1111	Middell									NaHSO <sub>4</sub> : N		
Cooler Custody Sea	als:	Yes No	_	Correction F		-0	42	0	(EPA		1		Ш										Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : Na <sub>2</sub> S		_
Sample Custody Se	als:	Yes No		Temperatur			8		O		72		890	-3147	Chain	of Cu	stody						NaOH+Asc		
Total Containers:				Corrected T			9		5	8015	(8)			1	1 1		1	1	ı	1	1		1440117430	7 010 7 1010	. 0/11/0
Sample Ide	ntificati	on	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDE	TPH (8015)	BTEX (8021												Samp	le Com	nents
SS	01		S	10/4/2022	8:40	0.5'	G	1	х	х	х												Incident ID		
SS	02		S	10/4/2022	8:45	0.5'	G	1	х	х	х									<u> </u>					
SS	03		S	10/4/2022	8:50	0.5'	G	1	х	x	х									ļ			Cost Cente	r:	
SS	04		S	10/4/2022	8:55	0.5'	G	1	х	×	×							<u> </u>				<del>  </del>			
SS	05		S	10/4/2022	9:00	0.5'	G	1	х	x	×												AFE:		
SS	06		S	10/4/2022	9:05	0.5'	G	1	х	×	×														
SS	07		S	10/4/2022	9:10	0.5'	G	1	х	x	×									<u> </u>		<u> </u>			
SS	80		S	10/4/2022	9:15	0.5'	G	1	×	×	X														
												160						ļ				-			
																					_				
Total 200.7 / 6	010	200.8 / 6	020:	8	RCRA 13F	PPM Te	xas 11	AI :	Sb As	Ba	Be B	Cd C	a Cr	Co	Cu Fe	Pb	Mg N	In Mo	Ni I	( Se	Ag Si	iO <sub>2</sub> N	la Sr Tl Sn	UVZ	n

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

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. 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 cilent 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
11/19 00	Avarda Istut	10/3/22 094	70		
3			4		
5			6		
					levised Date: 08/25/2020 Rev.

# **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 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	

<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

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

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Racaint Chacklists	22

2

3

1

5

8

10

11

13

## **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

Job ID: 890-3906-1

#### Case Narrative

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H 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)			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	•	. , ,	•					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) ( Qualifier	GC)	Unit	D	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared	Analyzed 02/03/23 11:29	Dil Fac
Analyte	Result   <49.9	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		1
Analyte Total TPH  Method: SW846 8015B NM - Dies	Result <49.9	Qualifier Unics (DRO) Qualifier	RL 49.9 (GC)	mg/Kg			02/03/23 11:29	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	Qualifier U  nics (DRO) Qualifier U	RL 49.9 (GC)	mg/Kg		Prepared	02/03/23 11:29  Analyzed	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	Result <49.9  sel Range Orga Result <49.9	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 03:04	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  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 03:04 02/03/23 03:04	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 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 02/01/23 13:08	02/03/23 11:29  Analyzed 02/03/23 03:04 02/03/23 03:04 02/03/23 03:04	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	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 03:04 02/03/23 03:04 02/03/23 03:04  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   <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 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 03:04  02/03/23 03:04  02/03/23 03:04  Analyzed 02/03/23 03:04	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   <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 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 03:04  02/03/23 03:04  02/03/23 03:04  Analyzed 02/03/23 03:04	1 Dil Fac

**Client Sample ID: PH01** 

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

Sample Depth: 6'

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	

**Eurofins Carlsbad** 

Lab Sample ID: 890-3906-2

**Matrix: Solid** 

# **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** Lab Sample ID: 890-3906-2 Date Collected: 01/19/23 09:20

Matrix: Solid

Sample Depth: 6'

Analyte

Chloride

Date Received: 01/20/23 09:06

Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)	) (Continued)					
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 - T	otal BTEX Cald	ulation						
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	I 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
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 13:08	02/03/23 03:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 13:08	02/03/23 03:26	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 13:08	02/03/23 03:26	1
						_		
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surrogate 1-Chlorooctane		Qualifier	70 - 130			Prepared 02/01/23 13:08	Analyzed 02/03/23 03:26	Dil Fac

24.8

Unit

mg/Kg

Prepared

Analyzed

01/30/23 17:17

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Result Qualifier

# **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	

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)
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

# **QC Sample Results**

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

Method: 8021B - Volatile Organic Compounds (GC)

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

**Matrix: Solid** Analysis Batch: 44986 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 44738

	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	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

Analysis Batch: 44986

Matrix: Solid

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

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

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

	<b>Spike</b>	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	ı	mg/Kg		96	70 - 130	7	35	
Ethylbenzene	0.100	0.08178	ı	mg/Kg		82	70 - 130	2	35	
m-Xylene & p-Xylene	0.200	0.1637	l	mg/Kg		82	70 - 130	2	35	
o-Xylene	0.100	0.08042	ĺ	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 Spik	e
Prep Type: Total/N	Α

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	

Prep Batch: 44738

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

**Matrix: Solid** 

Analysis Batch: 44986

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

MS MS

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

Lab Sample ID: 890-3893-A-1-E MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 44986									Prep	Batch:	44738
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U	0.101	0.09618		mg/Kg		95	70 - 130	3	35
Toluene	<0.00198	U	0.101	0.07154		mg/Kg		71	70 - 130	1	35
Ethylbenzene	<0.00198	U F1	0.101	0.05892	F1	mg/Kg		58	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U F1	0.202	0.1264	F1	mg/Kg		63	70 - 130	1	35
o-Xylene	<0.00198	U F1	0.101	0.06549	F1	mg/Kg		64	70 - 130	2	35

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)

M

Ar

ab Sample ID: MB 880-45211/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 45226	Prep Batch: 45211
MR MR	

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

	INIB	IVIB				
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-Temhenyl	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							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)								

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Job ID: 890-3906-1

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

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

Lab Sample ID: 880-23972-A-21-H MS

**Matrix: Solid** 

**Matrix: Solid** 

Client: Ensolum

Analysis Batch: 45226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45211

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 111 70 - 130 o-Terphenyl 100 70 - 130

Client Sample ID: Lab Control Sample Dup

70 - 130

94

Prep Type: Total/NA

2

Analysis Batch: 45226 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

939.0

mg/Kg

999

Diesel Range Organics (Over C10-C28)

LCSD LCSD

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

Client Sample ID: Matrix Spike

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)

**Matrix: Solid** 

Analysis Batch: 45226

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

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 %Rec Limits RPD Limit

Analyte Result Qualifier Added Result Qualifier Unit %Rec <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)

Spike

MSD MSD

MSD MSD

Sample Sample

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

**Eurofins Carlsbad** 

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

SDG: Lea County NM

**Prep Type: Soluble** 

## Method: 300.0 - Anions, Ion Chromatography

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

Lab Sample ID: LCS 880-44761/2-A

**Matrix: Solid** 

Analysis Batch: 44876

MB MB

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

> Client Sample ID: Lab Control Sample **Prep Type: Soluble**

Client Sample ID: Method Blank

**Matrix: Solid** 

**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

Spike LCSD LCSD RPD %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 **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44876** 

MS MS %Rec Sample Sample Spike 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 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 %Rec Limits RPD Limit <5.03 U F1 281.7 F1 Chloride 252 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

MB MB

Dil Fac Analyte Result Qualifier RL Unit Prepared Analyzed 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 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 45074** 

LCS LCS Spike %Rec Added Result Qualifier Analyte Unit %Rec Limits 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: 450/4									
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	254.5		mg/Kg		102	90 - 110		20

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

# **QC Sample Results**

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

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

Method: 300.0 - Anions, Ion Chromatography

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

**Matrix: Solid** 

Analysis Batch: 45074

7, 0.0 2	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

Client Sample ID: Matrix Spike

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	

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	Matrix 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

Client: Ensolum

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

Project/Site: Harrier 35 Federal Com 001H Lab Sample ID: 890-3906-1 **Client Sample ID: PH01** 

Date Collected: 01/19/23 09:10 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			5.02 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 Matrix: Solid

Date Collected: 01/19/23 09:20 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			5.03 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 18:58	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			10.01 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 03:26	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	44967	01/30/23 14:00	СН	EET MID
Soluble	Analysis	300.0		5			45074	01/30/23 17:17	CH	EET MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Job ID: 890-3906-1 Client: Ensolum 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	P	rogram	Identification Number	Expiration Date 06-30-23	
Texas	N	IELAP	T104704400-22-25		
The following analytes the agency does not of	. ,	ut the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for whi	
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM Total BTEX		Solid	Total TPH		
		Solid	Total BTEX		

### **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3906-1

SDG: Lea County NM

Laboratory	
EET MID	
EET MID	

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: 890-3906-1

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'

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Page 20 of 23

Released to Imaging: 8/22/2023 12:58:00 PM

Circle Method(s) and Metal(s) to be analyzed

### **Environment Testing** Xenco

## **Chain of Custody**

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

Work	Order	No:

																		www	xenco.	com	Page	<u>(</u>	OT
Project Manager:	Hadlie Green				Bill to: (if	different)		Kalei .	Jennin	gs								W	ork Or	der Co	mments		
	Ensolum, LLC				Company	Name:		Ensolu	um, LL	С					Pro	gram:	UST/P	ST 🗌 I	RP E	Brownf	ields 🗌 RF	RC 🗌 Si	uperfund
Address:	601 N Marienfe	eld St S	uite 400		Address:			601 N	Marie	nfeld S	t Suite 4	00					roject:						
City, State ZIP:	Midland, TX 79				City, Stat	e ZIP:		Midlar	nd, TX	79701					1 1						UST   TR	RP 🗌	Level IV
Phone:	817.683.2503			Email:	kjenning	s@ens	olum	.com							Deli	verable	es: ED	D $\square$	A	DaPT	Ot Ot	ner:	
Project Name:	Harrier 35 Fe	deral C	om 001H	Turr	Around							A	NALY	SIS R	EQUES	Т					Prese	rvative	Codes
Project Number:		202409		☑ Routine	Rush		Pres. Code													١	lone: NO	DI	Water: H <sub>2</sub>
Project Location:		ounty, I		Due Date:																	Cool: Cool HCL: HC		OH: Me IO <sub>3</sub> : HN
Sampler's Name: PO #:	Conr	er Sho	re	TAT starts the			2				ana marana m Marana marana maran			1	ŀ	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>		OH: Na					
SAMPLE RECE	PT Temp E	Blank: 🗸	Yes No	Wet Ice:	(Yes	No	nete									A MATA					I₃PO₄: HP		
Samples Received I	ntact: Yes	No	Thermomet		TIM	400	arar				l l	HWW.		MOM							NaHSO₄: N/ Na₂S₂O₃: Na		
Cooler Custody Sea	is: Yes No	AV/A	Correction I	actor:	-0		0				ľ	WW	MIN			M WH	1						·-
Sample Custody Sea	als: Yes No	N/A/	Temperatur		4.	5		_		5	8	90-39	06 Ch	ain of C	ustody						In Acetate+ NaOH+Asco		
Total Containers:			Corrected T	emperature:	14	0		015	des	802						1	1	1		Ľ	NaOnTASCO	DIC ACIC	J. SAFC
Sample Ide	ntification	Matrix	Date Sampled	Time Sampled	Depth		# of Cont	TPH (8015)	Chlorides	BTEX (8021)											Samp	le Com	ments
PH(	)1	s	1.19.23	910	4'	G	1	х	х	х		_						-					
PHO	)1	s	1.19.23	920	6'	G	1	х	х	х		_	_		-	+	+-	-					
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Total 200.7 / 6	010 200.8 / 6	020:		BRCRA 13	PPM Te	xas 11	Al :	Sb As	Ва	Ве В	Cd Ca	Cr (	Co Cu	ı Fe f	b Mg	Mn N	lo Ni	K Se	Ag Si	O <sub>2</sub> Na	Sr Tl Sn	UVZ	'n

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
10m 52	Aranda Stat	1-20-73 90	94		
3			4		
5			6		evised 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** 

Client Information (Sub Contract Lab)	Gamplei			Kran		Jessica	а					C	aner i	racking	) NO(S	).		8	390-1107 1	
Client Contact: Shipping/Receiving	Phone:	Phone:				(ramer	r@at	Auro	fineu	e com				Origin: exico					Page 1 of 1	
Company Compan				13622	Accre	editation	s Req	uired (				IN	ew ivi	exico					ob#:	
Eurofins Environment Testing South Centr					NEL	AP - 1	exas	3											390-3906-1	
Address 1211 W Florida Ave	Due Date Request 1/26/2023	ed							Aı	nalys	sis F	Requ	este	d				- 1	Preservation Codes.	Hexane
City .	TAT Requested (d	ays)					T		T	Í		i		T	Т	П	F.,		B NaOH	None AsNaO2
Midland State, Zip						1.													C - Zn Acetate  P Nitric Acid	Na2O4S
TX, 79701						_								İ			Ä	<b>1</b>	E NaHSO4	Na2SO3 Na2S2O3
Phone 432-704-5440(Tel)	PO #:					Perform MS/MSD (Yes or No) 8015MOD_NM/8015NM_S_Prep (MOD) Full TPH		و									ŀ		F MEOH S G Amchlor T	H2SO4 TSP Dodecahydrate
Email:	WO #:				N I	ٍ إ		300_ORGFM_28D/DI_LEACH Chloride	×								other		I Ice	Acetone MCAA
Project Name.	Project #:				se/	ž de		픙	18		l			Ì			10,000	containers	K EDTA W	pH 4-5 Trizma
Harrier 35 Federal Com 001H	89000094				mple (Yes	S		EA	l QQ									<u>ا</u> چَ		other (specify)
Site	SSOW#:					SD ()			8021B/5035FP_Calc (MOD) BTEX									8 k	Other <sup>.</sup>	
				Matrix			을	785	ام	Total_BTEX_GCV	l									
			Sample Type	(W=water S=solid,	iltered		8015MOD_Cal	GFM	035F	Ä,								Total Number		
		Sample		D=waste/oil, BT=Tissue,	eld F	E S	580	8	18/5	-B							8	죑		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab)	A=Air)	E G	<u>a</u> §	801	8	802	T of								ᅙ	Special Instru	ctions/Note
		<u> </u>	Preservation	n Code:	X	X												X		
PH01 (890-3906-1)	1/19/23	09 10 Mountain		Solid	П	х	Х	х	Х	х							E. die	1		
PH01 (890-3906-2)	1/19/23	09 20 Mountain		Solid	П	×	х	х	X	x								1		
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Note: Since laboratory accreditations are subject to change, Eurofins Env laboratory does not currently maintain accreditation in the State of Origin I	ironment Testing South Cer isted above for analysis/test	ntral, LLC place	es the ownership of	f method ar	nalyte ne shin	& accre	editatio	n com	npliand	e upon	our s	ubcontr	act lat	oratori	es T	his samp	le ship	pmen	nt is forwarded under chai	n-of-custody If the
accreditation status should be brought to Eurofins Environment Testing S	outh Central LLC attention	immediately I	f all requested acc	reditations a	are cur	rrent to	date r	return	the si	ned C	hain c	of Custo	dy atte	sting to	o said	compliar	nce to	Euro	ofins Environment Testing	South Central LLC
Possible Hazard Identification					15	Sampl	e Dis	spos	al ( A	fee i	nay	be as	sess	ed if	samı	oles ar	e ret	aine	ed longer than 1 mo	onth)
Unconfirmed							Retur	m To	Clie	nt		$\square_{Di}$	sposa	al By i	Lab		$\supset_A$	Archi	ive For	Months
Deliverable Requested I II, III IV, Other (specify)	Primary Deliver	able Rank	2			Specia	l Inst	truction	ons/0	QC Re	quir	ement	s							
Empty Kit Relinquished by		Date			Tim	ie		Λ	Λ				М	ethod o	of Ship	oment.	·····			
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Custody Seals Intact: Custody Seal No							-le: T		- <b>.</b>	) 9C -		D-								***************************************
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### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3906-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

