



October 30, 2024

**New Mexico Oil Conservation Division**

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

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

To Whom It May Concern:

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

**BACKGROUND**

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

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

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

**RECLAMATION ACTIVITIES**

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

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

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

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

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

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

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

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

## VEGETATION MONITORING

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

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

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

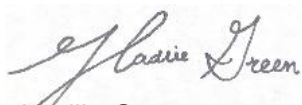
COG Operating, LLC  
Reclamation Report  
Harrier 35 Federal Com 001H

## RECLAMATION APPROVAL REQUEST

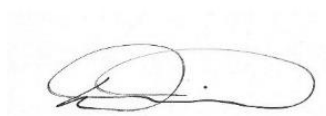
Based on the reclamation activities completed to date and proposed vegetation monitoring plan described above, COG respectfully requests approval of this *Reclamation Report* and a status update to *Reclamation Report Approved, Pending submission of Re-Vegetation Report* for Incident Number NAPP2225531487.

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

Sincerely,  
**Ensolum, LLC**



Hadlie Green  
Project Geologist



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

cc: Jacob Laird, ConocoPhillips Company  
Bureau of Land Management

### Appendices:

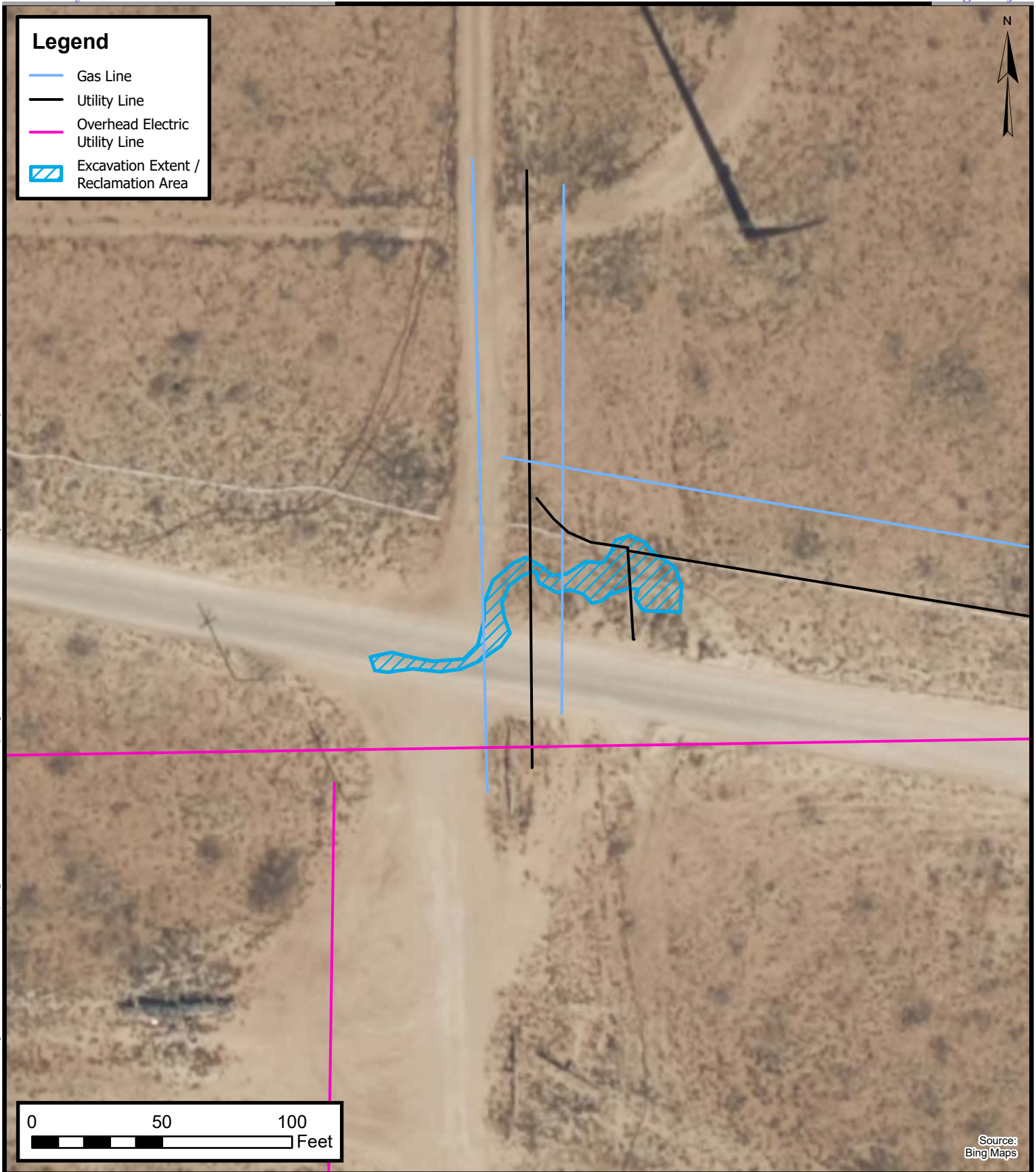
Figure 1	Excavation Extent / Reclamation Area
Table 1	Backfill Soil Sample Analytical Results
Appendix A	August 2024 <i>Closure Request</i>
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Report & Chain of Custody Documentation



FIGURES



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## Excavation Extent / Reclamation Area

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

**FIGURE**  
**1**



TABLES



TABLE 1 BACKFILL SOIL SAMPLE ANALYTICAL RESULTS Harrier 35 Federal Com 001H COG Operating, LLC Lea County, New Mexico										
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Backfill Soil Sample										
BF01	10/24/2024	1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	177

**Notes:***bgs: below ground surface**mg/kg: milligrams per kilogram**NMOCD: New Mexico Oil Conservation Division**NMAC: New Mexico Administrative Code**BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes**GRO: Gasoline Range Organics**DRO: Diesel Range Organics**ORO: Oil Range Organics**TPH: Total Petroleum Hydrocarbon*



## APPENDIX A

### August 2024 Closure Request

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August 12, 2024

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
Harrier 35 Federal Com 001H  
Incident Number NAPP2225531487  
Lea County, New Mexico**

To Whom It May Concern:

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

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

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

**BACKGROUND**

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

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

COG Operating, LLC  
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## DEPTH TO GROUNDWATER DETERMINATION

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

## EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS

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

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

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

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

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



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

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## CLOSURE REQUEST

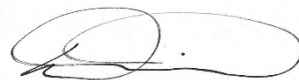
Excavation activities were conducted at the Site to address impacts to soil resulting from the September 2022 release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the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

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

Sincerely,  
**Ensolum, LLC**



Hadlie Green  
Project Geologist



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

cc: Jacob Laird, COG Operating, LLC  
Bureau of Land Management

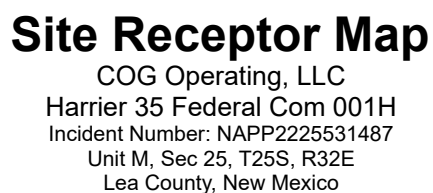
### Appendices:

Figure 1	Site Receptor Map
Figure 2	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	<i>Remediation Work Plan</i> , June 1, 2023
Appendix B	Lithologic Soil Sampling Log
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES

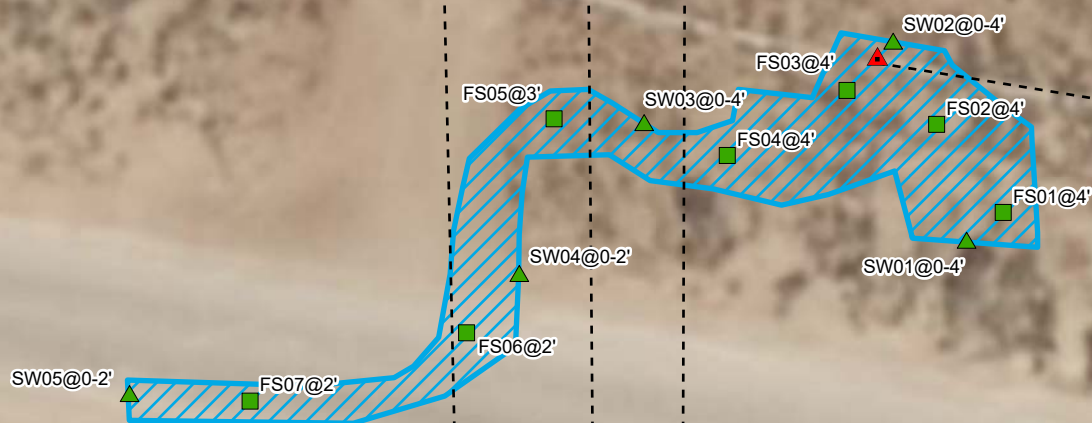




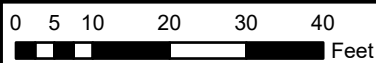
# FIGURE 1

**Legend**

- ▲ Point of Release (POR)
- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- - - Pipeline
- Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Excavation Soil Sample Locations

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

**FIGURE**  
**2**



TABLES



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

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Assessment Soil Samples										
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
Delineation Soil Samples										
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





**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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
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
<b>Excavation Floor Soil Samples</b>										
FS01	09/21/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	2,610
FS02	09/21/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	167
FS03	09/21/2023	4	<0.00200	<0.00399	<50.2	<50.2	<50.2	<50.2	<50.2	4,450
FS04	09/21/2023	4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	255
FS05*	09/21/2023	3	<0.00201	<0.00402	<50.2	<50.2	<50.2	<50.2	<50.2	177
FS06*	09/21/2023	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	193
FS07*	09/21/2023	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	182
<b>Excavation Sidewall Soil Samples</b>										
SW01*	09/21/2023	0 - 4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	193
SW02*	09/21/2023	0 - 4	<0.00200	<0.00399	<50.5	<50.5	<50.5	<50.5	<50.5	184
SW03*	09/21/2023	0 - 4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	185
SW04*	09/21/2023	0 - 2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	173
SW05*	09/21/2023	0 - 2	<0.00202	<0.00404	<49.6	<49.6	<49.6	<49.6	<49.6	164

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

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

Grey text represents sample that has been excavated.