List Number: 1

Login Number: 3906

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: 890-3906-1

SDG Number: Log County NM

SDG Number: Lea County NM

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 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**

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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

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Campio Cammary	18
Chain of Custody	19
Receipt Checklists	

3

4

6

8

10

11

13

#### **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.

**Eurofins Carlsbad** 2/3/2023

Matrix: Solid

Lab Sample ID: 890-3907-1

### **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 10:00 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	•		•					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (0 Qualifier	GC)	Unit	D	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/03/23 20:05	Dil Fac
Analyte	<b>Result</b> <49.9	Qualifier U	49.9		<u>D</u>	Prepared		
Analyte Total TPH	Result <49.9 sel Range Orga	Qualifier U	49.9		<u>D</u>	Prepared Prepared		1
Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <49.9 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 49.9	mg/Kg	<u> </u>	<u> </u>	02/03/23 20:05	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Dies	Result <49.9  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL 49.9 (GC)	mg/Kg	<u> </u>	Prepared	02/03/23 20:05  Analyzed	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	RL 49.9  (GC)  RL 49.9	mg/Kg  Unit  mg/Kg	<u> </u>	Prepared 02/01/23 13:05	02/03/23 20:05  Analyzed 02/03/23 18:09	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	RL 49.9  (GC)  RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg	<u> </u>	Prepared 02/01/23 13:05 02/01/23 13:05	02/03/23 20:05  Analyzed 02/03/23 18:09 02/03/23 18:09	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	Qualifier U  nics (DRO) Qualifier U  U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg  Unit  mg/Kg  mg/Kg	<u> </u>	Prepared 02/01/23 13:05 02/01/23 13:05 02/01/23 13:05	02/03/23 20:05  Analyzed 02/03/23 18:09 02/03/23 18:09 02/03/23 18:09	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	Result   <49.9	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	<u> </u>	Prepared 02/01/23 13:05 02/01/23 13:05 02/01/23 13:05 Prepared	02/03/23 20:05  Analyzed 02/03/23 18:09 02/03/23 18:09 02/03/23 18:09 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   <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	<u> </u>	Prepared 02/01/23 13:05 02/01/23 13:05 02/01/23 13:05  Prepared 02/01/23 13:05	02/03/23 20:05  Analyzed 02/03/23 18:09 02/03/23 18:09  Analyzed 02/03/23 18:09	1 Dil Fac 1 1 1 Dil Fac 2 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	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	<u> </u>	Prepared 02/01/23 13:05 02/01/23 13:05 02/01/23 13:05  Prepared 02/01/23 13:05	02/03/23 20:05  Analyzed 02/03/23 18:09 02/03/23 18:09  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** 

**Matrix: Solid** 

### **Client Sample Results**

Client: Ensolum Job ID: 890-3907-1 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 C	ompounds (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 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	ma/Ka			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	mg/Kg			02/03/23 20:05	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		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 CIMO46 0004D	Valatila Organia Campaunda (CC)

Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
111		70 - 130			01/31/23 14:36	01/31/23 20:42	1
	<0.00200 <0.00200 <0.00200 <0.00401 <0.00200 <0.00401 %Recovery	Result   Qualifier	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200         U         0.00200         mg/Kg         01/31/23 14:36         01/31/23 20:42           <0.00200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	01/31/23 14	:36 01/31/23 20:42	1
1.4-Difluorobenzene (Surr)	119		70 <sub>-</sub> 130	01/31/23 14	:36 01/31/23 20:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00401	U	0.00401	mg/Kg			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			02/03/23 20:05	1

**Eurofins Carlsbad** 

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			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		hy - Solubl				02.0 1/20 10:00	02/00/20 70/07	
MELITOR. ET A 300.0 - ATTIOTIS, TOTI	om omalograp	niy - Julubi	<u>u</u>					

5.00

18.6

mg/Kg

4

7

10

11

13

### **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 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	
890-3907-1	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-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)
890-3907-1	PH02	93	96
890-3907-2	PH02	95	98
890-3907-3	PH02	112	111

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

#### **QC Sample Results**

Client: Ensolum Job ID: 890-3907-1 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

	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

мв мв

Surrogate	%Recovery	Qualifier	Limits	ı	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

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

	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

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	

Analysis Batch: 45129

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

#### QC Sample Results

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

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

97

112

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 Ethylbenzene <0.00202 U 0.101 0.07334 73 70 - 130 mg/Kg <0.00403 0.202 0.1547 mg/Kg 77 70 - 130 0.101 72 70 - 130

m-Xylene & p-Xylene 0.07303 <0.00202 U o-Xylene mg/Kg MS MS Surrogate %Recovery Qualifier Limits

70 - 130

70 - 130

Lab Sample ID: 880-23952-A-1-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 45129 Prep Batch: 45147

Sample Sample Spike MSD MSD Result Qualifier %Rec RPD Limit Analyte babbA Result Qualifier Unit Limits 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 0.0996 0.07266 73 70 - 130 35 U mg/Kg m-Xylene & p-Xylene <0.00403 U 0.199 0.1519 mg/Kg 76 70 - 130 2 35 <0.00202 U 0.0996 73 70 - 130 o-Xylene 0.07278 mg/Kg

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

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

Lab Sample ID: MB 880-44761/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44876

•	МВ	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/26/23 20:56	1

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	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

### **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 Result Qualifier Added Result Qualifier Limits Analyte 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 Batch
890-3907-1	PH02	Total/NA	Solid	5035	<u> </u>
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

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

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

**Eurofins Carlsbad** 

Page 13 of 22

### **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	-3907-3 PH02		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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Project/Site: Harrier 35 Federal Com 001H

Client: Ensolum

Job ID: 890-3907-1

SDG: 03D2024093

**Client Sample ID: PH02** 

Date Collected: 01/19/23 10:00 Date Received: 01/20/23 09:06 Lab Sample ID: 890-3907-1

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			5.03 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 20:01	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 18:09	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 22:29	CH	EET MID

**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

	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

**Date Collect Date Receiv** 

ample ID: PH02	Lab Sample ID: 890-3907-3
ected: 01/19/23 10:20	Matrix: Solid
ived: 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	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

### **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.

uthority		ogram	Identification Number	Expiration Date		
exas		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 fo		
the agency does not of	fer certification.	•	, , ,	.,		
the agency does not of Analysis Method	fer certification .  Prep Method	Matrix	Analyte	.,		
0 ,		Matrix Solid				

### **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

**Eurofins Carlsbad** 

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### **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	Depth
890-3907-1	PH02	Solid	01/19/23 10:00	01/20/23 09:06	1'
890-3907-2	PH02	Solid	01/19/23 10:10	01/20/23 09:06	3'
890-3907-3	PH02	Solid	01/19/23 10:20	01/20/23 09:06	6'

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Received by OCD: 6/1/2023 9:02:22

Page 19 of 22

# eurofins

**Environment Testing** Xenco

## **Chain of Custody**

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

																	<u>W</u>	ww.xen	co.com	Page	1_ of		
Project Manager:	Hadli	e Green				Bill to: (if	different	t)	Kalei .	Jenning	gs					Work Order Comments							
Company Name:		lum, LLC				Compan	y Name	):		um, LL					Pı	Program: UST/PST PRP Brownfields RRC Superfund							
Address:		N Marienfe	ld St Si	uite 400		Address			601 N Marienfeld St Suite 400				1 1	State of Project:									
City, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midlar	nd, TX	79701					Reporting: Level II Level III PST/UST TRRP Level IV							
Phone:		883.2503			Email:	kjenning	gs@en	solum	.com						D	Deliverables: EDD ☐ ADaPT ☐ Other:							
Project Name:	Har	rrier 35 Fe	deral C	om 001H	Turr	n Around							ANA	LYSIS	REQUE	EQUEST				Preserv	ative Codes		
Project Number:	Tital		02409		☑ Routine	Rush		Pres. Code						T						None: NO	DI Water: H <sub>2</sub> O		
Project Location:		Lea Co			Due Date:			Jour												Cool: Cool	MeOH: Me		
Sampler's Name: PO #:			er Shor		TAT starts the			و												HCL: HC HNO <sub>3</sub> : F H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: I			
SAMPLE RECE	EIPT	Temp B	lank:	Yes No	Wet Ice:	/Yes	No	mete					1144444114							H₃PO₄: HP			
Samples Received	Intact:	(Yes)	No	Thermomet		TOM	-007	arar												NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>			
Cooler Custody Sea	als:	Yes No		Correction F		-0	. 2	a.								of Custody			i	Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC			
Sample Custody Se	eals:	Yes No		Temperatur			2				5		890-39	7 Chain	n of Cust								
Total Containers:					emperature:	14	. ()		8016	ides	(80)	-						1		Hadii Ascorbic Add. S. i. S			
Sample Ide	entificat	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	TPH (8015) Chlorides	Chlor	Chlorides BTEX (8021)									Sample	Comments		
PH	102		S	1.19.23	1000	1'	G	1	х	х	х			1-1			_	-					
PH	102		S	1.19.23	1010	3'	G	1	Х	х	X			+			-						
PH	102		S	1.19.23	1020	6'	G	1	Х	Х	X	-	_	1-1		-   -					nt Number		
				- >	3			_					_	-	-					NAPP	2225531487		
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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 flable 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
1085-2	In a da Istort	1-20-23 90	26		
3	Y		4		
5			6		
					Revised Date: 08/25/2020 Rev. 202

Sampler

Phone:

Due Date Requested

1/26/2023

#### **Eurofins Carlsbad**

1089 N Canal St.

Shipping/Receiving

1211 W Florida Ave,

Client Contact.

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

Client Information (Sub Contract Lab)

Eurofins Environment Testing South Centr

## **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

**Analysis Requested** 

🖏 eurofins

COC No.

Page

Job#:

890-1107 1

Page 1 of 1

890-3907-1

Preservation Codes.

**Environment Testing** 

2/3/2023

Released to Imaging! 8/22/2023 12:58:00 PM

City City	1/26/2023								Ar	naly	Sis	Req	ueste	ed .				A HCL	M Hexane
initial initiani initial initial initial initial initial initial initial initi	PO #:  WO #  Project #: 89000094 SSOW#	Jays)			Sample (Yes or No)	015NM_S_Pr		300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	۸							ofcontainers	B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J Di Water K EDTA L EDA Other	N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)
ample 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	015MOD_NM/8	8015MOD_Calc	00_ORGFM_28	021B/5035FP_	Total_BTEX_GCV							Total Number of		
		<b>S</b>		ation Code:	林	<b>d</b> "	18	<u> </u>	8		tiro-may				-		卡	Special in	structions/Note:
PH02 (890-3907-1)	1/19/23	10 00		Solid	П	X	х	х	Х	x				3300			1		
PH02 (890-3907-2)	1/19/23	Mountain 10 10		Solid	H	+	X	x	Х	Х		-1	-	+	+		+		
PH02 (890-3907-3)	1/19/23	Mountain 10 20 Mountain		Solid	H	X	X	Х	Х	Х		_		-			1		
																			Secretaria de la
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Note: Since laboratory accreditations are subject to change Eurofins Environ aboratory does not currently maintain accreditation in the State of Origin liste accreditation status should be brought to Eurofins Environment Testing South Possible Hazard Identification					e snipp ire curri	ent to d	k to th late re	e Euro eturn ti	ofins E he sigi	nviron ned Cl	nment hain o	Testin f Cust	g South ody atte	Centra sting to	II, LLC I said co	aborator omplianc	y or oth e to Eu		provided Any changes to esting South Central, LLC
Unconfirmed						Return To Client Disposal By Lab									7	hive For	Months		
Deliverable Requested I, II III, IV Other (specify)	Primary Deliver	rable Rank	2		Sı	pecial	Instr	uctio	ns/Q	C Re	quire								
mpty Kit Relinquished by		Date			Time	)		$\alpha$	ī				М	ethod o	f Shipm	ent.			
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Relinquished by	Date/Time			Company		Rece	lved b	oy.			-				Date	Time	-		Company

### **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

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: 890-3907-1

 SDG Number: 03D2024093

List Source: Eurofins Midland List Creation: 01/23/23 07:42 AM

List Number: 2 Creator: Kramer, Jessica

Login Number: 3907

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	

Euronnis Carisbau

Released to Imaging: 8/22/2023 12:58:00 PM

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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

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# **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

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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**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	15
Lab Chronicle	17
Certification Summary	18
Method Summary	19
Sample Summary	20
Chain of Custody	21
Racaint Chacklists	23

2

3

4

6

8

40

11

12

#### **Definitions/Glossary**

Client: Ensolum

Job ID: 890-3908-1

Project/Site: Harrier 35 Federal Com 001H

SDG: Lea County NM

**Qualifiers** 

GC VOA

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

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.

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

%R Percent Recovery

CFL Contains Free Liquid

CFU Colony Forming Unit

CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent
POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

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

TNTC Too Numerous To Count

**Eurofins Carlsbad** 

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#### **Case Narrative**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1

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 Job ID: 890-3908-1 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 - 1	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	ol Bango Organ	ice (DBO) (	3C)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			49.9	mg/Kg		rrepareu	02/03/23 11:29	1
	440.0	J	40.0	mg/rtg			02/00/20 11.20	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:48	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:48	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130			02/01/23 13:08	02/03/23 03:48	1
o-Terphenyl	117		70 - 130			02/01/23 13:08	02/03/23 03:48	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte		Qualifier						

**Client Sample ID: PH03** 

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

Sample Depth: 3'

Chloride

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)	102		70 - 130			01/31/23 14:36	01/31/23 22:53	1

5.02

mg/Kg

<5.02 U

01/26/23 23:00

Lab Sample ID: 890-3908-2

**Matrix: Solid** 

Job ID: 890-3908-1

Matrix: Solid

SDG: Lea County NM

Client: Ensolum

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

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'

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

 Surrogate
 %Recovery
 Qualifier
 Limits
 Prepared
 Analyzed
 Dil Fac

 1,4-Diffluorobenzene (Surr)
 112
 70 - 130
 01/31/23 14:36
 01/31/23 22:53
 1

Method: TAL SOP Total BTEX - Total BTEX Calculation

 Analyte
 Result
 Qualifier
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Total BTEX
 <0.00402</td>
 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</td>
 U
 49.9
 mg/Kg
 02/03/23 11:29
 1

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

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac <49.9 U 49.9 02/01/23 13:08 02/03/23 04:09 Gasoline Range Organics mg/Kg (GRO)-C6-C10 <49.9 U 49.9 mg/Kg 02/01/23 13:08 02/03/23 04:09 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) <49.9 U 49.9 mg/Kg 02/01/23 13:08 02/03/23 04:09

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1-Chlorooctane 118 70 - 130 02/01/23 13:08 02/03/23 04:09 o-Terphenyl 115 70 - 130 02/01/23 13:08 02/03/23 04:09

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

 Analyte
 Result
 Qualifier
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Chloride
 77.6
 5.00
 mg/Kg
 01/26/23 23:06
 1

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

Date Collected: 01/19/23 10:50

Date Received: 01/20/23 09:06

Sample Depth: 6'

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

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene <0.00202 U 0.00202 mg/Kg 01/31/23 14:36 01/31/23 23:13 Toluene <0.00202 U 0.00202 01/31/23 14:36 01/31/23 23:13 mg/Kg Ethylbenzene <0.00202 U 0.00202 01/31/23 14:36 01/31/23 23:13 mg/Kg 0.00404 01/31/23 23:13 m-Xylene & p-Xylene <0.00404 U 01/31/23 14:36 mg/Kg o-Xylene <0.00202 U 0.00202 mg/Kg 01/31/23 14:36 01/31/23 23:13 Xylenes, Total <0.00404 U 0.00404 mg/Kg 01/31/23 14:36 01/31/23 23:13

%Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 70 - 130 01/31/23 14:36 4-Bromofluorobenzene (Surr) 106 01/31/23 23:13 1,4-Difluorobenzene (Surr) 115 70 - 130 01/31/23 14:36 01/31/23 23:13

Method: TAL SOP Total BTEX - Total BTEX Calculation

 Analyte
 Result
 Qualifier
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Total BTEX
 <0.00404</td>
 U
 0.00404
 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</td>
 U
 49.9
 mg/Kg
 02/03/23 11:29
 1

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**Matrix: Solid** 

1

3

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Matrix: Solid

Lab Sample ID: 890-3908-3

**Analyzed** 01/30/23 17:24

### **Client Sample Results**

Client: Ensolum Job ID: 890-3908-1
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'

Analyte

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 13:08	02/03/23 04:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:30	1
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

RL

24.9

Result Qualifier

50.0

Unit

mg/Kg

D

Prepared

12

Dil Fac

5

13

# **Surrogate Summary**

Client: Ensolum

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-Bromofluorober				

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1001	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

### **QC Sample Results**

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

	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

Surrogate	%Recovery Qualifie	er 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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Page 10 of 24

Prep Batch: 45147

Prep Type: Total/NA

Prep Batch: 45211

### QC Sample Results

Job ID: 890-3908-1 Client: Ensolum 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 Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** Analysis Batch: 45129

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

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

Lab Sample ID: 880-23952-A-1-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45129

Prep Batch: 45147 Sample Sample Spike MSD MSD Result Qualifier %Rec RPD Limit Analyte Added Result Qualifier Limits Unit Benzene <0.00202 U 0.0996 0.08613 mg/Kg 86 70 - 130 5 35 Toluene <0.00202 0.0996 0.07815 mg/Kg 78 70 - 130 35 Ethylbenzene <0.00202 0.0996 0.07266 73 70 - 130 35 U mg/Kg m-Xylene & p-Xylene <0.00403 U 0.199 0.1519 mg/Kg 76 70 - 130 2 35 <0.00202 U 0.0996 73 70 - 130 o-Xylene 0.07278 mg/Kg n

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

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

Lab Sample ID: MB 880-45211/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 45226

	MB	MB						
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	02/02/23 20:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1
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 %Recovery Dil Fac Qualifier Limits Prepared Analyzed Surrogate 1-Chlorooctane 124 70 - 130 02/01/23 13:08 02/02/23 20:18 130 70 - 130 02/01/23 13:08 02/02/23 20:18 o-Terphenyl

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

**Matrix: Solid** 

Analysis Batch: 45226							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)								

**Eurofins Carlsbad** 

Prep Type: Total/NA

Job ID: 890-3908-1

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

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

LCS LCS

Lab Sample ID: LCS 880-45211/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 45226

Prep Type: Total/NA

Prep Batch: 45211

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 111 70 - 130 o-Terphenyl 100 70 - 130

Lab Sample ID: LCSD 880-45211/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 45226

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 MS MS Spike 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 Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit U 998 1061 102 Gasoline Range Organics <50.0 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 Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

## QC Sample Results

Job ID: 890-3908-1 Client: Ensolum 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

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

**Matrix: Solid** 

**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

**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: 890-3907-A-3-B MS

**Matrix: Solid** 

**Analysis Batch: 44876** 

MS MS Spike %Rec Sample Sample Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride 18.6 250 289.2 108 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 18.6 250 289.9 mg/Kg 109 90 - 110

Lab Sample ID: MB 880-44967/1-A

**Matrix: Solid** 

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

**Matrix: Solid** 

**Analysis Batch: 45074** 

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

Lab Sample ID: LCSD 880-44967/3-A

**Matrix: Solid** 

**Analysis Batch: 45074** 

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

**Eurofins Carlsbad** 

Page 13 of 24

Client Sample ID: Matrix Spike

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

# **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** 

**Prep Type: Soluble** Analysis Batch: 45074 Sample Sample Spike MS MS %Rec Added Result Qualifier Result Qualifier Analyte Unit %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** 

/ manyoro Datom 1007 !	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

Page 14 of 24

2/3/2023

# **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 Batcl
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

### 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	

#### **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	

#### 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

#### 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

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Job ID: 890-3908-1

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

**Client Sample ID: PH03** Lab Sample ID: 890-3908-1

Matrix: Solid

Date Collected: 01/19/23 10:30 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			5.00 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

Date Collected: 01/19/23 10:40 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			4.98 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 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 23:06	CH	EET MID

**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

	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	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

# **Accreditation/Certification Summary**

Client: Ensolum

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>
Texas	NE	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**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3908-1

SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	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	Depth
890-3908-1	PH03	Solid	01/19/23 10:30	01/20/23 09:06	1'
890-3908-2	PH03	Solid	01/19/23 10:40	01/20/23 09:06	3'
890-3908-3	PH03	Solid	01/19/23 10:50	01/20/23 09:06	6'

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Received by OCD: 6/1/2023 9:02:22

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:	
AAOIK	Order	NO.	

www.xenco.com

Project Manager:	Hadlie Gre	een				Bill to: (if	different	)	Kalei .	Jennin	as					7 [				W	ork O	rder C	Comments		
Company Name:	Ensolum.					Compan		·	Ensolu							7 1	Progr	am: U	ST/PS	ТПР	RP[]	Brown	nfields RRC	Superfund	]
Address:	601 N Ma		ld St Si	uite 400		Address			601 N			t Suite	400				State	of Pro	ject:						
City, State ZIP:	Midland, 1					City, Sta			Midlar															Level IV	]
Phone:	817.683.2	503			Email:	kjenning	gs@en	solum	.com							_] [	Delive	rables	: EDD			ADaPT	Other:		
Project Name:	Harrier 3	35 Fe	deral C	om 001H	Turr	Around								ANAL	YSIS	REQI	JEST						Preserva	tive Codes	
Project Number:		03D2	024093	3	☑ Routine	☐ Rush	1	Pres. Code															None: NO	DI Water: H <sub>2</sub> O	'
Project Location:	L	ea Co	ounty, N	IM	Due Date:																		Cool: Cool	MeOH: Me HNO <sub>3</sub> : HN	
Sampler's Name:		Conn	er Shor	е	TAT starts th														l	-7			HCL: HC H₂S0₄: H₂	NaOH: Na	
SAMPLE RECE	IPT Te	ето В	lank:	Yes No	Wet Ice:	(Yes	No	eters				H	100/110					$\mathbb{M}$					H₃PO₄: HP		
Samples Received I				Thermometer	er ID:	TIM.	007	ram		İ		W	M M		WWW		WW.	M					NaHSO <sub>4</sub> : NABI		
Cooler Custody Sea		No	M/A)	Correction F	actor:	-0.		g.							III III		MIN	IIII					Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSC	3	
Sample Custody Sea	als: Yes	s No	NA	Temperature	e Reading:	U	. a				_	١١	Millin	08 Cha	in of C	ustod	У			-		i	Zn Acetate+Na		ļ
Total Containers:				Corrected T	emperature:	4	6		(8015)	es	(8021)	-8	90-39	000.10					1	ı			NaOH+Ascorbi	Acid: SAPC	
Sample ide	ntification		Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	<b>T</b>	Chlorides	BTEX (												Sample	Comments	
PHO	03		S	1.19.23	1030	1'	G	1	х	х	х														
PHO	03		s	1.19.23	1040	3'	G	1	х	х	х														4
PHO	03		S	1.19.23	1050	6'	G	1	х	х	х												Inciden	t 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 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	Dunisda Steet	1-20-23 98	3 C		
3			4		
5			6		evised Date: 08/25/2020 Rev. 2020

Sampler

## **Eurofins Carlsbad**

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

1089 N Canal St. Carlsbad, NM 88220

# **Chain of Custody Record**



👶 eurofins

Environment Testing

Client Information (Sub Contract Lab)	Sampler <sup>-</sup>			Lab P Kran		lessic	ca					Ca	mier Tr	acking	No(s)		-		OC No. 390-1107 1		7~
Client Contact: Shipping/Receiving	Phone			E-Mai	ll:								ite of C				····	Р	age:		-
Company Company				Jess			r@et. ns Req				)	Ne	w Me	XICO					Page 1 of 1		_[
Eurofins Environment Testing South Centr							Texas		See III	ne)									ob #. 390-3908-1		Į.
Address 1211 W Florida Ave ,	Due Date Request 1/26/2023	ed			· · · · · ·				Λn	alve	sis R	2011	o to	4					Preservation Cod		1
City Midland	TAT Requested (c	lays)					Τ-	T		lalys	SIS K	eque	Sie	Ή	<del>   </del>		T		A HCL B NaOH	M Hexane N None	
State, Zip	-					Ţ	. [										- [		C Zn Acetate  D Nitric Acid	O AsNaO2 P Na2O4S	1
TX 79701						1 =										l	- T	E	E NaHSO4	Q Na2SO3 R Na2S2O3	
Phone 432-704-5440(Tel)	PO #:				6	Fefform MS/MSD (Tes of No) 8015MOD_NM/8015NM_S_Prep (MOD) Full TPH		g										4	F MeOH G Amchlor	S H2SO4 T TSP Dodecahydrate	
Email	WO #:				or No	(W) da		ORGFM_28D/DI_LEACH Chloride	×								1	الأ	H Ascorbic Acid	U Acetone V MCAA	
Project Name.	Project #				ple (Yes or			E G	) BTEX		1	1					100	lers	J DI Water K EDTA	W pH 4-5 Y Trizma	
Harrier 35 Federal Com 001H Site.	89000094				)     	SE		E	MOE								1	Containe	L EDA	Z other (specify)	1
one.	SSOW#:				E Sam	9 S		D/D	8021B/5035FP_Calc (MOD)	ج ا							1		Other <sup>.</sup>		
			1	trix water	paua	NM/8	Carc	M_28	SFP_(	Total_BTEX_GCV							1 10	Sec. 2			1
		1	Type s=			8	8015MOD	RGF	/603	BTE							Total Number				1
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	(C=Comp, BT=1	issue,	Field Fit	915	015N	300_0	021B	ota							1				1.
	Sample Date		Preservation C		然	7 -		- ñ	8	-		-	+	-			╌	;	Special In	structions/Note:	24
PH03 (890-3908-1)	1/19/23	10 30		olid	H	X	x x	×	Х	x			- 1				-K	7			jo .
PH03 (890-3908-2)	1/19/23	Mountain 10 40	<b>-</b>	olid	${\mathbb H}$	$\frac{1}{x}$	+	1-	$\vdash$		+	+	+	-	-	-	-				22
PH03 (890-3908-3)	-	Mountain 10 50			H			Х	Х	X		_	-	-		-		1			Page
1 1103 (090-3900-3)	1/19/23	Mountain	S	olid		X	X	X	X	X								1			<u> </u>
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Δ Yes Δ No																					1 8

## **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	

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3908-1

SDG Number: Lea County NM

Login Number: 3908 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	

**Eurofins Carlsbad** 

<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 9:28:13 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 <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440 2

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

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receint Checklists	22

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13

## **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) 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 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 Job ID: 890-3909-1
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 Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/04/23 09:57	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 14:44	02/04/23 02:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 02:51	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 02:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130			02/01/23 14:44	02/04/23 02:51	1
o-Terphenyl	90		70 - 130			02/01/23 14:44	02/04/23 02:51	1
-								
Method: EPA 300.0 - Anions, Ion	⊦ Chromatograp	hy - Solubl	е					

**Client Sample ID: PH04** 

Date Collected: 01/19/23 11:10 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 14:36	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

4.95

mg/Kg

77.1

**Eurofins Carlsbad** 

01/26/23 23:31

Lab Sample ID: 890-3909-2

**Matrix: Solid** 

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Client: Ensolum

Job ID: 890-3909-1

Specia of Client: A Special Corp. 2011

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

Client Sample ID: PH04

Date Collected: 01/19/23 11:10

Lab Sample ID: 890-3909-2

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 Diffuorobenzene (Surr)		70 130	01/21/22 14:26	01/21/22 22:54	1

Method: TAL SOP Total BTEX - Tot	al BTEX Calc	culation						
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 R	Range Organi	cs (DRO) (G	SC)					
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 - Dies Analyte		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
Г						

Method: EPA 300.0 - Anions, Ion C	hromatography - Soluble						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.1	5.00	ma/Ka			01/26/23 23:37	1

Client Sample ID: PH04

Date Collected: 01/19/23 11:20

Lab Sample ID: 890-3909-3

Matrix: Solid

Date Collected: 01/19/23 11:20 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	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
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 Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total RTEV	<0.00403	11	0.00403	malka			02/01/23 12:53	

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 F	Range Organ	ics (DRO) (0	GC)					

 Analyte
 Result
 Qualifier
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Total TPH
 <49.9</td>
 U
 49.9
 mg/Kg
 02/04/23 09:57
 1

Matrix: Solid

Lab Sample ID: 890-3909-3

## **Client Sample Results**

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

**Client Sample ID: PH04** 

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

Sample Depth: 6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:35	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:35	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130			02/01/23 14:44	02/04/23 03:35	1
o-Terphenyl	107		70 - 130			02/01/23 14:44	02/04/23 03:35	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
			4.99	mg/Kg			01/26/23 23:43	

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# **Surrogate Summary**

Job ID: 890-3909-1 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 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	
890-3909-1	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				
BFB = 4-Bromofluorobenzene	e (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
890-3909-1	PH04	85	90
890-3909-2	PH04	85	92
890-3909-3	PH04	106	107
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

## **QC Sample Results**

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	MR						
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

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

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Limit 0.09378 Benzene 0.100 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 0.200 0.1784 m-Xylene & p-Xylene mg/Kg 89 70 - 130 12 35 0.100 0.08543 70 - 130 o-Xylene mg/Kg 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	99		70 - 130		
1.4-Difluorobenzene (Surr)	113		70 <sub>-</sub> 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	

**Eurofins Carlsbad** 

Page 10 of 23

## QC Sample Results

Client: Ensolum Job ID: 890-3909-1 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

Analysis Batch: 45129

**Matrix: Solid** 

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

Lab Sample ID: 880-23952-A-1-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45129

Prep Type: Total/NA Prep Batch: 45147

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45147

Sample Sample Spike MSD MSD Result Qualifier Result Qualifier RPD Limit Analyte babbA Unit %Rec Limits 0.0996 Benzene <0.00202 U 0.08613 mg/Kg 86 70 - 130 5 35 78 Toluene <0.00202 U 0.0996 0.07815 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 0.0996 <0.00202 U 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	MB						
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	Prepared	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)								