## APPENDIX A

*Remediation Work Plan, June 1, 2023*

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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 activities 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.

## 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



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.

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

Page 4

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.

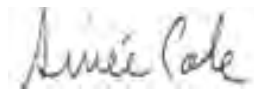
COG will complete the excavation activities within 90 days of the date of approval for this *Addendum* by the NMOCD. The depth to water soil boring will be completed as soon as possible following approval from the surface landowner, receipt of the NMOSE drilling permit, and scheduling with a driller. 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](mailto:kjennings@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Hadlie Green  
Project Geologist



Aimee Cole  
Senior Managing Scientist

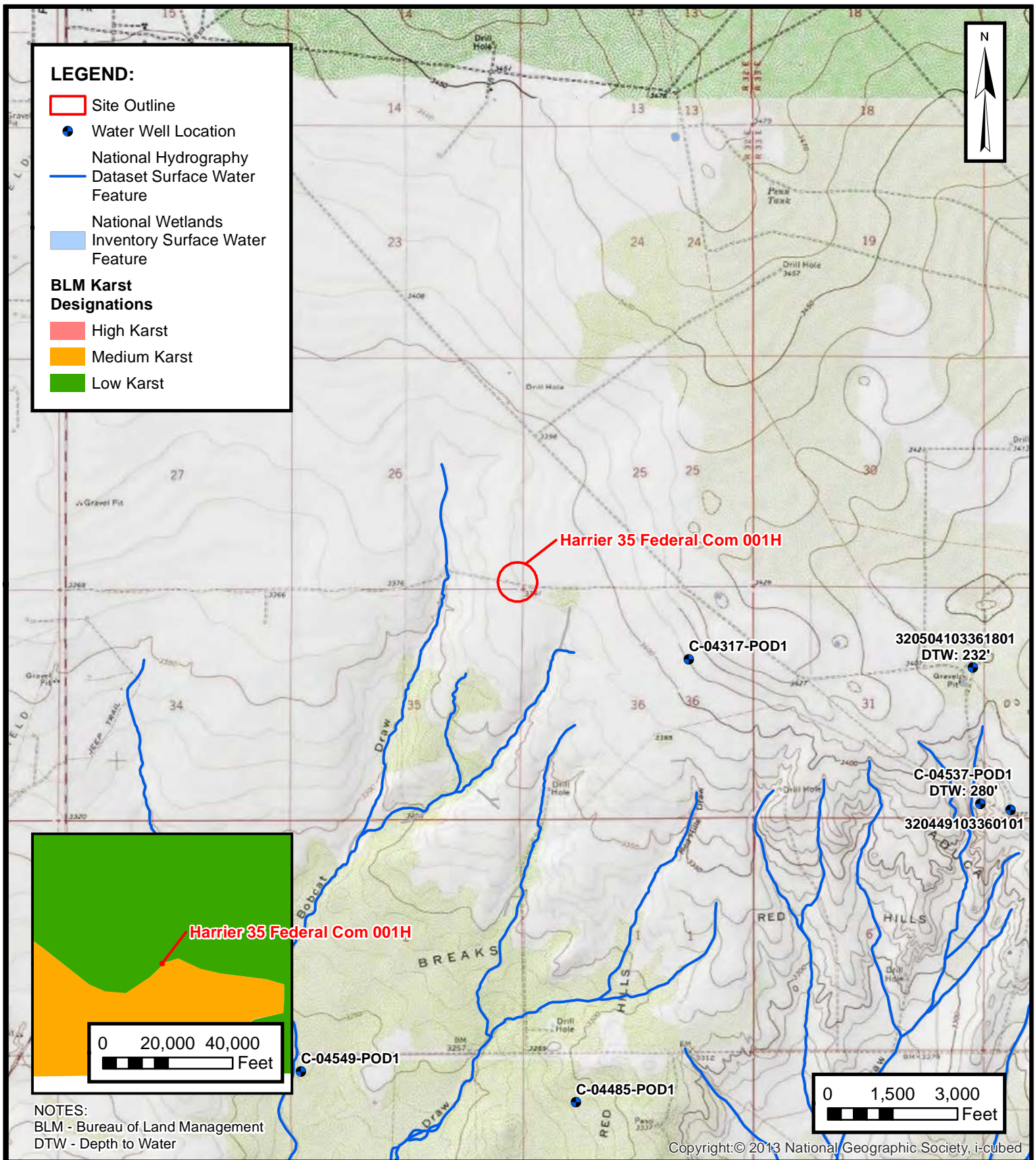
cc: Jacob Laird, COG Operating, LLC  
Bureau of Land Management

Appendices:

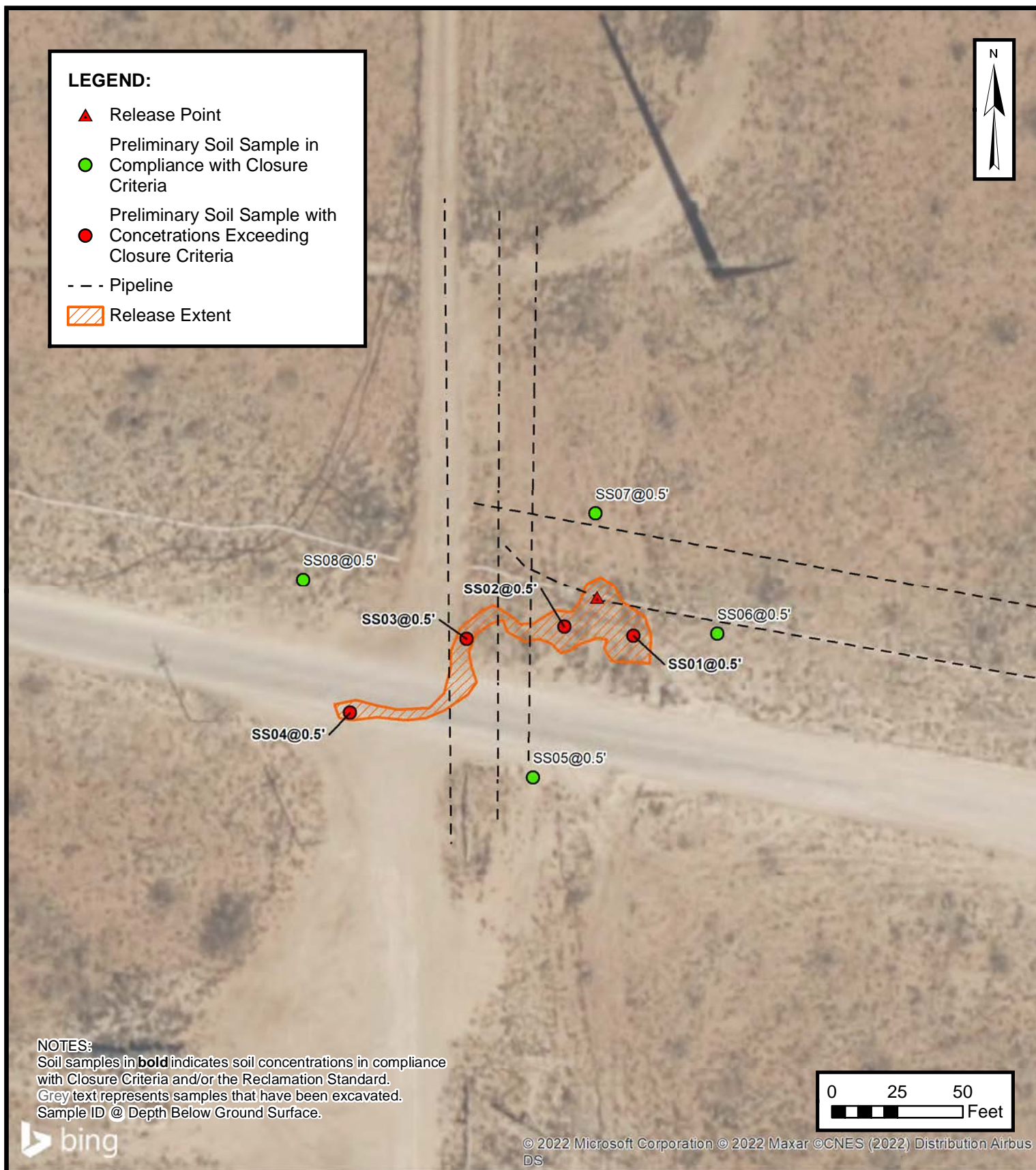
Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Proposed Excavation Extent
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic/Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	Final C-141
Appendix F	NMOCD Notifications