Job ID: 890-3909-1 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

Prep Type: Total/NA

**Matrix: Solid** Analysis Batch: 45299 Prep Batch: 45212 Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 20

999 965.9 97 70 - 130Gasoline 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
1-Chlorooctane	126		70 - 130
o-Terphenyl	112		70 - 130

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 Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 45299 Prep Batch: 45212

Sample Sample MSD MSD RPD Spike %Rec Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 998 1263 125 20 Gasoline Range Organics mg/Kg 70 - 130 (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

## QC Sample Results

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

SDG: 03D2024093

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Method: 300.0 - Anions, Ion Chromatography

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

**Matrix: Solid** 

Analysis Batch: 44876

MB MB

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

**Matrix: Solid** 

**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

**Matrix: Solid** 

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

**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 250 Chloride 18.6 289.9 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
890-3909-1	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
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1

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

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Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1

SDG: 03D2024093

**Client Sample ID: PH04** 

Client: Ensolum

Lab Sample ID: 890-3909-1

Matrix: Solid

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** Lab Sample ID: 890-3909-2

Matrix: Solid

**Matrix: Solid** 

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** Lab Sample ID: 890-3909-3

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 Job ID: 890-3909-1 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 Texas		ogram	Identification Number	Expiration Date 06-30-23	
		ELAP	T104704400-22-25		
The following analytes the agency does not of	' '	ut the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes fo	
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid	Total TPH		

## **Method Summary**

Client: Ensolum

Job ID: 890-3909-1 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: 890-3909-1

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	3
890-3909-3	PH04	Solid	01/19/23 11:20	01/20/23 09:06	6'

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Received by OCD: 6/1/2023 9:02:22

Page 20 of 23

Circle Method(s) and Metal(s) to be analyzed

**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:	
TTOIR CIGOI ITO.	

Project Manager:	Hadi	ie Green				Bill to: (if	different	)	Kalei Jennings				Work Order Comments											
Company Name:	Enso	lum, LLC				Compan	y Name	:	Ensolum, LLC					Program: UST/PST PRP Brownfields RRC Superfund State of Project:										
Address:	601 1	N Marienfe	ld St S	uite 400		Address	:		601 N Marienfeld St Suite 400															
City, State ZIP:	Midla	and, TX 79	701			City, Sta	te ZIP:		Midland, TX 79701						Reporting: Level II Level III PST/UST TRRP Level IV									
Phone:	817.6	683.2503			Email:	kjenning	gs@en	solum	.com	com					Deliverables: EDD ADaPT Other:									
Project Name:	На	rrier 35 Fe	deral C	om 001H	Turr	Around			ANALYSIS R					EQUEST					Preservative Codes					
Project Number:	1		202409		☑ Routine	Rush	1	Pres. Code											None: NO	DI Wa	ter: H <sub>2</sub> O			
Project Location:		Lea Co	ounty, N	NM	Due Date:																	Cool: Cool	MeOH	: Me
Sampler's Name:			er Sho	hore TAT star		ne day received by														HCL: HC HNO <sub>3</sub> : HN				
PO #:					the lab, if red	ceived by 4	:30pm	2				- 1								H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH	Na		
SAMPLE RECE	PT	Temp B	lank:	Yes No	Wet Ice:	YES	No	nete											. 1	H₃PO₄: HP				
Samples Received I	ntact:	(Yes	No	Thermomet	er ID:	Toon		ara											NaHSO₄: NABIS					
Cooler Custody Sea	ls:	Yes No	MIA	Correction F	actor:	-0	2	à.					ШШ							- 1	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn			
Sample Custody Sea			Temperatur							=	890-3909 Chain of Custody			July				+Ascorbic Acid: SAPC						
Total Containers:				Corrected T	emperature:	14	.0	2	(8015)	Sec	EX (8021)		830					1	1			NaUH+ASCOI	DIC ACIO: SI	APC
Sample ide	ntificat	tion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		II	Chlorides	втех											Sampl	e Comme	nts
PHO	)4		S	1.19.23	1100	1'	G	1	х	x	х						$\perp$			$\vdash$				
PHO	)4		s	1.19.23	1110	3'	G	1	х	x	х					_			-	-				
PHO	)4		S	1.19.23	1120	6'	G	1	х	х	х					$\perp$		_	4	1			ent Numb	
													$\dashv$					4-				NAPP	22255314	87
				23												_		+-	_	$\vdash$				
			1.	20:00									_					+-						
		Co										$\rightarrow$				$\rightarrow$	-	+	+					
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	10	/											_			_		4_	1	$\vdash$				
										L									<u> </u>	<u></u> 1		<u></u>		
Total 200.7 / 60	010	200.8 / 6	020:	8	RCRA 13I	PPM Te	exas 11	Al :	Sb As	Ba	Be B	Cd Ca	Cr	Co Cı	ı Fe f	b Mg	Mn N	lo Ni	K Se	Ag Si	O <sub>2</sub> Na	Sr TI Sn	U V Zn	
Circle Method(s) a		tal(s) to be	e analv		TCLP / S															Hg: 1	631/	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
0-82	Decarda Slit	1-20-23 9	94		
3			4		
5			6		
	L				Revised Date: 08/25/2020 Rev. 2020.2

## **Eurofins Carlsbad**

# **Chain of Custody Record**



Phone 575-988-3199 Fax: 575-988-3199	Sampler			I.	ab PM							G.	T.B	ina No(a				nvironment Testing
Client Information (Sub Contract Lab)			_			imer, Jessica			Ca	Carrier Tracking No(s)				COC No: 890-1107 1				
Client Contact. Shipping/Receiving	Phone:				-Mail essica k	ca Kramer@et.eurofinsus com					State of Origin New Mexico			~	Page:			
Company Eurofins Environment Testing South Centr					Accr	editatio	ns Re	quired			-	TIN.	W MEXI				Page 1 of 1 Job#:	
Address	Due Date Request	ed.			NEL	_AP -	Texa	IS									890-3909-1	
1211 W Florida Ave	1/26/2023								Α	naly	sis l	Requ	ested				Preservation Codes  A HCL M	Hexane
City <sup>.</sup> Midland	TAT Requested (d	ays)			36	100										4000	B NaOH N-	None AsNaO2
State Zip: TX, 79701						Hal	:										D Nitric Acid	Na2O4S Na2SO3
Phone.	PO#:				-14		,										F MeOH R	Na2S2O3
432-704-5440(Tel)					9			물					1 1					H2SO4 TSP Dodecahydrate
Email:	WO #:				5	ء ا		흱	втех								l Ice	Acetone MCAA
Project Name:	Project #:				<b>─</b>  \$ `		[	E	18 (			1				ner	K EDTA W	pH 4-5 Trizma
Harrier 35 Federal Com 001H Site	89000094 SSOW#:				- 1월	S S		Ę	(MOD)							containe	L EUA Z	other (specify)
	35Ovv#.				튫	SD (Yes		Q/Q	alc	>						5	Other <sup>.</sup>	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matri) (W=wate S=solid, O=waste/o BT=Tissu A=Air)		Pertorm MIS/N 8015MOD NM/8	8015MOD Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc	Total_BTEX_GCV						Total Number	Special Instru	ctions/Noto
		<i>&gt;</i> <	Preserva	tion Cod		XI.										X	S-Acutes	
PH04 (890-3909-1)	1/19/23	11 00 Mountain		Solid		>	( x	X	Х	Х						1		
PH04 (890-3909-2)	1/19/23	11 10 Mountain		Solid		٦,	( x	X	x	X			11			1		
PH04 (890-3909-3)	1/19/23	11 20 Mountain		Solid	$\dagger\dagger$	一,	( x	x	X	×			+	_	++			
		Woditairi			11	$\top$			t				11		+			
			-		#	+		1	†	1			+	+	+	9,000		<del> </del>
					-	+	╅		+	╁┈		$\dashv$	++					
		<b></b>	<b> </b>		+	+	+	+	+	$\vdash$	$\vdash \vdash$		++		+-+	430/10		
					$\dashv \downarrow$	4	$\perp$	1	<del> </del>	1_	$\square$		4-4					
	1				- 1 [							1						

Possible Hazard Identification					
1 OSSIDIE Hazaru identification			Sample Disposal ( A fee may	be assessed if samples are retained lon	ger than 1 month)
Unconfirmed			Return To Client	Disposal By Lab Archive Fo	Y Months
Deliverable Requested I, II, III IV Other (specify)	Primary Deliverable Rank 2		Special Instructions/QC Requi		or Months
	Timely Contoració Harit 2		Special instructions/QC Requi	rements	1
Empty Kit Relinquished by	Date		Time //4	Method of Shipment:	
Relinquished by	Date/Time	Company	I Descived by William		
Atus		Company	Received by	Mul Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time·	Company
					,
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
			1		Company
Custody Seals Intact: Custody Seal No			Cooler Temperature(s) °C and Ot	the Demoils	
Δ Yes Δ No			Cooler remperature(s) C and Ot	Her Remarks.	

## **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 <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440

Released to Imaging: 8/22/2023 12:58:00 PM Page 2 of 23

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Laboratory Job ID: 890-3910-1 SDG: 03D2024093

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	22

3

4

6

8

9

11

12

13

## **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) 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 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 Sample Results**

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)	112		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 - 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	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9							
-	10.0	U	49.9	mg/Kg			02/04/23 09:57	1
: Method: SW846 8015B NM - Dies				mg/Kg			02/04/23 09:57	1
	sel Range Orga			mg/Kg <b>Unit</b>	D	Prepared	02/04/23 09:57  Analyzed	
Analyte Gasoline Range Organics	sel Range Orga	nics (DRO) Qualifier	(GC)		<u>D</u>	Prepared 02/01/23 14:44		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier	(GC)	Unit	<u>D</u>		Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.9	nics (DRO) Qualifier U	(GC) RL 49.9	<mark>Unit</mark> mg/Kg	<u>D</u>	02/01/23 14:44	<b>Analyzed</b> 02/04/23 03:57	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <49.9	nics (DRO) Qualifier U	(GC)  RL  49.9	<mark>Unit</mark> mg/Kg mg/Kg	<u>D</u>	02/01/23 14:44	Analyzed 02/04/23 03:57 02/04/23 03:57	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <49.9 <49.9	nics (DRO) Qualifier U U	(GC) RL 49.9 49.9 49.9	<mark>Unit</mark> mg/Kg mg/Kg	<u>D</u>	02/01/23 14:44 02/01/23 14:44 02/01/23 14:44	Analyzed 02/04/23 03:57 02/04/23 03:57 02/04/23 03:57	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate	Sel Range Orga   Result   <49.9   <49.9   <49.9   %Recovery	nics (DRO) Qualifier U U	(GC)  RL 49.9  49.9  49.9  Limits	<mark>Unit</mark> mg/Kg mg/Kg	<u>D</u>	02/01/23 14:44 02/01/23 14:44 02/01/23 14:44  Prepared	Analyzed 02/04/23 03:57 02/04/23 03:57 02/04/23 03:57 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	sel Range Orga           Result         <49.9	U  Qualifier  U  Qualifier	RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	<mark>Unit</mark> mg/Kg mg/Kg	<u>D</u>	02/01/23 14:44  02/01/23 14:44  02/01/23 14:44  Prepared  02/01/23 14:44	Analyzed 02/04/23 03:57 02/04/23 03:57 02/04/23 03:57  Analyzed 02/04/23 03:57	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	sel Range Orga Result <49.9 <49.9 <49.9  **Recovery 99 100  Chromatograp	U  Qualifier  U  Qualifier	RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	<mark>Unit</mark> mg/Kg mg/Kg	D_	02/01/23 14:44  02/01/23 14:44  02/01/23 14:44  Prepared  02/01/23 14:44	Analyzed 02/04/23 03:57 02/04/23 03:57 02/04/23 03:57  Analyzed 02/04/23 03:57	Dil Fac

Client Sample ID: PH05

Date Collected: 01/19/23 13:10

Lab Sample ID: 890-3910-2

Matrix: Solid

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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## **Client Sample Results**

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

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery Qualific		Prepared	Analyzed	Dil Fac
1 4-Difluorobenzene (Surr)	117	70 - 130	01/31/23 14:36	02/01/23 00:56	

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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397 U	0.00397	ma/Ka			02/01/23 12:53	1

Mathada OMO40 0045 NM Disaal Damas Omasica (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	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		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

Date Collected: 01/19/23 13:20

Lab Sample ID: 890-3910-3

Matrix: Solid

Date Collected: 01/19/23 13:20 Date Received: 01/20/23 09:06

Sample Depth: 6'

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

organio comp	ounus (CC)	,					
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
115		70 - 130			01/31/23 14:36	02/01/23 01:16	1
	Result   <0.00200   <0.00200   <0.00200   <0.00200   <0.00400   <0.00200   <0.00400   <0.00400   <0.00400	Result   Qualifier	<0.00200	Result         Qualifier         RL         Unit           <0.00200	Result         Qualifier         RL         Unit         D           <0.00200	Result         Qualifier         RL         Unit         D         Prepared           <0.00200	Result         Qualifier         RL         Unit         D         Prepared         Analyzed           <0.00200

				-	
4-Bromofluorobenzene (Surr)	115	70 - 130	01/31/23 14:36	02/01/23 01:16	1
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

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

**Eurofins Carlsbad** 

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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	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1
C10-C28)								
Oll 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
Method: EPA 300.0 - Anions, Ion		•						
Analyte	Pocult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil

4.98

18.3

mg/Kg

3

6

8

40

11

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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

				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	
890-3910-1	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	
MB 880-45147/5-A	Method Blank	102	105	
Surrogate Legend				
BFB = 4-Bromofluorobenzer	ne (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

## **QC Sample Results**

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

Lab Sample ID: LCS 880-45147/1-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

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	01/31/23 14:3	6 01/31/23 17:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/31/23 14:3	6 01/31/23 17:29	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45147

Spike	LCS	LCS				%Rec
Added	Result	Qualifier	Unit	D	%Rec	Limits
0.100	0.08233		mg/Kg		82	70 - 130
0.100	0.07766		mg/Kg		78	70 - 130
0.100	0.07484		mg/Kg		75	70 - 130
0.200	0.1584		mg/Kg		79	70 - 130
0.100	0.07668		mg/Kg		77	70 - 130
	Added 0.100 0.100 0.100 0.100 0.200	Added         Result           0.100         0.08233           0.100         0.07766           0.100         0.07484           0.200         0.1584	Added         Result         Qualifier           0.100         0.08233           0.100         0.07766           0.100         0.07484           0.200         0.1584	Added         Result         Qualifier         Unit           0.100         0.08233         mg/Kg           0.100         0.07766         mg/Kg           0.100         0.07484         mg/Kg           0.200         0.1584         mg/Kg	Added         Result         Qualifier         Unit         D           0.100         0.08233         mg/Kg           0.100         0.07766         mg/Kg           0.100         0.07484         mg/Kg           0.200         0.1584         mg/Kg	Added         Result         Qualifier         Unit         D         %Rec           0.100         0.08233         mg/Kg         82           0.100         0.07766         mg/Kg         78           0.100         0.07484         mg/Kg         75           0.200         0.1584         mg/Kg         79

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** 

Matrix: Solid

Analysis Batch: 45129

Analysis Batch: 45129

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 Qualific	er 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	