FIGURES



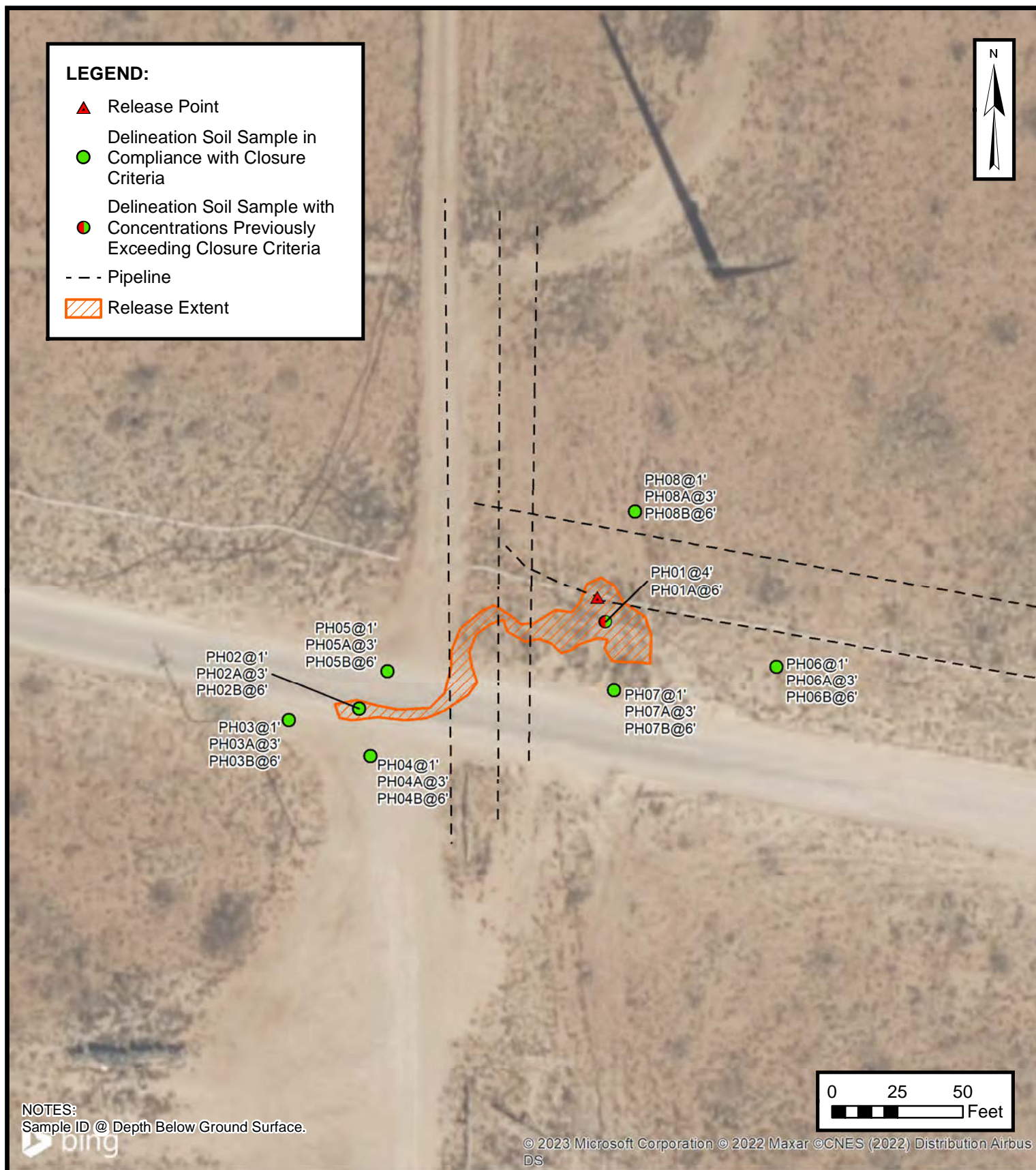




## PRELIMINARY SOIL SAMPLE LOCATIONS

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

FIGURE  
**2**



### DELINEATION SOIL SAMPLE LOCATIONS





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

FIGURE  
**3**





**Legend**

-  Soil Sample with Concentrations Previously Exceeding Closure Criteria
-  Soil Sample with Concentrations Exceeding Closure Criteria
-  Pipeline/Line/Utility
-  Proposed Excavation Extent



Sources: Environmental Systems Research Institute (ESRI)

**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**



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 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Preliminary Soil Samples										
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*
Delineation Soil Samples										
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



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

## 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



## APPENDIX A

### Referenced Well Records

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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 (121OGLL) local aquifer.

Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>


Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1954-07-26			D	62610	3145.45	NGVD29	1	Z			A
1954-07-26			D	62611	3147.08	NAVD88	1	Z			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		P	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
2013-01-16	19:45 UTC		m	72019	232.96		1	S	USGS	S	A



# New Mexico Office of the State Engineer

## Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
20E6C	C 04537 POD1	4	4	4	31	25S	33E	631847	3550243 

<b>Driller License:</b>	1706	<b>Driller Company:</b>	ELITE DRILLERS CORPORATION	
<b>Driller Name:</b>	WALLACE, BRYCE J.LEE.NER			
<b>Drill Start Date:</b>	06/11/2021	<b>Drill Finish Date:</b>	06/12/2021	<b>Plug Date:</b>
<b>Log File Date:</b>	06/21/2021	<b>PCW Rcv Date:</b>		<b>Source:</b> Shallow
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b> 5 GPM
<b>Casing Size:</b>	4.00	<b>Depth Well:</b>	500 feet	<b>Depth Water:</b> 280 feet

Water Bearing Stratifications:	Top	Bottom	Description
	220	340	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	300	500

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

11/23/22 9:04 AM

POINT OF DIVERSION SUMMARY



## APPENDIX B

### Photographic Log

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# 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 staining 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


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								Sample Name: PH01		Date: 01/19/2023	
								Site Name: Harrier 35 Federal Com 001H_093			
								Incident Number: NAPP2225531487			
								Job Number: 03D2024093			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe	
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0					
						1					
						2					
						3	CCHE	Excavation at 3-feet, caliche.			
D	3421	0.8	N	PH01	4	4	CCHE	Caliche, grey, coarse grained, well graded, no stain, no odor.			
						5					
D	<170	0.2	N	PH01A	6	6	CCHE	Caliche, pink and grey, coarse grained, well graded, no stain, no odor.			
							TD	Total depth at 6-feet below ground surface.			
						7					
						8					
						9					
						10					
						11					
						12					


								Sample Name: PH02		Date: 01/19/2023			
								Site Name: Harrier 35 Federal Com 001H_093					
								Incident Number: NAPP2225531487					
								Job Number: 03D2024093					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe			
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
						0							
N	ND	0.4	N	PH02	1	1	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor					
N	ND	1	N			2	CCHE	Caliche: white, tan, coarse grained, well graded, no stain, no odor					
N	ND	0.6	N	PH02	3	3	CCHE	SAA					
N	ND	0.7	N			4	CCHE	SAA					
						5							
N	ND	0.5	N	PH02	6	6	CCHE	SAA					
							TD	Total depth at 6-feet below ground surface.					
						7							
						8							
						9							
						10							
						11							
						12							

								Sample Name: PH03		Date: 01/19/2023			
								Site Name: Harrier 35 Federal Com 001H_093					
								Incident Number: NAPP2225531487					
								Job Number: 03D2024093					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe			
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
N	ND	0.5	N	PH03	1	1	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor					
						2							
N	ND	1	N	PH03	3	3	CCHE					Caliche: grey, coarse grained, well graded, no stain, no odor	
						4							
						5							
N	ND	0.5	N	PH03	6	6	CCHE	SAA					
						7	TD					Total depth at 6-feet below ground surface.	
						8							
						9							
						10							
						11							
						12							


								Sample Name: PH04		Date: 01/19/2023	
								Site Name: Harrier 35 Federal Com 001H_093			
								Incident Number: NAPP2225531487			
								Job Number: 03D2024093			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: CS		Method: Backhoe	
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
N	ND	0.3	N	PH04	1	0	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor			
						1					
						2					
N	ND	1.3	N	PH04	3	3	CCHE	Caliche: grey, coarse grained, well graded, no stain, no odor			
						4					
						5					
N	ND	1.3	N	PH04	6	6	CCHE	SAA			
						6	TD				
						7		Total depth at 6-feet below ground surface.			
						8					
						9					
						10					
						11					
						12					

								Sample Name: PH05		Date: 01/19/2023			
								Site Name: Harrier 35 Federal Com 001H_093					
								Incident Number: NAPP2225531487					
								Job Number: 03D2024093					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe			
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
N	ND	0.5	N	PH05	1	1	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor					
						2							
N	ND	0.4	N	PH05	3	3	CCHE					Caliche: grey, coarse grained, well graded, no stain, no odor	
						4							
						5							
N	ND	0.4	N	PH05	6	6	CCHE	SAA					
						7	TD	Total depth at 6-feet below ground surface.					
						8							
						9							
						10							
						11							
						12							

								Sample Name: PH06		Date: 01/19/2023			
								Site Name: Harrier 35 Federal Com 001H_093					
								Incident Number: NAPP2225531487					
								Job Number: 03D2024093					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe			
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
N	ND	0.2	N	PH06	1	1	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor					
						2							
N	ND	0.8	N	PH06	3	3	CCHE					Caliche: grey, coarse grained, well graded, no stain, no odor	
						4							
						5							
N	ND	0.5	N	PH06	6	6	CCHE	SAA					
						7	TD	Total depth at 6-feet below ground surface.					
						8							
						9							
						10							
						11							
						12							

								Sample Name: PH07		Date: 01/19/2023			
								Site Name: Harrier 35 Federal Com 001H_093					
								Incident Number: NAPP2225531487					
								Job Number: 03D2024093					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe			
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
N	ND	0.3	N	PH07	1	1	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor					
						2							
N	ND	1	N	PH07	3	3	CCHE					Caliche: grey, coarse grained, well graded, no stain, no odor	
						4							
						5							
N	ND	0.8	N	PH07	6	6	CCHE	SAA					
						7	TD	Total depth at 6-feet below ground surface.					
						8							
						9							
						10							
						11							
						12							



								Sample Name: PH08		Date: 01/19/2023
								Site Name: Harrier 35 Federal Com 001H_093		
								Incident Number: NAPP2225531487		
								Job Number: 03D2024093		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Backhoe
Coordinates: 32.0946105, -103.6371206								Hole Diameter: N/A		Total Depth: 6'
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
N	ND	0.7	N	PH08	1	0	SP-SM	Sand: brown, well graded, medium-coarse grained, no stain, no odor		
N	ND	0.5	N	PH08	3	3	CCHE	Caliche: grey, coarse grained, well graded, no stain, no odor		
N	ND	0.4	N	PH08	6	6	CCHE SAA	Total depth at 6-feet below ground surface.		
						7	TD			
						8				
						9				
						10				
						11				
						12				



## 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

Authorized for release by:

10/12/2022 12:37:53 PM

Jessica Kramer, Project Manager  
(432)704-5440

[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)

### LINKS

Review your project  
results through



Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

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Definitions/Glossary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Qualifiers

GC VOA

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

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

Case Narrative

Client: Ensolum  
Project/Site: 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.

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## Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1  
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'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	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 - Total BTEX 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

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	10/06/22 08:40	10/06/22 15:11	1
o-Terphenyl	78		70 - 130	10/06/22 08:40	10/06/22 15:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28000		248	mg/Kg			10/11/22 08:59	50

Client Sample ID: SS02

Lab Sample ID: 890-3147-2

Date Collected: 10/04/22 08:45

Matrix: Solid

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	<0.00198	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

## Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS02

Lab Sample ID: 890-3147-2

Date Collected: 10/04/22 08:45

Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

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

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	409		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 15:32	1
Diesel Range Organics (Over C10-C28)	210		49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1
Oil Range Organics (Over C28-C36)	199		49.9	mg/Kg		10/06/22 08:40	10/06/22 15:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
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

Matrix: Solid

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
1,4-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

Eurofins Carlsbad

## Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

## Client Sample ID: SS03

Lab Sample ID: 890-3147-3

Date Collected: 10/04/22 08:50

Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 15:53	1
Oil 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 Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15700		101	mg/Kg			10/11/22 09:14	20

## Client Sample ID: SS04

Lab Sample ID: 890-3147-4

Date Collected: 10/04/22 08:55

Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	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 - 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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/07/22 09:09	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	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			10/06/22 08:40	10/06/22 16:14	1
o-Terphenyl	76		70 - 130			10/06/22 08:40	10/06/22 16:14	1

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Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS04  
Date Collected: 10/04/22 08:55  
Date Received: 10/05/22 09:10  
Sample Depth: 0.5'

Lab Sample ID: 890-3147-4  
Matrix: Solid

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

Client Sample ID: SS05  
Date Collected: 10/04/22 09:00  
Date Received: 10/05/22 09:10  
Sample Depth: 0.5'

Lab Sample ID: 890-3147-5  
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00199	U	0.00199	mg/Kg		10/10/22 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 - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/12/22 11:46	1	

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.9	U	49.9	mg/Kg			10/07/22 09:09	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 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	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	30.9		4.96	mg/Kg			10/11/22 09:45	1	

## Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS06

Lab Sample ID: 890-3147-6

Date Collected: 10/04/22 09:05

Matrix: Solid

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	<0.00201	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 Calculation

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	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	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:55	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/06/22 08:40	10/06/22 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	10/06/22 08:40	10/06/22 16:55	1
o-Terphenyl	78		70 - 130	10/06/22 08:40	10/06/22 16:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.3		4.97	mg/Kg			10/11/22 09:52	1

Client Sample ID: SS07

Lab Sample ID: 890-3147-7

Date Collected: 10/04/22 09:10

Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

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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## Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS07

Lab Sample ID: 890-3147-7

Date Collected: 10/04/22 09:10

Matrix: Solid

Date Received: 10/05/22 09:10

Sample Depth: 0.5'

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

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

## Method: TAL SOP Total BTEX - Total BTEX 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

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

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

Matrix: Solid

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	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/12/22 00:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/10/22 13:48	10/12/22 00:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	10/10/22 13:48	10/12/22 00:09	1
1,4-Difluorobenzene (Surr)	83		70 - 130	10/10/22 13:48	10/12/22 00:09	1

## Method: TAL SOP Total BTEX - Total BTEX 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

## 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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Client Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS08  
Date Collected: 10/04/22 09:15  
Date Received: 10/05/22 09:10  
Sample Depth: 0.5'

Lab Sample ID: 890-3147-8  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 17:36	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 17:36	1	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	39.7		4.99	mg/Kg			10/11/22 10:23	1	

## Surrogate Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

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

Matrix: Solid

Prep Type: Total/NA

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
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
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36590/5-A					Client Sample ID: Method Blank			
Matrix: Solid					Prep Type: Total/NA			
Analysis Batch: 36625					Prep Batch: 36590			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/10/22 13:48	10/11/22 21:22	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130			10/10/22 13:48	10/11/22 21:22	1
1,4-Difluorobenzene (Surr)	82		70 - 130			10/10/22 13:48	10/11/22 21:22	1

Lab Sample ID: LCS 880-36590/1-A				Client Sample ID: Lab Control Sample						
Matrix: Solid				Prep Type: Total/NA						
Analysis Batch: 36625				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				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 36625				Prep Batch: 36590							
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec	RPD			
							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		
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	89		70 - 130								
1,4-Difluorobenzene (Surr)	92		70 - 130								

Lab Sample ID: 890-3147-1 MS								Client Sample ID: SS01		
Matrix: Solid								Prep Type: Total/NA		
Analysis Batch: 36625								Prep Batch: 36590		
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.1006		mg/Kg		101	70 - 130	
Toluene	<0.00200	U	0.0998	0.09590		mg/Kg		95	70 - 130	

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## QC Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1  
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

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

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

Lab Sample ID: 890-3147-1 MSD

Matrix: Solid

Analysis Batch: 36625

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 36590

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

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

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

Matrix: Solid

Analysis Batch: 36625

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 36628

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

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

## 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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1

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## QC Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

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

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/06/22 08:40	10/06/22 09:43	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	90		70 - 130			10/06/22 08:40	10/06/22 09:43	1
o-Terphenyl	93		70 - 130			10/06/22 08:40	10/06/22 09:43	1

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

Matrix: Solid

Analysis Batch: 36216

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 36226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	1077		mg/Kg		108	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	910.0		mg/Kg		91	70 - 130	
Surrogate	LCS	LCS	Limits			%Recovery	Qualifier	
1-Chlorooctane			70 - 130			108		
o-Terphenyl			70 - 130			110		

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

Matrix: Solid

Analysis Batch: 36216

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 36226

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1190		mg/Kg		119	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	1038		mg/Kg		104	70 - 130	13	20
Surrogate	LCSD	LCSD	Limits			%Recovery	Qualifier		
1-Chlorooctane			70 - 130			116			
o-Terphenyl			70 - 130			120			

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

Matrix: Solid

Analysis Batch: 36216

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 36226

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
	Result	Qualifier								
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	955.9		mg/Kg		92	70 - 130	
Diesel Range Organics (Over C10-C28)	101		998	922.3		mg/Kg		82	70 - 130	
Surrogate	MS	MS	Limits			%Recovery	Qualifier			
1-Chlorooctane			70 - 130			94				
o-Terphenyl			70 - 130			85				