### QC Sample Results

Job ID: 890-3910-1 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

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

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 Result Qualifier RPD Limit Analyte babbA Unit %Rec Limits 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 0.199 76 70 - 130 35 m-Xylene & p-Xylene <0.00403 U 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

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

MB MB

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prep	ared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	02/01/2	3 14:44	02/03/23 19:59	1
o-Terphenyl	124		70 - 130	02/01/2	3 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)								

Client: Ensolum Job ID: 890-3910-1 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

**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

Prep Type: Total/NA

Prep Batch: 45212

**Matrix: Solid** 

Lab Sample ID: LCSD 880-45212/3-A

Analysis Batch: 45299

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	999	965.9		mg/Kg		97	70 - 130	4	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	999	1017		mg/Kg		102	70 - 130	10	20	

C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 126 70 - 130 1-Chlorooctane o-Terphenyl 112 70 - 130

Client Sample ID: Matrix Spike Lab Sample ID: 890-3901-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 45299** 

Prep Type: Total/NA

Prep Batch: 45212

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1271		mg/Kg		126	70 - 130
Diesel Range Organics (Over	<50.0	U	1000	1072		mg/Kg		107	70 - 130

C10-C28)

	MS		
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: 890-3901-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 45299

Chefft Sample ID.	Matrix Spike Duplicate
	Prep Type: Total/NA

Prep Batch: 45212

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	998	1263		mg/Kg		125	70 - 130	1	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	998	1068		mg/Kg		107	70 - 130	0	20
C10-C28)											

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	104		70 - 130

## QC Sample Results

Client: Ensolum Job ID: 890-3910-1 Project/Site: Harrier 35 Federal Com 001H

SDG: 03D2024093

**Prep Type: Soluble** 

Client Sample ID: Method Blank

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

Method: 300.0 - Anions, Ion Chromatography

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

**Matrix: Solid** 

Analysis Batch: 44876

мв мв

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

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 250 Chloride 18.6 289.9 mg/Kg 109 90 - 110 0 20

## **QC Association Summary**

Client: Ensolum Job ID: 890-3910-1
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
890-3910-1	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	<u> </u>
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

**Eurofins Carlsbad** 

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# **QC Association Summary**

Client: Ensolum Project/Site: Harrier 35 Federal Com 001H Job ID: 890-3910-1

SDG: 03D2024093

### GC Semi VOA

### Analysis Batch: 45461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8015 NM	
890-3910-2	PH05	Total/NA	Solid	8015 NM	
890-3910-3	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

Job ID: 890-3910-1

SDG: 03D2024093

**Client Sample ID: PH05** Lab Sample ID: 890-3910-1 Date Collected: 01/19/23 13:00

**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

Date Collected: 01/19/23 13:10 **Matrix: Solid** 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 Prep 5035 45147 Total/NA 5.04 g 5 mL 01/31/23 14:36 EL EET MID 8021B Total/NA 5 mL 02/01/23 00:56 **EET MID** Analysis 1 5 mL 45129 MNR Total/NA Total BTEX 45207 02/01/23 12:53 SM Analysis 1 **EET MID** Total/NA Analysis 8015 NM 45461 02/04/23 09:57 ΑJ **EET MID** Total/NA 8015NM Prep 45212 02/01/23 14:44 Prep 10.02 g 10 mL DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 45299 02/04/23 04:18 ΑJ **EET MID** Soluble 5.03 g 44761 KS Leach DI Leach 50 mL 01/25/23 15:52 **EET MID** Soluble Analysis 300.0 44876 01/26/23 23:55 СН **EET MID** 

Lab Sample ID: 890-3910-3 **Client Sample ID: PH05** 

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	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**

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	
890-3910-1	PH05	Solid	01/19/23 13:00	01/20/23 09:06	
890-3910-2	PH05	Solid	01/19/23 13:10	01/20/23 09:06	
890-3910-3	PH05	Solid	01/19/23 13:20	01/20/23 09:06	6

4

10

11

12

Page 20 of 23

Released to Imaging: 8/22/2023 12:58:00 PM

## **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:
AAOIN	Oluci	140.

																				V YY YY .	xenco.	COIII	rage		
roject Manager:	Hadli	e Green				Bill to: (if	differen	t)	Kalei	Jennin	gs									W	ork Or	der Co	mments		
company Name:	Enso	lum, LLC				Compan	y Name	<b>)</b> :	Ensol	um, LL	.c					] [	Progr	am: U	ST/PST	ПР	RP E	Brownfi	ields 🗌 RR	C Sup	erfund 🗌
ddress:	601 N	N Marienfe	eld St S	uite 400		Address	:		601 N	l Marie	nfeld S	t Suite	400			_ 1		of Pro	•						
ity, State ZIP:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midlar	nd, TX	79701					]	Repor	ting: L	evel II [	]Lev	rel III	] PST/L	JST 🗌 TRF	P L	evel IV
hone:	817.6	83.2503			Email:	kjenning	gs@en	solum	.com							] [	Delive	rables	: EDD		A	DaPT	☐ Oth	er:	
roject Name:	Har	rier 35 Fe	ederal C	om 001H	Turn	Around								ANAL	YSIS F	REQL	JEST				***************************************		Presen	ative Co	des
roject Number:	1,161		202409		☑ Routine	☐ Rush		Pres.						T								N	lone: NO	DI W	ater: H₂O
roject Location: ampler's Name: O #:			ounty, I		Due Date: TAT starts the lab, if rec			y,														Н	Cool: Cool ICL: HC I <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	MeOl HNO NaOl	: HN
AMPLE RECEI amples Received I		Temp E	No	Yes No Thermomet	Wet Ice: er ID:	Tes	No -207	arameta														N	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>		
ooler Custody Sea ample Custody Sea otal Containers:		Yes No	-/-/	Correction F Temperature Corrected T	e Reading:	11-	2	ď	(8015)	Se	(8021)	_	890-3	910 CI	nain of	Cust	ody					z	la₂S₂O₃: Nas In Acetate+N laOH+Ascor	aOH: Zn	SAPC
Sample ider	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		T I	Chlorides	BTEX (8												Sample	Comm	ents
PHO	05		s	1.19.23	1300	1'	G	1	х	х	х														
PHO	05		S	1.19.23	1310	3'	G	1	х	х	х														
PHO	05		S	1.19.23	1320	6'	G	1	х	х	х					$\Box$							Incide	nt Num	oer
					0																		NAPP:	2225531	187
				20	.23																				
		0		1.20													-,-								
		×	1-																						

Total	200.7 / 6010	200.8 / 6020: etal(s) to be ana	
Circle M	ethod(s) and M	etal(s) to be ana	alyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn 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
108	Do your Steel	1-20 23 90	26		
3			4		
5			6		
L				F	Revised Date 08/25/2020 R

Sampler

Phone

Due Date Requested

TAT Requested (days)

1/26/2023

### **Eurofins Carlsbad**

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

Eurofins Environment Testing South Centr

Client Information (Sub Contract Lab)

1089 N Canal St. Carlsbad, NM 88220

Shipping/Receiving

1211 W Florida Ave,

Client Contact:

Company.

Midland

**Chain of Custody Record** 

Lab PM

E-Mail

Kramer, Jessica

Jessica Kramer@et.eurofinsus com

NELAP - Texas

Accreditations Required (See note)



**Analysis Requested** 

Carrier Tracking No(s)

State of Origin.

New Mexico

💸 eurofins

COC No: 890-1107 1

Page 1 of 1

890-3910-1

A HCL

B NaOH

Preservation Codes.

Page<sup>-</sup>

Job #:

**Environment Testing** 

M Hexane

N None

Midland State Zip TX, 79701 Phone 432-704-5440(Tel) Email: Project Name Harrier 35 Federal Com 001H Site	PO#: WO#: Project # 89000094 SSOW#:				ample (Yes or No) D (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH		300_ORGFM_28D/DI_LEACH Chloride	ilc (MOD) BTEX								containers	D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other	O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T SP Dodecahydrate U Acetone V MCAA W pH 4-5 Y Trizma 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) tion Code:	Field Filtered Sample (Ye Perform MS/MSD (Yes or	8015MOD_NM/80	8015MOD_Calc	300_ORGFM_28D	8021B/5035FP_Caic (MOD) BTEX	Total_BTEX_GCV							Total Number of	Special In	structions/Note:
PH05 (890-3910-1)	1/19/23	13 00	1.4000146	Solid	$\Upsilon$	X	Х	x	х	x		╫			Landin.		M		
PH05 (890-3910-2)	1/19/23	Mountain 13 10		Solid	+	X	Х	X		$\frac{\lambda}{x}$	-		-		+	+-	1		
PH05 (890-3910-3)	1/19/23	Mountain 13 20 Mountain		Solid		×	Х	X	X	х							1		
Note Since laboratory accreditations are subject to change Eurofins Environmen aboratory 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	ntral LLC attention i	mmediately If	analyzed the		shippe e curre	ed back int to de imple	to the ate, ret  Disp  eturn	Eurof um the osal	ins Er e sign ( <b>A</b> i	nvironm led Cha fee m	nent Te ain of C	sting S ustody asse Disp	outh C attesti	entral ng to s <i>I if sa</i>	LLC lat aid com mples	oratory pliance	or othe to Euro etain		provided Any changes to sting South Central LLC
	Primary Deliver		2 		Sp	ecial	Instru	iction	ns/Q(	C Rec	quirem	ents							
Empty Kit Relinquished by Relinquished by	Date/Time <sup>-</sup>	Date		Company	Time		ived by	/	1/	1	40		Meth		Shipme Date/T				Company
Relinquished by	Date/Time <sup>-</sup>	· · · · · · · · · · · · · · · · · · ·		Company		Rece	ived by	7	4	1/2	<b>4</b>	1/V	1		Date/I	me:	····		Company
Relinquished by	Date/Time			Company		Rece	ived by	J			***************************************				Date/T	me			Company
Custody Seals Intact. Custody Seal No Δ Yes Δ No						Cool	er Tem	peratu	ıre(s)	°C and	Other I	Remar	ks						<u>.</u>

## **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	

109 0j 230

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3910-1 SDG Number: 03D2024093

Login Number: 3910 **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 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

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

Laboratory Job ID: 890-3911-1 SDG: 03D2024093

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	22

6

5

4

6

8

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11

40

## **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.

Job ID: 890-3911-1

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

Lab Sample ID: 890-3911-1 **Client Sample ID: PH06** Matrix: Solid

Date Collected: 01/19/23 13:30 Date Received: 01/20/23 09:06 Sample Depth: 1'

-								
Method: SW846 8021B - Volati Analyte	•	ounds (GC 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 - Total BTEX Calculation								
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Į	Total BTEX	<0.00400	U	0.00400	mg/Kg			02/01/23 12:31	1

	Method: SW846 8015 NM - Diesel Ran	ge Organi	ics (DRO) (0	GC)					
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
l	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 11:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 11:39	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 11:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

	Surrogate	%Recovery	Qualifier	Limits	Pre	epared	Analyzed	Dil Fac	
	1-Chlorooctane	81		70 - 130	02/01.	/23 15:22	02/03/23 11:39	1	
	o-Terphenyl	80		70 - 130	02/01.	/23 15:22	02/03/23 11:39	1	
ı	_								

Method: EPA 300.0 - Anions, ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	<4.96	U F1	4.96	mg/Kg			01/26/23 10:52	1

**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

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

## **Client Sample Results**

Client: Ensolum Job ID: 890-3911-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH06** Lab Sample ID: 890-3911-2 Matrix: Solid

Date Collected: 01/19/23 13:40 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)	83	70 - 130	01/31/23 14:43	02/01/23 09:01	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	<0.00399 U	0.00399	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		<del>.</del>	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
OII 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'

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

mountain criterio cozarza ronat								
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 Diffuorabanzana (Surr)	0.5		70 120			01/21/22 14:42	02/01/22 00:22	1

Surrogate	%Recovery	Quaimer	Limits	Prepared	Analyzea	DII 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: 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			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: Ensolum
Project/Site: Harrier 35 Federal Com 001H
SDG: 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 (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:04	1
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
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	• •	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

4.97

7.98

mg/Kg

8

9

11

12

## **Surrogate Summary**

Client: Ensolum Job ID: 890-3911-1
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)	
890-3911-1	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	
_CSD 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-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3911-1	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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2

3

7

10

12

13

### **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)

Lab Sample ID: MB 880-45146/5-A

Lab Sample ID: MB 880-45149/5-A

Matrix: Solid

Analysis Batch: 45131

**Matrix: Solid** Analysis Batch: 45131 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45146

1

	МВ	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	•
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	
l .								

MB MB

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

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 45149

	INID	IVID						
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	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	

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: Lab	<b>Control Sample Dup</b>
	Duan Times Total/NA

Prep Type: Total/NA

Prep Batch: 45149

	Spike	LCSD LCSD				/onec		KFD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1062	mg/Kg		106	70 - 130	2	35	

LCCD LCCD

Cnika

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Page 10 of 23

# QC Sample Results

Job ID: 890-3911-1 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 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 m-Xylene & p-Xylene 0.2004 mg/Kg 70 - 130 35 100 6 o-Xylene 0.100 0.1003 mg/Kg 100 70 - 130 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

MS MS %Rec Sample Sample Spike Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits Benzene <0.00202 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

мв мв

<49.9 U

Result Qualifier

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

Gasoline Range Organics

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

Prepared

02/01/23 15:22

Prep Batch: 45214

02/03/23 09:09

(GRO)-C6-C10

Analyte

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RL

49.9

Unit

mg/Kg

# **QC Sample Results**

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: MB 880-45214/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 45303	Prep Batch: 45214
MD MD	

		MID	IVID						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
	C10-C28)								
	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	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
1	<del>_</del>								

Lab Sample ID: LCS 880-45	214/2-A						Client	Sample	ID: Lab Control Sam
Matrix: Solid									Prep Type: Total
Analysis Batch: 45303									Prep Batch: 45
			Spike	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)									
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	87		70 - 130						
o-Terphenyl	84		70 - 130						

Lab Sample ID: LCSD 880-45214/3-A	mple ID: LCSD 880-45214/3-A CI							ent Sample ID: Lab Control Sample Dup					
Matrix: Solid							Prep 1	Type: To	tal/NA				
Analysis Batch: 45303							Prep	Batch:	45214				
	Spike	LCSD	LCSD				%Rec		RPD				
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit				
Gasoline Range Organics (GRO)-C6-C10	999	830.8		mg/Kg		83	70 - 130	4	20				
Diesel Range Organics (Over C10-C28)	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 Matrix: Solid Analysis Batch: 45303	8								Prep 1	mple ID: PH06 Type: Total/NA Batch: 45214
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	814.9		mg/Kg		78	70 - 130	
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							

## QC Sample Results

Job ID: 890-3911-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

75

 Lab Sample ID: 890-3911-1 MSD				Client Sample ID: PH06
Matrix: Solid				Prep Type: Total/NA
Analysis Batch: 45303				Prep Batch: 45214
	0	0	MOD MOD	0/ D DDD

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	840.6		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	972.0		mg/Kg		96	70 - 130	2	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44707/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

70 - 130

**Analysis Batch: 44800** 

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/26/23 09:07	1

Lab Sample ID: LCS 880-44707/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

o-Terphenyl

Analysis Batch: 44800

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	271.9		mg/Kg		109	90 - 110	 ·

Lab Sample ID: LCSD 880-44707/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

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 Client Sample ID: PH06 **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44800