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## QC Sample Results

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

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

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

Matrix: Solid

Analysis Batch: 36216

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 36226

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	892.0		mg/Kg		86	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	101		999	803.4		mg/Kg		70	70 - 130	14	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	82		70 - 130								
o-Terphenyl	71		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

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

Matrix: Solid

Analysis Batch: 36598

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			10/11/22 07:11	1

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

Matrix: Solid

Analysis Batch: 36598

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

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

Matrix: Solid

Analysis Batch: 36598

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	260.8		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-3147-4 MS

Matrix: Solid

Analysis Batch: 36598

Client Sample ID: SS04

Prep Type: Soluble

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

Lab Sample ID: 890-3147-4 MSD

Matrix: Solid

Analysis Batch: 36598

Client Sample ID: SS04

Prep Type: Soluble

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

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QC Association Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1  
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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## QC Association Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

## GC Semi VOA (Continued)

## Analysis Batch: 36216 (Continued)

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

## Prep Batch: 36226

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

## Analysis Batch: 36332

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

## HPLC/IC

## Leach Batch: 36242

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

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QC Association Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1  
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

Lab Chronicle

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS01  
Date Collected: 10/04/22 08:40  
Date Received: 10/05/22 09:10

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

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	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

Client Sample ID: SS02  
Date Collected: 10/04/22 08:45  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 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 22:05	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			10.02 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 15:32	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 09:06	CH	EET MID

Client Sample ID: SS03  
Date Collected: 10/04/22 08:50  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 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

Client Sample ID: SS04  
Date Collected: 10/04/22 08:55  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	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

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Lab Chronicle

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Client Sample ID: SS04  
Date Collected: 10/04/22 08:55  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			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  
Date Collected: 10/04/22 09:00  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-5  
Matrix: Solid

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

Client Sample ID: SS06  
Date Collected: 10/04/22 09:05  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-6  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	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

Client Sample ID: SS07  
Date Collected: 10/04/22 09:10  
Date Received: 10/05/22 09:10

Lab Sample ID: 890-3147-7  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	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	Prep	8015NM Prep			10.02 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 17:16	SM	EET MID

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Lab Chronicle

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

**Client Sample ID: SS07**  
**Date Collected: 10/04/22 09:10**  
**Date Received: 10/05/22 09:10**

**Lab Sample ID: 890-3147-7**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 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**  
**Date Collected: 10/04/22 09:15**  
**Date Received: 10/05/22 09:10**

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

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	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	CH	EET MID
Soluble	Analysis	300.0		1			36598	10/11/22 10:23	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

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

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum  
Project/Site: Harrier 35 Fed Com 001

Job ID: 890-3147-1  
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	MCAWW	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum  
Project/Site: 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'
890-3147-2	SS02	Solid	10/04/22 08:45	10/05/22 09:10	0.5'
890-3147-3	SS03	Solid	10/04/22 08:50	10/05/22 09:10	0.5'
890-3147-4	SS04	Solid	10/04/22 08:55	10/05/22 09:10	0.5'
890-3147-5	SS05	Solid	10/04/22 09:00	10/05/22 09:10	0.5'
890-3147-6	SS06	Solid	10/04/22 09:05	10/05/22 09:10	0.5'
890-3147-7	SS07	Solid	10/04/22 09:10	10/05/22 09:10	0.5'
890-3147-8	SS08	Solid	10/04/22 09:15	10/05/22 09:10	0.5'

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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 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum	Company Name:	
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	303-887-2946	Email:	kjennings@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:		Harrier 35 Fed Com 001		Turn Around				ANALYSIS REQUEST												Preservative Codes				
Project Number:		03D2024093		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush		Pres. Code														None: NO DI Water: H <sub>2</sub> O				
Project Location:		32.0947, -103.63701		Due Date:																Cool: Cool MeOH: Me				
Sampler's Name:		Kase Parker		TAT starts the day received by the lab, if received by 4:30pm																HCL: HC HNO <sub>3</sub> : HN				
PO #:																				H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na				
SAMPLE RECEIPT		Temp Blank: <input checked="" type="checkbox"/> No		Wet Ice: <input checked="" type="checkbox"/> No		Parameters														H <sub>3</sub> PO <sub>4</sub> : HP				
Samples Received Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID: <i>TAM-00</i>																		NaHSO <sub>4</sub> : NABIS				
Cooler Custody Seals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Correction Factor: <i>-0.2</i>																		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>				
Sample Custody Seals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Temperature Reading: <i>1.8</i>																		Zn Acetate+NaOH: Zn				
Total Containers:		Corrected Temperature: <i>1.6</i>																		NaOH+Ascorbic Acid: SAPC				
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)													Sample Comments	
SS01		S	10/4/2022	8:40	0.5'	G	1	x	x	x													Incident ID:	
SS02		S	10/4/2022	8:45	0.5'	G	1	x	x	x														
SS03		S	10/4/2022	8:50	0.5'	G	1	x	x	x													Cost Center:	
SS04		S	10/4/2022	8:55	0.5'	G	1	x	x	x														
SS05		S	10/4/2022	9:00	0.5'	G	1	x	x	x													AFE:	
SS06		S	10/4/2022	9:05	0.5'	G	1	x	x	x														
SS07		S	10/4/2022	9:10	0.5'	G	1	x	x	x														
SS08		S	10/4/2022	9:15	0.5'	G	1	x	x	x														

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 \$65.00 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
<i>[Signature]</i>	<i>[Signature]</i>	10/5/22 0900			

Revised Date: 08/25/2020 Rev. 2020.2



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3147-1

SDG Number: 03D2024093

Login Number: 3147

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3147-1

SDG Number: 03D2024093

Login Number: 3147

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 10/06/22 10:20 AM

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



Environment Testing

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# 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](mailto: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

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Definitions/Glossary

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

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

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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



Case Narrative

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

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

Job ID: 890-3906-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative  
890-3906-1

Receipt

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

Receipt Exceptions

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

GC VOA

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

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

GC Semi VOA

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

HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44761 and analytical batch 880-44876 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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## Client Sample Results

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

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

Client Sample ID: PH01

Lab Sample ID: 890-3906-1

Date Collected: 01/19/23 09:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/25/23 14:56	01/30/23 18:38	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/25/23 14:56	01/30/23 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/25/23 14:56	01/30/23 18:38	1
1,4-Difluorobenzene (Surr)	113		70 - 130	01/25/23 14:56	01/30/23 18:38	1

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

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 - 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 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	02/01/23 13:08	02/03/23 03:04	1
o-Terphenyl	107		70 - 130	02/01/23 13:08	02/03/23 03:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5400		50.0	mg/Kg			01/26/23 22:16	10

Client Sample ID: PH01

Lab Sample ID: 890-3906-2

Date Collected: 01/19/23 09:20

Matrix: Solid

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	<0.00199	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)	111		70 - 130	01/25/23 14:56	01/30/23 18:58	1

Eurofins Carlsbad

## Client Sample Results

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

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

Client Sample ID: PH01

Lab Sample ID: 890-3906-2

Date Collected: 01/19/23 09:20

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 6'

## Method: SW846 8021B - Volatile Organic Compounds (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 - Total BTEX Calculation

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 - 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 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 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
Oil 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
1-Chlorooctane	103		70 - 130			02/01/23 13:08	02/03/23 03:26	1
o-Terphenyl	101		70 - 130			02/01/23 13:08	02/03/23 03:26	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	162		24.8	mg/Kg			01/30/23 17:17	5

## Surrogate Summary

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

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3893-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
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
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
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

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

Job ID: 890-3906-1  
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

Analyte	MB Result	MB 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

Surrogate	MB %Recovery	MB 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

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

Matrix: Solid

Analysis Batch: 44986

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 44738

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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

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

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

Matrix: Solid

Analysis Batch: 44986

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 44738

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

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

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

Matrix: Solid

Analysis Batch: 44986

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 44738

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

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QC Sample Results

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

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

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

Lab Sample ID: 890-3893-A-1-D MS  
Matrix: Solid  
Analysis Batch: 44986

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 44738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%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
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	85		70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: 890-3893-A-1-E MSD  
Matrix: Solid  
Analysis Batch: 44986

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 44738

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.09618		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
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	100		70 - 130								
1,4-Difluorobenzene (Surr)	106		70 - 130								

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

Lab Sample ID: MB 880-45211/1-A  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 45211

Analyte	MB Result	MB 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
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	124		70 - 130	02/01/23 13:08	02/02/23 20:18	1		
o-Terphenyl	130		70 - 130	02/01/23 13:08	02/02/23 20:18	1		

Lab Sample ID: LCS 880-45211/2-A  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 45211

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

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## QC Sample Results

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

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

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

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

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45211

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

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

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	848.1		mg/Kg		85	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	999	939.0		mg/Kg		94	70 - 130	2	20

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

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

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45211

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

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

Lab Sample ID: 880-23972-A-21-I MSD

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1061		mg/Kg		102	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	955.2		mg/Kg		96	70 - 130	6	20

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

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## QC Sample Results

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

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

## Method: 300.0 - Anions, Ion Chromatography

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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB 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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-44761/3-A

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

Lab Sample ID: 890-3904-A-1-C MS

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<5.03	U F1	252	281.2	F1	mg/Kg		111	90 - 110

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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.03	U F1	252	281.7	F1	mg/Kg		111	90 - 110	0	20

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

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/30/23 14:31	1

Lab Sample ID: LCS 880-44967/2-A

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

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

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

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QC Sample Results

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-24203-A-3-D MS										Client Sample ID: Matrix Spike			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 45074													
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits				
Chloride	104		250	349.8		mg/Kg		99	90 - 110				

Lab Sample ID: 880-24203-A-3-E MSD										Client Sample ID: Matrix Spike Duplicate			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 45074													
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit		
Chloride	104		250	360.6		mg/Kg		103	90 - 110	3	20		

## QC Association Summary

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

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

## GC VOA

## Prep Batch: 44738

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

## Analysis Batch: 44986

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

## Analysis Batch: 45133

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

## GC Semi VOA

## Prep Batch: 45211

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

## Analysis Batch: 45226

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

## Analysis Batch: 45362

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

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## QC Association Summary

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

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

## HPLC/IC

## Leach Batch: 44761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3906-1	PH01	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	
890-3904-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

Lab Chronicle

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

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

Client Sample ID: PH01  
Date Collected: 01/19/23 09:10  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3906-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	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  
Date Collected: 01/19/23 09:20  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3906-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	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	CH	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

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

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

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

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

Method	Method Description	Protocol	Laboratory
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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Environment Testing  
Xenco

## Chain of Custody

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

**Work Order No:** \_\_\_\_\_

www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="text"/>

[illegible]

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 <i>Car Sm</i>	<i>Amanda Stuf</i>	1-20-23 904			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

## Eurofins Carlsbad

1089 N Canal St.

Carlsbad, NM 88220

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

## Chain of Custody Record



## Environment Testing

2/3/2023

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Released to Imaging: 3/7/2025 4:50:14 PM/11

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## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3906-1

SDG Number: Lea County NM

Login Number: 3906

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3906-1

SDG Number: Lea County NM

Login Number: 3906

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Hadlie Green  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701  
Generated 2/3/2023 7:13:45 PM

## JOB DESCRIPTION

Harrier 35 Federal Com 001H  
SDG NUMBER 03D2024093

## JOB NUMBER

890-3907-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220



**Eurofins Carlsbad****Job Notes**

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

**Authorization**

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

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

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

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

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Definitions/Glossary

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

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

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Case Narrative

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

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

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.

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## Client Sample Results

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

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

Client Sample ID: PH02

Lab Sample ID: 890-3907-1

Date Collected: 01/19/23 10:00

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 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 - 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 12:53	1

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	02/01/23 13:05	02/03/23 18:09	1
o-Terphenyl	96		70 - 130	02/01/23 13:05	02/03/23 18:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.9		5.01	mg/Kg			01/26/23 22:29	1

Client Sample ID: PH02

Lab Sample ID: 890-3907-2

Date Collected: 01/19/23 10:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		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)	107		70 - 130	01/31/23 14:36	01/31/23 20:22	1

Eurofins Carlsbad

## Client Sample Results

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

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

Client Sample ID: PH02

Lab Sample ID: 890-3907-2

Date Collected: 01/19/23 10:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	117		70 - 130	01/31/23 14:36	01/31/23 20:22	1

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

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

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

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

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

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

Matrix: Solid

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	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	01/31/23 20:42	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/31/23 14:36	01/31/23 20:42	1

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

## 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

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

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

Eurofins Carlsbad



Client Sample Results

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

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

Client Sample ID: PH02  
Date Collected: 01/19/23 10:20  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3907-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:05	02/03/23 18:54	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	112		70 - 130			02/01/23 13:05	02/03/23 18:54	1	
o-Terphenyl	111		70 - 130			02/01/23 13:05	02/03/23 18:54	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	18.6		5.00	mg/Kg			01/26/23 22:41	1	

Surrogate Summary

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

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

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23952-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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3907-1	PH02	93	96
890-3907-2	PH02	95	98
890-3907-3	PH02	112	111
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

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

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45147/5-A				Client Sample ID: Method Blank				
Matrix: Solid				Prep Type: Total/NA				
Analysis Batch: 45129				Prep Batch: 45147				
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB 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				Client Sample ID: Lab Control Sample				
Matrix: Solid				Prep Type: Total/NA				
Analysis Batch: 45129				Prep Batch: 45147				
Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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
Surrogate	LCS %Recovery	LCS 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					Prep Type: Total/NA							
Analysis Batch: 45129					Prep Batch: 45147							
Analyte				Spike	LCSD	LCSD	Unit	D	%Rec	RPD		
				Added	Result	Qualifier			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							Client Sample ID: Matrix Spike				
Matrix: Solid							Prep Type: Total/NA				
Analysis Batch: 45129							Prep Batch: 45147				
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	<0.00202	U	0.101	0.08219		mg/Kg		82	70 - 130		
Toluene	<0.00202	U	0.101	0.07762		mg/Kg		77	70 - 130		

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## QC Sample Results

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

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

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

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

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

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

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

Matrix: Solid

Analysis Batch: 45129

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
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	1	35
Ethylbenzene	<0.00202	U	0.0996	0.07266		mg/Kg		73	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1519		mg/Kg		76	70 - 130	2	35
o-Xylene	<0.00202	U	0.0996	0.07278		mg/Kg		73	70 - 130	0	35

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

## Method: 300.0 - Anions, Ion Chromatography

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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB 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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-44761/3-A

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

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QC Sample Results

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

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

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3907-3 MS

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: PH02

Prep Type: Soluble

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

Lab Sample ID: 890-3907-3 MSD

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: PH02

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	18.6		250	289.9		mg/Kg		109	90 - 110	0	20

## QC Association Summary

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

Job ID: 890-3907-1  
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	
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

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

## HPLC/IC

## Leach Batch: 44761

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

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QC Association Summary

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

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

HPLC/IC (Continued)

Leach Batch: 44761 (Continued)

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

Analysis Batch: 44876

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



## Lab Chronicle

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

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

Client Sample ID: PH02

Lab Sample ID: 890-3907-1

Date Collected: 01/19/23 10:00

Matrix: Solid

Date Received: 01/20/23 09:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	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

Date Collected: 01/19/23 10:10

Matrix: Solid

Date Received: 01/20/23 09:06

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

Client Sample ID: PH02

Lab Sample ID: 890-3907-3

Date Collected: 01/19/23 10:20

Matrix: Solid

Date Received: 01/20/23 09:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	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

Eurofins Carlsbad

Accreditation/Certification Summary

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

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

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

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

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

Sample Summary

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

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	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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## Eurofins Carlsbad

1089 N Canal St.

Carlsbad NM 88220

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

## Chain of Custody Record



## Environment Testing

2/3/2023

[illegible]

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Released to Imaging: 3/7/2025 4:50:14 PM/11

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3907-1

SDG Number: 03D2024093

Login Number: 3907

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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



Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3907-1

SDG Number: 03D2024093

Login Number: 3907

List Source: Eurofins Midland

List Number: 2

List Creation: 01/23/23 07:42 AM

Creator: Kramer, Jessica

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



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

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

## JOB DESCRIPTION

Harrier 35 Federal Com 001H  
SDG NUMBER Lea County NM


## JOB NUMBER

890-3908-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

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

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

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

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

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Definitions/Glossary

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

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

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum  
Project/Site: 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.