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	<4.96	LI F1	248	293.3	F1	ma/Ka		117	90 110	

Lab Sample ID: 890-3911-1 MSD Client Sample ID: PH06 **Prep Type: Soluble** 

**Matrix: Solid Analysis Batch: 44800** 

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier Limit Analyte %Rec Limits RPD Unit 248 293.7 F1 Chloride <4.96 UF1 117 90 - 110 mg/Kg

# **QC Association Summary**

Client: Ensolum Job ID: 890-3911-1
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	<del></del>
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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Page 14 of 23

# **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 I	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

Project/Site: Harrier 35 Federal Com 001H

Client: Ensolum

	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		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			10.00 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 11:39	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	44707	01/25/23 09:29	KS	EET MID
Soluble	Analysis	300.0		1			44800	01/26/23 10:52	CH	EET MID

**Client Sample ID: PH06** Lab Sample ID: 890-3911-2 Date Collected: 01/19/23 13:40

Matrix: Solid

**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			5.01 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 09:01	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			10.02 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 12:43	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	44707	01/25/23 09:29	KS	EET MID
Soluble	Analysis	300.0		1			44800	01/26/23 11:10	CH	EET MID

**Client Sample ID: PH06** Lab Sample ID: 890-3911-3

Date Collected: 01/19/23 13:50 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			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.

uthority		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**

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

Job ID: 890-3911-1 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: 890-3911-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depti
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: 6/1/2023 9:02:22 #M

# eurofins |

Hadlie Green

Ensolum, LLC

Project Manager:

Company Name:

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

Kalei Jennings

Ensolum, LLC

Bill to: (if different)

Company Name:

Work Order No:					_
www.xenco.com	Page _	1	_ of _	1	
Work Order Co	mments				
ST/PST   PRP Brownfi	ields 🗌 F	RRC 🗌	Supe	erfund [	]

Program: L

Address:	601 N	N Marienf	eld St S	uite 400		Address	:	601 N Marienfeld St Suite 400							State of Project.								
City, State ZIP:	Midla	nd, TX 79	9701			City, Sta	te ZIP:		Midla	nd, TX	79701					Reporting: Level II							
Phone:	817.6	83.2503			Email:	kjenning	qs@en	solum	.com							Delive	rables: E	DD L	] A	DaPT C	ther:		
Project Name:	Hai	rrier 35 Fe	ederal C	om 001H	Turr	Around							REQ	REQUEST Pres					Preservative Codes				
Project Number:		03D	202409	3	☑ Routine	☐ Rush	1	Pres. Code												None: NO	DI Water: H <sub>2</sub> O		
Project Location:	Lea County, NM Due Date:																		Cool: Cool	MeOH: Me			
Sampler's Name: PO #:	Conner Shore TAT starts				he day received by eceived by 4:30pm		20					111111511111	111 <b>11</b> 11 1111	10 1814 1011			•		HCL: HC H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	HNO₃: HN NaOH: Na			
SAMPLE RECE	IPT				Wet Ice:	Kes	Kes No		Wes No													H₃PO₄: HP	
Samples Received I Cooler Custody Sea		tact: Yes No Thermometers: Yes No MTA Correction F				TAM.	.2	Parai				890-3911 Chain of Cu							NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn				
Sample Custody Se Total Containers:	als:	Yes No	o (N/A	Temperatur Corrected T	e Reading: emperature:		,2 ,0		(8015) rides		(8021)										+NaOH: Zn :orbic Acid: SAPC		
Sample Ide	ntificat	tion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		T	Chlorides	BTEX (									Sam	ple Comments		
PHO	06		s	1.19.23	1330	1'	G	1	х	х	х												
PHO	06		s	1.19.23	1340	3'	G	1	х	×	x_				<b>_</b>								
PHO	06		s	1.19.23	1350	6'	G	1	х	×	x				1	γ.			-		dent Number		
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Total 200.7 / 6010 200.8 / 6020:	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K	Se Ag SiO <sub>2</sub> Na Sr TI Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U	Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Cers	purend Slet	1.00.03 9	06		
3			4		
5			6		
				R	levised Date: 08/25/2020 Rev. 2020

**Eurofins Carlsbad** 

1089 N Canal St. Carlsbad NM 88220

# **Chain of Custody Record**



💸 eurofins

Environment Testing

2/3/2023

Phone 575-988-3199 Fax. 575-988-3199																		
Client Information (Sub Contract Lab)	Sampler <sup>-</sup>				Lab PM Kramer Jessica								ing No(s)			COC № 890-1107 1		
Client Contact: Shipping/Receiving	Phone E-Mail Jessic				rame	r@et	.euro	finsu	ıs cor	n	State of Origin: New Mexico			Page Page 1 of 1				
Company <sup>.</sup> Eurofins Environment Testing South Centr					Accreditations Required (See note) NELAP - Texas				Job #: 890-3911-1									
Address 1211 W Florida Ave, ,	Due Date Requested 1/26/2023								Analysis Requested					Preservation Codes A HCL M Hexane				
City Midland State Zip. FX, 79701	TAT Requested (d	ays):				Full TPH										The state of the s	B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH	N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3
rione 132-704-5440(Tel) :mail.	PO #: WO #:				or No	p (MOD) Fi		Chloride	ă							un.	G Amchlor H Ascorbic Acid I Ice J DI Water	S H2SO4 T TSP Dodecahydrate U Acetone V MCAA
Project Name Harrier 35 Federal Com 001H	Project #: 89000094					S Pre		EACH	(мор) втех							ntainer	K EDTA L EDA	W pH 4-5 Y Trizma Z other (specify)
Site	SSOW#					3015NN		1 10/08	Calc (N	>						ofcon		
		Sample	Sample Type (C=comp,	Matrix (W=water S=solid, O=waste/oil, BT=Tissue,	eld Filtered	8015MOD NM/8015NM	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_	Total_BTEX_GCV						Total Number		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) Preservati	A=Air) on Code:	以		8	8	8	٤						\range \sqrt{\range}	Special In	structions/Note:
PH06 (890-3911-1)	1/19/23	13 30 Mountain		Solid	Ħ	X	x	Х	х	x						1		
PH06 (890-3911-2)	1/19/23	13 40 Mountain		Solid	11	Tx	X	X	X	x						1	7	
PH06 (890-3911-3)	1/19/23	13 50 Mountain		Solid		×	X	х	х	x						1		
					${\dagger \dagger}$			-	_									
																	No.	
					$\coprod$	-	+			-						i dinga		
					$\dag \dag$	-	-	+	1	-						1000		
Note Since laboratory accreditations are subject to change, Eurofins Envi laboratory does not currently maintain accreditation in the State of Origin li accreditation status should be brought to Eurofins Environment Testing St	sted above for analysis/tes	ts/matrix beina	analyzed the sa	amples must	be ship	ped ba	ck to t	he Fu	rofins	Enviro	nment T	estina	South Ce	ntral IIC	laborator	or oth	her instructions will be	provided. Any changes to

					•
Possible Hazard Identification			Sample Disposal ( A fee ma	y be assessed if samples are retained lon	ger than 1 month)
Unconfirmed			Return To Client	Disposal By Lab Archive Fo	or Months
Deliverable Requested I II III IV Other (specify)	Primary Deliverable Rank 2		Special Instructions/QC Requ	urements	
Empty Kit Relinquished by	Date	T	Time / / /	Method of Shipment:	
Relinquished by:	Date/Time	Company	Received by:	MUR 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: Custody Seal No  Δ Yes Δ No			Cooler Temperature(s) °C and 0	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

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<6mm (1/4").

## **Login Sample Receipt Checklist**

Client: Ensolum Job Numb

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	

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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 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 Companies

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

Laboratory Job ID: 890-3912-1 SDG: 03D2024093

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Campio Cammary	19
Chain of Custody	20
Receipt Checklists	

### **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.

Matrix: Solid

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 -	Total BTEX Cald	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	el Range Organ	ics (DRO) (	GC)					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (C	GC)	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/03/23 17:32	
Total TPH	Result   <50.0	Qualifier U	50.0		<u>D</u>	Prepared		
Analyte Total TPH  Method: SW846 8015B NM - Die	Result  <50.0 sel Range Orga	Qualifier U	RL 50.0	mg/Kg		<u> </u>	02/03/23 17:32	1
Analyte Total TPH  Method: SW846 8015B NM - Die: Analyte	Result <50.0  sel Range Orga Result	Qualifier Unics (DRO) Qualifier	RL	mg/Kg	<u>D</u>	Prepared	02/03/23 17:32 Analyzed	1
Analyte Total TPH  Method: SW846 8015B NM - Die: Analyte Gasoline Range Organics	Result  <50.0 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.0	mg/Kg		<u> </u>	02/03/23 17:32	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die: 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		Prepared 02/01/23 15:22	02/03/23 17:32  Analyzed 02/03/23 13:25	Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die: 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 - Die: Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	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 13:25	Dil Fac
Analyte Total TPH  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   <50.0	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 13:25 02/03/23 13:25 02/03/23 13:25	1 Dil Fac
Analyte Total TPH  Method: SW846 8015B NM - Die: Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <50.0	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 13:25 02/03/23 13:25 02/03/23 13:25  Analyzed	Dil Fac
Analyte Total TPH  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   <50.0	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 13:25 02/03/23 13:25 02/03/23 13:25	Dil Fac
Analyte Total TPH  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 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 13:25 02/03/23 13:25  02/03/23 13:25  Analyzed 02/03/23 13:25	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	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 13:25 02/03/23 13:25  02/03/23 13:25  Analyzed 02/03/23 13:25	Dil Fac  Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac

Client Sample ID: PH07 Lab Sample ID: 890-3912-2

Date Collected: 01/19/23 14:10 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 14:43	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)	88		70 - 130			01/31/23 14:43	02/01/23 10:03	1

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**Matrix: Solid** 

Matrix: Solid

Client: Ensolum Job ID: 890-3912-1
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 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)	93	70 - 130	01/31/23 14:43	02/01/23 10:03	1

Method: TAI	SOP Total BTEX	- Total BTFX	Calculation
Mictilou. IAL	- OOI TOTAL DIEA	- IOIGI DIEA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/01/23 12:31	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	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

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 13:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 13:45	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 13:45	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 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

Date Collected: 01/19/23 14:20

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)

Michiga. Offoro COZ ID - Volati	variable var							
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
1,4-Difluorobenzene (Surr)	96		70 - 130			01/31/23 14:43	02/01/23 10:23	1

1, 1 Billadrobonzono (Garry	00	70 - 700	01/01/201
_			
Method: TAL SOP Total BTEX - Total BTEX	Calculation		
Michiod. IAL OOI Total BTEX - Total BTEX	Calculation		

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	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	<49.9	U	49.9	mg/Kg			02/03/23 17:32	1

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# **Client Sample Results**

Client: Ensolum Job ID: 890-3912-1 Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

**Client Sample ID: PH07** 

Date Received: 01/20/23 09:06

Sample Depth: 6'

Lab Sample ID: 890-3912-3 Date Collected: 01/19/23 14:20 Matrix: Solid

Method: SW846 8015B NM - Dies	el Range Orga	nics (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 14:06	1
(GRO)-C6-C10								
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 - Solub	le					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.03		4.99	mg/Kg			01/27/23 19:06	1

# **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)	
390-3912-1	PH07	93	88	
390-3912-2	PH07	88	93	
890-3912-3	PH07	91	96	
390-3920-A-1-B MS	Matrix Spike	106	100	
390-3920-A-1-C MSD	Matrix Spike Duplicate	92	109	
LCS 880-45149/1-A	Lab Control Sample	101	108	
_CSD 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)

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

				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

## **QC Sample Results**

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

Lab Sample ID: MB 880-45149/5-A

**Matrix: Solid** Analysis Batch: 45131 Client Sample ID: Method Blank

**Prep Type: Total/NA** 

						Prep Batch	1: 45146	
MB	MB							
esult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
0200	U	0.00200	mg/Kg		01/31/23 14:29	01/31/23 17:14	1	

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

мв мв

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

Client Sample ID: Method Blank

**Prep Type: Total/NA** 

Prep Batch: 45149

70 - 130

Client Sample ID: Lab Control Sample Dup

Matrix: Solid Analysis Batch: 45131 Prep Batch: 45149

	МВ	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		
I and the second second second second second second second second second second second second second second se										

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

0.100

Analysis Batch: 45131

o-Xylene

	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-Xvlene & p-Xvlene	0.200	0.1882		ma/Ka		94	70 - 130	

0.09431

mg/Kg

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 '	Type: To	tal/NA		
Analysis Batch: 45131						Prep Batch: 45				
	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Renzene	0.100	0.1062	-	ma/Ka		106	70 130		35	

### QC Sample Results

Job ID: 890-3912-1 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	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 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 Prep Type: Total/NA

**Matrix: Solid** 

m-Xylene & p-Xylene

Analysis Batch: 45131

Prep Batch: 45149 MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene U 0.08904 <0.00202 0.101 mg/Kg 88 70 - 130 Toluene <0.00202 0.101 0.08562 85 70 - 130 U mg/Kg Ethylbenzene 0.08420 70 - 130

0.1762

mg/Kg

mg/Kg

mg/Kg

0.101

0.202

o-Xylene <0.00202 U 0.101 0.08713 MS MS Qualifier Limits Surrogate %Recovery

<0.00202 U

<0.00403 U

70 - 130 4-Bromofluorobenzene (Surr) 106 100 70 - 130 1,4-Difluorobenzene (Surr)

Lab Sample ID: 890-3920-A-1-C MSD

**Matrix: Solid** 

Analysis Batch: 45131

Client Sample ID: Matrix Spike Duplicate

70 - 130

70 - 130

84

87

86

Prep Type: Total/NA Prep Batch: 45149

Sample Sample MSD MSD %Rec RPD Spike 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 0.199 77 70 - 130 m-Xylene & p-Xylene <0.00403 U 0.1543 mg/Kg 13 35 0.0996 o-Xylene <0.00202 U 0.07563 mg/Kg 76 70 - 130 14 35

MSD MSD

Surrogate	%Recovery	Quaimer	Limits
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 Analyte Result Qualifier RL Unit Prepared Dil Fac <49.9 U 49.9 mg/Kg 02/01/23 15:22 02/03/23 09:09 Gasoline Range Organics

(GRO)-C6-C10

1-Chlorooctane

o-Terphenyl

C10-C28)

# **QC Sample Results**

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

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

87

84

Lab Sample ID: MB 880-45214/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 45303	Prep Batch: 45214

	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
	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

Lab Sample ID: LCS 880-45	214/2-A					Client	Sample	ID: Lab Co	ntrol Sample
Matrix: Solid								Prep Ty	pe: Total/NA
Analysis Batch: 45303								Prep	Batch: 45214
		Spike	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)									
	LCS LCS								
Surrogate	%Recovery Qualifier	Limits							

70 - 130

70 - 130

Lab Sample ID: LCSD 880-45214/3-A Matrix: Solid Analysis Batch: 45303				Clien	t San	mple ID: Lab Control Sample Prep Type: Tota Prep Batch: 4			tal/NA
	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

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 890-3911-A-1-I Matrix: Solid Analysis Batch: 45303	F MS							Client	Prep 1	: Matrix Spike Type: Total/NA Batch: 45214
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	814.9		mg/Kg		78	70 - 130	
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							