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## Client Sample Results

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

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

Client Sample ID: PH03

Lab Sample ID: 890-3908-1

Date Collected: 01/19/23 10:30

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		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 - 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			02/03/23 11:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 03:48	1
Oil 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 Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.02	U	5.02	mg/Kg			01/26/23 23:00	1

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

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		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

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## Client Sample Results

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

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

Client Sample ID: PH03

Lab Sample ID: 890-3908-2

Date Collected: 01/19/23 10:40

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112		70 - 130	01/31/23 14:36	01/31/23 22:53	1

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

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

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			02/01/23 13:08	02/03/23 04:09	1
o-Terphenyl	115		70 - 130			02/01/23 13:08	02/03/23 04:09	1

## 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

Matrix: Solid

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	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/31/23 14:36	01/31/23 23:13	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		01/31/23 14:36	01/31/23 23:13	1

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

## Method: TAL SOP Total BTEX - 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 12:53	1

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

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

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Client Sample Results

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

Job ID: 890-3908-1  
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'

Lab Sample ID: 890-3908-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		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	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/03/23 04:30	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	105		70 - 130			02/01/23 13:08	02/03/23 04:30	1	
o-Terphenyl	105		70 - 130			02/01/23 13:08	02/03/23 04:30	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	50.0		24.9	mg/Kg			01/30/23 17:24	5	

Surrogate Summary

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

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

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

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

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

Prep Type: Total/NA

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

Project/Site: Harrier 35 Federal Com 001H

SDG: Lea County NM

## 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

Analyte	MB Result	MB 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

Surrogate	MB %Recovery	MB 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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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

Surrogate	LCS %Recovery	LCS 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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Surrogate	LCSD %Recovery	LCSD 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

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

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## QC Sample Results

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

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

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130
o-Xylene	<0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	97		70 - 130						
1,4-Difluorobenzene (Surr)	112		70 - 130						

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

Matrix: Solid

Analysis Batch: 45129

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
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	1	35
Ethylbenzene	<0.00202	U	0.0996	0.07266		mg/Kg		73	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1519		mg/Kg		76	70 - 130	2	35
o-Xylene	<0.00202	U	0.0996	0.07278		mg/Kg		73	70 - 130	0	35
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	98		70 - 130								
1,4-Difluorobenzene (Surr)	112		70 - 130								

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

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

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45211

Analyte	MB Result	MB 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
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 13:08	02/02/23 20:18	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130			02/01/23 13:08	02/02/23 20:18	1
o-Terphenyl	130		70 - 130			02/01/23 13:08	02/02/23 20:18	1

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

Matrix: Solid

Analysis Batch: 45226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45211

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

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## QC Sample Results

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

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

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

Lab Sample ID: LCS 880-45211/2-A  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 45211

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

Lab Sample ID: LCSD 880-45211/3-A  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 45211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	848.1		mg/Kg		85	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	999	939.0		mg/Kg		94	70 - 130	2	20

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

Lab Sample ID: 880-23972-A-21-H MS  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 45211

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

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

Lab Sample ID: 880-23972-A-21-I MSD  
Matrix: Solid  
Analysis Batch: 45226

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 45211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1061		mg/Kg		102	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	955.2		mg/Kg		96	70 - 130	6	20

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

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## QC Sample Results

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

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

## Method: 300.0 - Anions, Ion Chromatography

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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB 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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-44761/3-A

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

Lab Sample ID: 890-3907-A-3-B MS

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike

Prep Type: Soluble

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

Lab Sample ID: 890-3907-A-3-C MSD

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	18.6		250	289.9		mg/Kg		109	90 - 110	0	20

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

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/30/23 14:31	1

Lab Sample ID: LCS 880-44967/2-A

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

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

Matrix: Solid

Analysis Batch: 45074

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

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QC Sample Results

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-24203-A-3-D MS										Client Sample ID: Matrix Spike		
Matrix: Solid										Prep Type: Soluble		
Analysis Batch: 45074												
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits			
Chloride	104		250	349.8		mg/Kg		99	90 - 110			

Lab Sample ID: 880-24203-A-3-E MSD										Client Sample ID: Matrix Spike Duplicate		
Matrix: Solid										Prep Type: Soluble		
Analysis Batch: 45074												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	104		250	360.6		mg/Kg		103	90 - 110	3	20	

## QC Association Summary

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

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

## GC VOA

## Analysis Batch: 45129

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

## Prep Batch: 45147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3908-1	PH03	Total/NA	Solid	5035	
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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## Lab Chronicle

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

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

Client Sample ID: PH03

Lab Sample ID: 890-3908-1

Date Collected: 01/19/23 10:30

Matrix: Solid

Date Received: 01/20/23 09:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	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

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	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

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

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

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

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

- 1
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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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## Eurofins Carlsbad

1089 N Canal St.

Carlsbad, NM 88220

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

## Chain of Custody Record



## i Environment Testing

2/3/2023

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Released to Imaging: 3/7/2025 4:50:14 PM 11

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## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3908-1

SDG Number: Lea County NM

Login Number: 3908

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3908-1

SDG Number: Lea County NM

Login Number: 3908

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

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

## JOB DESCRIPTION

Harrier 35 Federal Com 001H  
SDG NUMBER 03D2024093

## JOB NUMBER

890-3909-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

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

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



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

Laboratory Job ID: 890-3909-1  
SDG: 03D2024093

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Definitions/Glossary

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

Job ID: 890-3909-1  
SDG: 03D2024093

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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



Case Narrative

Client: Ensolum  
Project/Site: 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.

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## Client Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

Client Sample ID: PH04

Lab Sample ID: 890-3909-1

Date Collected: 01/19/23 11:00

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 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 - 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 12:53	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 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
Oil 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 Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.1		4.95	mg/Kg			01/26/23 23:31	1

Client Sample ID: PH04

Lab Sample ID: 890-3909-2

Date Collected: 01/19/23 11:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		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

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## Client Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

Client Sample ID: PH04

Lab Sample ID: 890-3909-2

Date Collected: 01/19/23 11:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	113		70 - 130	01/31/23 14:36	01/31/23 23:54	1

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

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

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 14:44	02/04/23 03:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 14:44	02/04/23 03:13	1
Oil 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
1-Chlorooctane	85		70 - 130			02/01/23 14:44	02/04/23 03:13	1
o-Terphenyl	92		70 - 130			02/01/23 14:44	02/04/23 03:13	1

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

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

Client Sample ID: PH04

Lab Sample ID: 890-3909-3

Date Collected: 01/19/23 11:20

Matrix: Solid

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	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 Calculation

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

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

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

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Client Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

Client Sample ID: PH04  
Date Collected: 01/19/23 11:20  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3909-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:35	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:35	1	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	16.6		4.99	mg/Kg			01/26/23 23:43	1	

Surrogate Summary

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

Job ID: 890-3909-1  
SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23952-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 (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3901-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  
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3909-1  
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

Analyte	MB Result	MB 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

Surrogate	MB %Recovery	MB 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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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

Surrogate	LCS %Recovery	LCS 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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Surrogate	LCSD %Recovery	LCSD 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

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

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QC Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130
o-Xylene	<0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	97		70 - 130						
1,4-Difluorobenzene (Surr)	112		70 - 130						

Lab Sample ID: 880-23952-A-1-C MSD  
Matrix: Solid  
Analysis Batch: 45129

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 45147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
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	1	35
Ethylbenzene	<0.00202	U	0.0996	0.07266		mg/Kg		73	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1519		mg/Kg		76	70 - 130	2	35
o-Xylene	<0.00202	U	0.0996	0.07278		mg/Kg		73	70 - 130	0	35
Surrogate	MSD %Recovery	MSD 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

Analyte	MB Result	MB 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
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/03/23 19:59	1
Surrogate	MB %Recovery	MB 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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	925.3		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	999	917.8		mg/Kg		92	70 - 130

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## QC Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

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

Lab Sample ID: LCS 880-45212/2-A  
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

Lab Sample ID: LCSD 880-45212/3-A  
Matrix: Solid  
Analysis Batch: 45299

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 45212

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	965.9		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	999	1017		mg/Kg		102	70 - 130	10	20

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

Lab Sample ID: 890-3901-A-1-D MS  
Matrix: Solid  
Analysis Batch: 45299

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 45212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1271		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1072		mg/Kg		107	70 - 130		

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

Lab Sample ID: 890-3901-A-1-E MSD  
Matrix: Solid  
Analysis Batch: 45299

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 45212

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

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

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## QC Sample Results

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

Job ID: 890-3909-1  
SDG: 03D2024093

## Method: 300.0 - Anions, Ion Chromatography

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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB 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

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-44761/3-A

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

Lab Sample ID: 890-3907-A-3-B MS

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike

Prep Type: Soluble

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

Lab Sample ID: 890-3907-A-3-C MSD

Matrix: Solid

Analysis Batch: 44876

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	18.6		250	289.9		mg/Kg		109	90 - 110	0	20

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## QC Association Summary

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

Job ID: 890-3909-1  
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	
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

## 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

Lab Chronicle

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

Job ID: 890-3909-1  
SDG: 03D2024093

Client Sample ID: PH04  
Date Collected: 01/19/23 11:00  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3909-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 23:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 02:51	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:31	CH	EET MID

Client Sample ID: PH04  
Date Collected: 01/19/23 11:10  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3909-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	01/31/23 23:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 03:13	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:37	CH	EET MID

Client Sample ID: PH04  
Date Collected: 01/19/23 11:20  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3909-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 00:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45206	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45460	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 03:35	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:43	CH	EET MID

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

Accreditation/Certification Summary

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

Job ID: 890-3909-1  
SDG: 03D2024093

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

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

Job ID: 890-3909-1  
SDG: 03D2024093

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

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	Depth
890-3909-1	PH04	Solid	01/19/23 11:00	01/20/23 09:06	1'
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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## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3909-1

SDG Number: 03D2024093

Login Number: 3909

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3909-1

SDG Number: 03D2024093

Login Number: 3909

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 2/4/2023 9:28:44 AM

## JOB DESCRIPTION

Harrier 35 Federal Com 001H  
SDG NUMBER 03D2024093


## JOB NUMBER

890-3910-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

Generated  
2/4/2023 9:28:44 AM

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

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

Laboratory Job ID: 890-3910-1  
SDG: 03D2024093

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Definitions/Glossary

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

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

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum  
Project/Site: 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.