Lab Sample ID: 890-3911-A-1-G MSD

## QC Sample Results

Job ID: 890-3912-1 Client: Ensolum Project/Site: Harrier 35 Federal Com 001H SDG: 03D2024093

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

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45214

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	<50.0	U	998	840.6		mg/Kg		81	70 - 130	3	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<50.0	U	998	972.0		mg/Kg		96	70 - 130	2	20	
C10 C28)												

C10-C28)

**Matrix: Solid** 

Analysis Batch: 45303

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 880-44760/1-A Client Sample ID: Method Blank

**Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44877** 

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
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 Matrix: Solid Prep Type: Soluble** 

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

**GC VOA** 

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1 SDG: 03D2024093

### 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

**Eurofins Carlsbad** 

Page 14 of 23

# **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	
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

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3912-1 SDG: 03D2024093

Lab Sample ID: 890-3912-1

**Matrix: Solid** 

**Matrix: Solid** 

**Matrix: Solid** 

Lab Sample ID: 890-3912-3

**Client Sample ID: PH07** Date Collected: 01/19/23 14:00

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	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

Date Collected: 01/19/23 14:10 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 Prep 5035 Total/NA 5.05 g 5 mL 45149 01/31/23 14:43 EL EET MID 8021B Total/NA 5 mL 02/01/23 10:03 **EET MID** Analysis 1 5 mL 45131 MNR Total/NA Total BTEX 45199 02/01/23 12:31 SM Analysis 1 **EET MID** Total/NA Analysis 8015 NM 45428 02/03/23 17:32 ΑJ **EET MID** Total/NA 8015NM Prep 45214 02/01/23 15:22 Prep 10.02 g 10 mL DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 45303 02/03/23 13:45 ΑJ **EET MID** Soluble 5.03 g 44760 KS Leach DI Leach 50 mL 01/25/23 15:51 EET MID Soluble Analysis 300.0 1 44877 01/27/23 19:01 СН **EET MID** 

**Client Sample ID: PH07** 

Date Collected: 01/19/23 14:20 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	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

# **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 Texas		ogram	Identification Number	Expiration Date 06-30-23	
		ELAP	T104704400-22-25		
The following analytes	are included in this report by	it the laboratory is not cortific	ad by the gayarning outbority. This list wa		
the agency does not of	• •	it the laboratory is not certilit	ed by the governing authority. This list ma	ay include analytes to	
0 ,	• •	Matrix	Analyte	ay include analytes to	
the agency does not of	fer certification.	,	, , ,	ay include analytes to	

**Eurofins Carlsbad** 

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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
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** 

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# **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	
890-3912-1	PH07	Solid	01/19/23 14:00	01/20/23 09:06	
890-3912-2	PH07	Solid	01/19/23 14:10	01/20/23 09:06	;
890-3912-3	PH07	Solid	01/19/23 14:20	01/20/23 09:06	6'

Received by OCD: 6/1/2023 9:02:22

Page 20 of 23

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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:	

																				www.	xenco	.com	Page	or		
Project Manager:	Hadlie	e Green				Bill to: (if	different	)	Kalei .	Jenning	gs									W	ork O	rder (	Comments			
Company Name:	Ensol	um, LLC				Company	y Name	:	Ensolu	ım, LL	С						Program: UST/PST PRP Brownfields RRC Superfund									
Address:	601 N	Marienfe	eld St Si	uite 400		Address:			601 N	Marie	nfeld S	t Suite	400				State of Project:									
City, State ZIP:	Midla	nd, TX 79	701			City, State ZIP:			Midland, TX 79701						Reporting: Level II  PST/UST TRRP Level IV											
Phone:	817.6	83.2503			Email:	kjenning	s@en	solum	.com								Delive	rables	: EDD			ADaP	T Othe			
Project Name:	Har	rier 35 Fe	ederal C	om 001H	Turn	Around							-	NAL	YSIS	REQ	UEST						Preserva	tive Co	les	
Project Number:			2024093		☑ Routine	Rush		Pres. Code															None: NO	DI Wa	er: H₂O	
Project Location:		Lea C	ounty, N	1M	Due Date:																		Cool: Cool	MeOH		
Sampler's Name:		Conn	er Shor	е	TAT starts th								- 1	1	İ				1	J	ŀ	1	HCL: HC	HNO <sub>3</sub> :		
°O #;					the lab, if red	ceived by 4	:30pm	573			ì		1	ı				mm					H₂S0₄: H₂	NaOH	Na	
SAMPLE RECE	IPT	Temp E	Blank:	Yes No	Wet Ice:	(Yes	No	bete					TO THE REPORT OF THE PARTY OF T										H₃PO₄: HP			
Samples Received I	ntact:	Yes	No	Thermomet	er ID:	This.	7 GO.	ran					IWW	WW				MW				1	NaHSO₄: NAB			
Cooler Custody Sea	ls:	Yes No	NIA	Correction F	actor:	G- "	6,0	Q.					- IMMI	WW		W	Custody						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSe	-		
Sample Custody Sea	als:	Yes No	(N/A	Temperatur	e Reading:	U.	2				_		1111111	Misu	INII INII	of Cu							Zn Acetate+Na			
Total Containers:				Corrected T	emperature:	H	0.		(8015)	es	8021		890-3	3912	JIIaiii								NaOH+Ascorbic Acid: SAPC			
Sample Idea	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	II	Chlorides	BTEX (8021)												Sample	Comme	nts	
PHO	07		s	1.19.23	1400	1'	G	1	х	х	х															
PHO	07		S	1.19.23	1410	3'	G	1	х	х	х															
PHO	07		s	1.19.23	1420	6'	G	1	x	Х	Χ_				_				<u> </u>			-		nt Numb		
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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 SiO2 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
1-2	Dicorde State	1-20-23 900	(e		
3		4			
5		6			
					Revised Date: 08/25/2020 Rev. 2020

Sampler

Phone:

### **Eurofins Carlsbad**

Client Information (Sub Contract Lab)

1089 N Canal St.

Client Contact:

Shipping/Receiving

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

# **Chain of Custody Record**

Lab PM

E-Mail

Kramer Jessica

Jessica Kramer@et.eurofinsus com



Carrier Tracking No(s)

State of Origin

New Mexico

💸 eurofins

COC No. 890-1107 1

Page 1 of 1

Page

**Environment Testing** 

2/3/2023

Released to Imaging: 8/22/2023 12:58:00 PM

Company Eurofins Environment Testing South Centr	s Environment Testing South Centr								See n	ote)			Accreditations Required (See note) NELAP - Texas								
Address 1211 W Florida Ave, ,	Due Date Requeste 1/26/2023	ed							Ar	nalys	sis R	equ	ested	i				890-3912-1 Preservation Code	es. M Hexane	1	
City Midland State Zip: TX, 79701	TAT Requested (d	ays)				TPH												B NaOH C Zn Acetate D Nitric Acid	N None O AsNaO2 P Na2O4S Q Na2SO3		
Phone 432-704-5440(Tel)	PO# <sup>-</sup>					Full												F MeOH	R Na2S2O3 S H2SO4		
Email:	WO #.				S   S	(MOD		hlorid	X									I Ice	T TSP Dodecahydrate U Acetone V MCAA	1	
Project Name. Harrier 35 Federal Com 001H	Project #: 8900094				s or N	S_Pre		EACH O	оо) вт									K EDTA	W pH 4-5 Y Trizma Z other (specify)		
Site <sup>-</sup>	SSOW#:				SD 3	15NM		J_IQ/0	alc (M	>								Other <sup>,</sup>	w other (specify)		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Watrix (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	Snacial Inc	tructions/Note	1,	
		><		ition Code:	$\overline{X}\overline{X}$	1			- W								X	epecial ins	il delions/Note	of 23	
PH07 (890-3912-1)	1/19/23	14 00 Mountain		Solid		х	х	x	х	х							1			7 2	
PH07 (890-3912-2)	1/19/23	14 10 Mountain		Solid		x	х	х	Х	х							1			Page	
PH07 (890-3912-3)	1/19/23	14 20 Mountain		Solid		Х	х	х	х	х							1				
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																	,				
Note Since laboratory accreditations are subject to change, Eurofins Environme laboratory does not currently maintain accreditation in the State of Origin listed al accreditation status should be brought to Eurofins Environment Testing South Co	oove for analysis/test	s/matrix being	analyzed the	samples must be	e shinn	ed bac	k to th	e Fur	ofins F	nviror	ment <sup>-</sup>	<b>Festina</b>	South	Central	LLC labo	ratory c	or othe	er instructions will be n	rovided. Any changes to	,	
Possible Hazard Identification					Sá						may L				-	are re	taine	ed longer than 1	month)	1	
Unconfirmed  Deliverable Requested I II, III, IV, Other (specify)	Primary Deliver	able Rank	2		Si		_	_	Clier		L	Dis		By La	b	Ш	Arch	nive For	Months	4	
Empty Kit Relinquished by		Date		The state of the s	Time				. 10/0		-quii c	. I GIIL		thad of	Shipment					+	
Relinquished by	Date/Time	Pate		Company	rillite		eived I	by()	1	M	<u>//</u>	a N	1 ()	N/	Date/Tim				Company	$\dashv$	
Relinquished by:	Date/Time.			Company		Rec	eived I	10	4	4/	P	VI	لل	/V	Date/Tim	ne	··········		Company	$\dashv$	
Relinquished by	Date/Time: Company			Received by Date/Time								<u></u>	Company	1							
Custody Seals Intact: Custody Seal No			Cooler Temperature(s) °C and Other Remarks																		

### **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3912-1

SDG Number: 03D2024093

Login Number: 3912 List Source: Eurofins Carlsbad

List Number: 1

MS/MSDs

<6mm (1/4").

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.

True

N/A

- -

**Eurofins Carlsbad** 

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 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	

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701

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# **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**

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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: 890-3913-1 SDG: 03D2024093

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	10
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receipt Checklists	22

1

2

3

\_

6

8

40

11

40

14

### **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.

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)

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**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.

### **Client Sample Results**

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 Matrix: Solid 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 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 - 1	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	
: Method: SW846 8015 NM - Diese	•	ics (DRO) (	GC)					
Method: SW846 8015 NM - Diese Analyte	Result	ics (DRO) (C	GC)	Unit	D	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (C	GC)		<u>D</u>	Prepared		Dil Fac
: Method: SW846 8015 NM - Diese	Result   <49.9	ics (DRO) (Gualifier	RL 49.9	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	Result <49.9 sel Range Orga	ics (DRO) (Gualifier	RL 49.9	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	Result <49.9 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 49.9 (GC)	Unit mg/Kg	<u> </u>		Analyzed 02/03/23 17:32	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  sel Range Orga Result	ics (DRO) (( Qualifier U  nics (DRO) Qualifier U	RL 49.9 (GC)	Unit mg/Kg	<u> </u>	Prepared	Analyzed 02/03/23 17:32 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	Result <49.9  sel Range Orga Result <49.9	ics (DRO) (( Qualifier U  nics (DRO) Qualifier U	(GC)  RL  49.9  (GC)  RL  49.9	Unit mg/Kg  Unit mg/Kg	<u> </u>	Prepared 02/01/23 15:22	Analyzed 02/03/23 17:32  Analyzed 02/03/23 14:28	Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	ics (DRO) (( Qualifier U  nics (DRO) Qualifier U  U	(GC)  RL  49.9  (GC)  RL  49.9  49.9	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 02/01/23 15:22 02/01/23 15:22	Analyzed 02/03/23 17:32  Analyzed 02/03/23 14:28 02/03/23 14:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	ics (DRO) (( Qualifier U  nics (DRO) Qualifier U  U	GC)  RL 49.9  (GC)  RL 49.9  49.9  49.9	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22	Analyzed 02/03/23 17:32  Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <49.9	ics (DRO) (( Qualifier U  nics (DRO) Qualifier U  U	GC)  RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 02/01/23 15:22 02/01/23 15:22 02/01/23 15:22 Prepared	Analyzed 02/03/23 17:32  Analyzed 02/03/23 14:28 02/03/23 14:28 02/03/23 14:28 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.9	ics (DRO) ((Qualifier U)  nics (DRO) Qualifier U  U  Qualifier	GC)  RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits 70 - 130 70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 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 17:32  Analyzed 02/03/23 14:28 02/03/23 14:28  Analyzed 02/03/23 14:28	Dil Fac  Dil Fac  1  1  1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	ics (DRO) ((Qualifier U)  nics (DRO) Qualifier U  U  Qualifier	GC)  RL 49.9  (GC)  RL 49.9  49.9  49.9  Limits 70 - 130 70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<u> </u>	Prepared 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 17:32  Analyzed 02/03/23 14:28 02/03/23 14:28  Analyzed 02/03/23 14:28	Dil Fac  1  Dil Fac  1  1  Dil Fac  1

**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'

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** 

**Matrix: Solid** 

Matrix: Solid

Lab Sample ID: 890-3913-2

Job ID: 890-3913-1

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

**Client Sample ID: PH08** 

Date Collected: 01/19/23 14:30 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)	95	70 - 130	01/31/23 14:43	02/01/23 11:04	1

Method: TAI	SOP Total BTEX	- Total BTFX	Calculation
Mictilou. IAL	- OOI TOTAL DIEA	- IOIGI DIEA	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

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 - Diesel Itali	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 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 **Matrix: Solid** 

Date Collected: 01/19/23 14:35 Date Received: 01/20/23 09:06

Sample Depth: 6'

ı	Method: SW846 8021B	Valatila Ossasia	O = (OO)

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
1,4-Difluorobenzene (Surr)	95		70 - 130			01/31/23 14:43	02/01/23 11:25	1

Mothod: TAI	SOP Total RTFY	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	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

Matrix: Solid

Lab Sample ID: 890-3913-3

01/27/23 19:30

### **Client Sample Results**

Client: Ensolum
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 (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 15:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 15:09	1
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	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

5.00

105

mg/Kg

4

7

9

10

12

13

14

### **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

				Percent Surrogate Re
		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				
BFB = 4-Bromofluorober	zene (Surr)			

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

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3911-A-1-F MS	Matrix Spike	84	75	
890-3911-A-1-G MSD	Matrix Spike Duplicate	87	75	
890-3913-1	PH08	74	74	
890-3913-2	PH08	77	75	
890-3913-3	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

OTPH = o-Terphenyl

### QC Sample Results

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

**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	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 14:2	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 45131 Prep Batch: 45149

	1810	14.15						
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

MB MB

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** 

o-Xylene

Analysis Batch: 45131

**Client Sample ID: Lab Control Sample** 

70 - 130

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

0.100

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 RPD %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Benzene 0.100 0.1062 mg/Kg 106 70 - 130

0.09431

mg/Kg

**Eurofins Carlsbad** 

Page 10 of 23

### **QC Sample Results**

Client: Ensolum Job ID: 890-3913-1
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 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 0.101 0.08904 88 mg/Kg 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

MB MB Result Qualifier

<49.9 U

Surrogate	%Recovery Q	ualifier	Limits
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

Gasoline Range Organics

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

Prepared

02/01/23 15:22

Prep Batch: 45214

Analyzed Dil Fac 02/03/23 09:09 1

(GRO)-C6-C10

**Eurofins Carlsbad** 

RL

49.9

Unit

mg/Kg

3

\_

6

8

10

12

13

-

ino Canobac

1-Chlorooctane

o-Terphenyl

### **QC Sample Results**

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)

87

84

Lab Sample ID: MB 880-45214/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 45303	Prep Batch: 45214
MD MD	

н		1110	14.10						
	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
		MB	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 880-45	5214/2-A					Client	Sample	e ID: Lab Con	trol Sample
Matrix: Solid								Prep Typ	e: Total/NA
Analysis Batch: 45303								Prep B	atch: 45214
		Spike	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)									
	LCS LCS								
Surrogate	%Recovery Qualifier	Limits							

70 - 130

70 - 130

Lab Sample ID: LCSD 880-45214/3-A Matrix: Solid Analysis Batch: 45303						nple ID:		ol Sampl Type: To Batch:	tal/NA
	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- Matrix: Solid Analysis Batch: 45303	1-F MS							Client	Prep	: Matrix Spike Type: Total/NA ) Batch: 45214
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	814.9		mg/Kg		78	70 - 130	
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							

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: 890-3911-A-1- Matrix: Solid Analysis Batch: 45303	Analysis Batch: 45303										
_	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	840.6		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over	<50.0	U	998	972.0		mg/Kg		96	70 - 130	2	20

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 880-44760/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 44877** 

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
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 Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 44877

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	274.9		mg/Kg	_	110	90 - 110	1	20	

Lab Sample ID: 890-3912-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

**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		114	90 110	

Lab Sample ID: 890-3912-A-1-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Ratch: 44877

Alialysis Balcii. 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	0	20

**Eurofins Carlsbad** 

**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

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

Job ID: 890-3913-1

SDG: 03D2024093

**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

Lab Sample ID: 890-3913-3

**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			5.01 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

Lab Sample ID: 890-3913-2 **Client Sample ID: PH08 Matrix: Solid** 

Date Collected: 01/19/23 14:30 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 Prep 5035 Total/NA 4.97 g 5 mL 45149 01/31/23 14:43 EL EET MID 8021B Total/NA 5 mL 02/01/23 11:04 **EET MID** Analysis 1 5 mL 45131 MNR Total/NA Total BTEX 45200 02/01/23 12:31 SM Analysis 1 **EET MID** Total/NA Analysis 8015 NM 45429 02/03/23 17:32 ΑJ **EET MID** Total/NA 8015NM Prep 45214 02/01/23 15:22 Prep 10.02 g 10 mL DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 45303 02/03/23 14:48 ΑJ **EET MID** Soluble 44760 KS Leach DI Leach 4.96 g 50 mL 01/25/23 15:51 **EET MID** Soluble Analysis 300.0 44877 01/27/23 19:16 СН **EET MID** 

**Client Sample ID: PH08** 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	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report hi	it the laboratory is not certific	ed by the governing authority. This list ma	vindudo analytas for
the agency does not of	· '	it the laboratory is not certific	ed by the governing admonty. This list his	ay include arialytes for
0 ,	· '	Matrix	Analyte	ay include analytes for
the agency does not of	fer certification.	,	, , ,	

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### **Method Summary**

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3913-1

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: 890-3913-1

SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
890-3913-1	PH08	Solid	01/19/23 14:25	01/20/23 09:06	7
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: 6/1/2023 9:02:22

Circle Method(s) and Metal(s) to be analyzed

**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:	
TTOTIC CIGO		

																_				99 99 99 .	xerico	J.CO111	rage	
Project Manager:	Hadlie	e Green				Bill to: (if	differen	t)	Kalei	Jennin	gs						Work Order Comments							
Company Name:	Ensol	um, LLC				Compan	y Name	e:	Ensolum, LLC							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:	Midla	nd, TX 79	701			City, Sta	te ZIP:		Midla	nd, TX	79701						Reporting: Level II  Level III  PST/UST TRRP Level IV							
Phone:	817.6	83.2503			Email:	kjenning	ıs@en	solum	.com								Deliv	erable	: EDD			ADaP	T Othe	r:
Project Name:	Har	rier 35 Fe	deral C	om 001H	Turr	Around								ANAI	YSIS	REQ	UEST						Preserv	ative Codes
Project Number:	, iidi		202409		☑ Routine	Rush		Pres.															None: NO	DI Water: H₂O
Project Location:		Lea Co	ounty, N	JM	Due Date:			Cour															Cool: Cool	MeOH: Me
Sampler's Name:			er Shor		TAT starts th	e day rece	ived by												l	Ι.,			HCL: HC	HNO <sub>3</sub> : HN
PO#:					the lab, if re	ceived by 4	:30pm	2		ŀ		'	1881881 (1	RESERVE SE	HL LELL H 18		10 (411)	MUM					H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH: Na
SAMPLE RECE	IPT	Temp B	Blank;	Yes No	Wet Ice:	(Yes)	No	neta						HHH			M M						H₃PO₄: HP	
Samples Received I	ntact:		No	Thermomet		Trans		aran															NaHSO₄: NAB	
Cooler Custody Sea	ls:	Yes No	-(/	Correction I			.2	0.	l '				innii	DIBILI	NA MARKA	Custo	uetody						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaS	
Sample Custody Se	als:	Yes No	N/A	Temperatur			. 2		_		5		390-39	913 CI	nain of	Cusic					Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC			
Total Containers:				Corrected T	emperature:	1 4	0		(8015)	des	(802	۱ ۱								NaOrt-Ascorbic Acid. SALC				
Sample Ide	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	I	Chlorides	BTEX (8021)												Sample	Comments
PHO	08		s	1.19.23	1425	1'	G	1	х	х	х							L					_	
PHO	08		s	1.19.23	1430	3'	G	1	х	х	х							ļ						
PHO	08		s	1.19.23	1435	6'	G	1	х	х	х		,										Incide	nt Number
																		ļ		ļ		ļ	NAPP2	225531487
				1.90	23															-		-		<del></del>
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Total 200.7 / 6	010	200.8 / 6	020:	8																Se			la Sr Tl Sn L	
Circle Method(s) a	nd Me	tal(s) to be	e analy	zed	TCLP / S	PLP 601	0: 8R	CRA	Sb A	s Ba	Be (	Cd Cr	Co	u Pb	) Mn	Mo N	lı Se	Ag 1	ΙU		Hg: 1	631	/ 245.1 / 7470	1/4/1

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
	toingle Slit	1-20-23 90	P <sub>P</sub>		
3	V	4	1		
5			3		mercad Data 08/25/2020 Rev 20

#### **Eurofins Carlsbad**

1089 N Canal St.

Carlsbad NM 88220

# **Chain of Custody Record**



💸 eurofins

Environment Testing

2/3/2023

Page 21 of 23

Released to Imaging: 8/22/2023 12:58:00 PM

Phone 575-988-3199 Fax: 575-988-3199											ı								
Client Information (Sub Contract Lab)	Sampler			Lab PM Krame	mer, Jessica							Carrier Tracking No(s)					8	COC No: 890-1107 1	
Client Contact: Shipping/Receiving	Phone:				a Kramer@et.eurofinsus com					State of Origin. New Mexico				Page: Page 1 of 1					
Company Eurofins Environment Testing South Centr					Correditations Required (See note)   Job #:   ELAP - Texas   890-3913-1														
Address 1211 W Florida Ave ,	Due Date Request 1/26/2023	ed			Analysis Requested								<b>s</b> M Hexane						
City Mıdland	TAT Requested (c	lays)·		to a decide								Ť						B NaOH	N None O AsNaO2
State, Zip: TX, 79701	1			and the flesh		ТРН											- Santa	D Nitric Acid E NaHSO4	P Na2O4S Q Na2SO3 R Na2S2O3
Phone 432-704-5440(Tel)	PO # <sup>-</sup>					D) Ful		9			:							G Amehlor	S H2SO4 T TSP Dodecahydrate
Email	WO#			Ž	<u>S</u>	ow) da		Chlori	Ē									l Ice	U Acetone V MCAA
Project Name <sup>.</sup> Harrier 35 Federal Com 001H	Project #: 89000094	***************************************		غ خ	es or	SPr		ЕАСН	a (ao								containers	K EDIA ,	W pH 4-5 Y Trizma Z other (specify)
Site:	SSOW#		···	To Mag	λ) as	15NM		J_lQ/Q	alc (M	,							3	Other <sup>.</sup>	(,,
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample (W=w Type S=so O=was (C=comp, BT=Tit G=grab) A=A	ater g olid, ii teloil, ssue, g	irform 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	Special Inst	tructions/Note
DI 100 (000 2042 4)		14 25	Preservation Co	atana arang 6.5 286	¥	1						4	1				4		ACTION OF THE PROPERTY OF THE
PH08 (890-3913-1)	1/19/23	Mountain 14 30	So		╀	X	Х	Х	Х	Х		-				$\perp$	1	1 - 74	
PH08 (890-3913-2)	1/19/23	Mountain 14 35	Sol	-+	-	X	X	Х	X	X		-	-			-	1		
PH08 (890-3913-3)	1/19/23	Mountain	So	lid	╂	X	X	X	Х	Х		+					1		
					╁							-	-						
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Note: Since laboratory accreditations are subject to change Eurofins Environme laboratory does not currently maintain accreditation in the State of Origin listed a accreditation status should be brought to Eurofins Environment Testing South Co	bove for analysis/tes	ts/matrix being	analyzed, the samples	must be s	shippe	d back	k to the	e Euro	fins E	nviron	ment Te	stina S	South C	entral	LLC labo	ratory o	r othe	er instructions will be or	rovided. Any changes to
Possible Hazard Identification Unconfirmed					Sa.		<b>Disp</b> Return				nay be	1	essed osal l		-			ed longer than 1 i	•
Deliverable Requested	Primary Delive	rable Rank	2		Spe				_		quirem		iosai t	oy La	υ		AICH	iive FUI	Months
Empty Kit Relinquished by		Date		Т	ime			/1/	7		-		Meth	od of S	Shipment				
Relinquisberg by	Date/Time	•	Compar	ny		Rece	eived b	1		P	8N	M	L		Date/Tim	ne			Company
Relinquished by:	Date/Time		Compar	ny		Rece	aived b	ly .		•		Date/Time				ne			Company
Relinquished by	Date/Time <sup>-</sup>		Compar	ny		Rece	eived b	oy.							Date/Tin	ne.			Company
Custody Seals Intact. Custody Seal No Δ Yes Δ No						Cooler Temperature(s) °C and Other Remarks													

### **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	

230 UJ 23U

### **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

<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 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	

Eurofins Carlsbad

Page 23 of 23



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	OGRID						
Contact Nam	ie			Contact	t Telephone						
Contact emai	i1			Inciden	Incident # (assigned by OCD)						
Contact mail	ing address			<b>'</b>							
					~						
			Location	of Release	Source						
Latitude				Longitud	e						
			(NAD 83 in dec	cimal degrees to 5 de	ecimal places)						
Site Name				Site Typ	e						
Date Release	Discovered			API# (if	applicable)						
Unit Letter	Section	Township	Range	Co	ounty						
Ont Letter	Section	Township	Runge	1gc County							
						_					
Surface Owner	r: State	☐ Federal ☐ Tr	ribal Private (I	Name:		)					
			Nature and	d Volume o	f Release						
Crude Oil		l(s) Released (Select al Volume Release		calculations or spec	ttions or specific justification for the volumes provided below)  Volume Recovered (bbls)						
Produced	Water	Volume Release	` ,		Volume Recovered (bbls)						
			ion of dissolved c	chloride in the	Yes No						
		produced water									
Condensa	te	Volume Release	d (bbls)		Volume Reco	overed (bbls)					
Natural G	as	Volume Release	d (Mcf)		Volume Reco	overed (Mcf)					
Other (des	scribe)	Volume/Weight	Released (provide	e units)	Volume/Weight Recovered (provide units)						
Cause of Rele	ease										

Received by OCD: 6/1/2023 9:02:622 UMA Form C-14-1 State of New Mexico Oil Conservation Division Page 2

	Page 1242e of 25
ent ID	

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the re	esponsible party consider this a major release?							
19.15.29.7(A) NMAC?									
☐ Yes ☐ No									
If VEC was immediate to	otics siven to the OCD? Druvehom? T	o whom? When and by what means (phone, email, etc)?							
II YES, was immediate no	blice given to the OCD? By whom? I	5 whom? when and by what means (phone, email, etc)?							
Initial Response									
The responsible p	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 rele	ase has been stopped.								
☐ The impacted area ha	s been secured to protect human health	and the environment.							
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.									
All free liquids and recoverable materials have been removed and managed appropriately.									
If all the actions described above have <u>not</u> been undertaken, explain why:									
has begun, please attach a	a narrative of actions to date. If reme	dial efforts have been successfully completed or if the release occurred C), please attach all information needed for closure evaluation.							
regulations all operators are public health or the environm failed to adequately investigations.	required to report and/or file certain release nent. The acceptance of a C-141 report by ate and remediate contamination that pose	the best of my knowledge and understand that pursuant to OCD rules and notifications and perform corrective actions for releases which may endanger the OCD does not relieve the operator of liability should their operations have a threat to groundwater, surface water, human health or the environment. In or of responsibility for compliance with any other federal, state, or local laws							
Printed Name	_	Title:							
Signature:	tanigoparne	Date:							
		Telephone:							
OCD Only									
Received by: Joce	elyn Harimon	Date:09/12/2022							

	~ 14 40			L48 Spill Volume Estimate Form					
Received by OCD	: 6/1/2	023.93	02:22 AMInber:	Harrier 35					Page 243cof 250
			Asset Area:	Delaware east					
	Releas	e Disco	very Date & Time:	9/4/22 7am					
			Release Type:	Produced Water					
Provide ar	ny know	n details	s about the event:						
	7 11				Spil	Calculation	- On Pad Surface	Pool Spill	
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.)	Total Estimated Volume of Spill (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
Rectangle C	270.0	8.0	0.50	3	2160.000	0.014	5.340	0.001	5,344
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

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Released to Imaging: 8/22/2023 12:58:00 PM

Rectangle H

Rectangle I

#DIV/U #DIV/0!

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6.952

#DIV/0!

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Total Volume Release:

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 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

Created By		Condition Date
jharimon	None	9/12/2022

e of New Mexico

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.

This information must be provided to the appropriate district office to taler than 20 days after the release discovery date.				
What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)			
Did this release impact groundwater or surface water?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No			
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No			
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No			
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No			
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No			
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No			
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No			
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No			
Did the release impact areas <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> </ul>				

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> <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> <li>Boring or excavation logs</li> <li>Photographs including date and GIS information</li> <li>Topographic/Aerial maps</li> <li>Laboratory data including chain of custody</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.

Received by OCD: 6/1/2023 9:02:22 AM State of New Mexico
Page 4 Oil Conservation Division

Page 246 of 250

	1 480 210 01 20
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:				

te of New Mexico

Incident ID NAPP2225531487

District RP
Facility ID fAPP2203945184

Application ID

# **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be	incluaea 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> <li>☑ Closure criteria is to Table 1 specifications subject to 19.15.29.1</li> <li>☑ Proposed schedule for remediation (note if remediation plan times)</li> </ul>	2(C)(4) NMAC		
<u>Deferral Requests Only</u> : Each of the following items must be con	firmed as part of any request for deferral of remediation.		
Contamination must be in areas immediately under or around predeconstruction.	oduction equipment where remediation could cause a major facility		
Extents of contamination must be fully delineated.			
Contamination does not cause an imminent risk to human health, the environment, or groundwater.			
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  Printed Name: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 Approved with Attached Conditions of A see text box below - NV	Approval		
Signature: Nelson Velez	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	Condition	Condition
Ву		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