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## Client Sample Results

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

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

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/31/23 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 - 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 12:53	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 03:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	02/01/23 14:44	02/04/23 03:57	1
o-Terphenyl	100		70 - 130	02/01/23 14:44	02/04/23 03:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.01	U	5.01	mg/Kg			01/26/23 23:49	1

Client Sample ID: PH05

Lab Sample ID: 890-3910-2

Date Collected: 01/19/23 13:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		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)	111		70 - 130	01/31/23 14:36	02/01/23 00:56	1

Eurofins Carlsbad

## Client Sample Results

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

Job ID: 890-3910-1  
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	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	117		70 - 130	01/31/23 14:36	02/01/23 00:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 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
Oil 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
1-Chlorooctane	82		70 - 130			02/01/23 14:44	02/04/23 04:18	1
o-Terphenyl	88		70 - 130			02/01/23 14:44	02/04/23 04:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.0		4.97	mg/Kg			01/26/23 23:55	1

Client Sample ID: PH05

Lab Sample ID: 890-3910-3

Date Collected: 01/19/23 13:20

Matrix: Solid

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	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:36	02/01/23 01:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/31/23 14:36	02/01/23 01:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	01/31/23 14:36	02/01/23 01:16	1
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

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Client Sample Results

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

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

Client Sample ID: PH05  
Date Collected: 01/19/23 13:20  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3910-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/04/23 04:40	1	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	18.3		4.98	mg/Kg			01/27/23 00:01	1	

## Surrogate Summary

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

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

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23952-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-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3901-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  
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3910-1  
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

Analyte	MB Result	MB 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

Surrogate	MB %Recovery	MB 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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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

Surrogate	LCS %Recovery	LCS 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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Surrogate	LCSD %Recovery	LCSD 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

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

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QC Sample Results

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

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

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.07334		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1547		mg/Kg		77	70 - 130
o-Xylene	<0.00202	U	0.101	0.07303		mg/Kg		72	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	97		70 - 130						
1,4-Difluorobenzene (Surr)	112		70 - 130						

Lab Sample ID: 880-23952-A-1-C MSD  
Matrix: Solid  
Analysis Batch: 45129

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 45147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
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	1	35
Ethylbenzene	<0.00202	U	0.0996	0.07266		mg/Kg		73	70 - 130	1	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1519		mg/Kg		76	70 - 130	2	35
o-Xylene	<0.00202	U	0.0996	0.07278		mg/Kg		73	70 - 130	0	35
Surrogate	MSD %Recovery	MSD 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

Analyte	MB Result	MB 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
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 14:44	02/03/23 19:59	1
Surrogate	MB %Recovery	MB 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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	925.3		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	999	917.8		mg/Kg		92	70 - 130

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## QC Sample Results

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

Job ID: 890-3910-1  
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

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

Matrix: Solid

Analysis Batch: 45299

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45212

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	999	965.9		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	999	1017		mg/Kg		102	70 - 130	10	20

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

Lab Sample ID: 890-3901-A-1-D MS

Matrix: Solid

Analysis Batch: 45299

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1271		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1072		mg/Kg		107	70 - 130		

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

Lab Sample ID: 890-3901-A-1-E MSD

Matrix: Solid

Analysis Batch: 45299

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45212

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

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

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QC Sample Results

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44761/1-A Matrix: Solid Analysis Batch: 44876										Client Sample ID: Method Blank Prep Type: Soluble	
Analyte	MB Result	MB 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 Matrix: Solid Analysis Batch: 44876										Client Sample ID: Lab Control Sample Prep Type: Soluble	
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	265.0		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-44761/3-A Matrix: Solid Analysis Batch: 44876										Client Sample ID: Lab Control Sample Dup Prep Type: Soluble	
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	274.4		mg/Kg		110	90 - 110	3	20

Lab Sample ID: 890-3907-A-3-B MS Matrix: Solid Analysis Batch: 44876										Client Sample ID: Matrix Spike Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	18.6		250	289.2		mg/Kg		108	90 - 110		

Lab Sample ID: 890-3907-A-3-C MSD Matrix: Solid Analysis Batch: 44876										Client Sample ID: Matrix Spike Duplicate Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	18.6		250	289.9		mg/Kg		109	90 - 110	0	20



## QC Association Summary

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

Job ID: 890-3910-1  
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	
890-3910-2	PH05	Total/NA	Solid	5035	
890-3910-3	PH05	Total/NA	Solid	5035	
MB 880-45147/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45147/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45147/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23952-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-23952-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 45207

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

## GC Semi VOA

## Prep Batch: 45212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8015NM Prep	
890-3910-2	PH05	Total/NA	Solid	8015NM Prep	
890-3910-3	PH05	Total/NA	Solid	8015NM Prep	
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 45299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3910-1	PH05	Total/NA	Solid	8015B NM	45212
890-3910-2	PH05	Total/NA	Solid	8015B NM	45212
890-3910-3	PH05	Total/NA	Solid	8015B NM	45212
MB 880-45212/1-A	Method Blank	Total/NA	Solid	8015B NM	45212
LCS 880-45212/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45212
LCSD 880-45212/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45212
890-3901-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45212
890-3901-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45212

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## QC Association Summary

Client: Ensolum  
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

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Lab Chronicle

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

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

Client Sample ID: PH05  
Date Collected: 01/19/23 13:00  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3910-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	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  
Date Collected: 01/19/23 13:10  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3910-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	45147	01/31/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45129	02/01/23 00:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45207	02/01/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			45461	02/04/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45212	02/01/23 14:44	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45299	02/04/23 04:18	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44761	01/25/23 15:52	KS	EET MID
Soluble	Analysis	300.0		1			44876	01/26/23 23:55	CH	EET MID

Client Sample ID: PH05  
Date Collected: 01/19/23 13:20  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3910-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	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

Accreditation/Certification Summary

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

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

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

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3910-1	PH05	Solid	01/19/23 13:00	01/20/23 09:06	1'
890-3910-2	PH05	Solid	01/19/23 13:10	01/20/23 09:06	3'
890-3910-3	PH05	Solid	01/19/23 13:20	01/20/23 09:06	6'

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1089 N Canal St.  
Carlsbad, NM 88220  
Phone 575-988-3199 Fax: 575-988-3199

## Chain of Custody Record



## | Environment Testing

2/4/2023

[illegible]

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Released to Imaging: 3/7/2025 4:50:14 PM/11



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3910-1

SDG Number: 03D2024093

Login Number: 3910

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3910-1

SDG Number: 03D2024093

Login Number: 3910

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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



Environment Testing

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# 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**

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2/3/2023 4:48:36 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto: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

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Definitions/Glossary

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

Job ID: 890-3911-1  
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"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum  
Project/Site: 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.

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## Client Sample Results

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

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

Client Sample ID: PH06

Lab Sample ID: 890-3911-1

Date Collected: 01/19/23 13:30

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		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
Total BTEX	<0.00400	U	0.00400	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 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
Oil 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
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

## 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'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 09:01	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 09:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	01/31/23 14:43	02/01/23 09:01	1

Eurofins Carlsbad



## Client Sample Results

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

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

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'

## 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 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			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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 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
Oil 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
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	Result	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

Matrix: Solid

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	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/31/23 14:43	02/01/23 09:22	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/31/23 14:43	02/01/23 09:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	01/31/23 14:43	02/01/23 09:22	1
1,4-Difluorobenzene (Surr)	95		70 - 130	01/31/23 14:43	02/01/23 09:22	1

## Method: 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

Client Sample Results

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

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

Client Sample ID: PH06  
Date Collected: 01/19/23 13:50  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3911-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		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	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	7.98		4.97	mg/Kg			01/26/23 11:17	1	

Surrogate Summary

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

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

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3911-1	PH06	102	82
890-3911-2	PH06	108	83
890-3911-3	PH06	82	95
890-3920-A-1-B MS	Matrix Spike	106	100
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109
LCS 880-45149/1-A	Lab Control Sample	101	108
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104
MB 880-45146/5-A	Method Blank	68 S1-	92
MB 880-45149/5-A	Method Blank	74	91
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3911-1	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
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

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

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45146		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130			01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130			01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB 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		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	101		70 - 130					
1,4-Difluorobenzene (Surr)	108		70 - 130					

Lab Sample ID: LCSD 880-45149/2-A						Client Sample ID: Lab Control Sample Dup				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 45131						Prep Batch: 45149				
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2	35	

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## QC Sample Results

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

Job ID: 890-3911-1  
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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3920-A-1-B MS

Matrix: Solid

Analysis Batch: 45131

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS 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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Surrogate	MSD %Recovery	MSD Qualifier	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

Analyte	MB Result	MB 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 09:09	1

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## QC Sample Results

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

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

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

Lab Sample ID: MB 880-45214/1-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45214

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	96		70 - 130			02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130			02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	Limits		
		Result	Qualifier				Limits			
Gasoline Range Organics (GRO)-C6-C10	999	861.4		mg/Kg		86	70 - 130			
Diesel Range Organics (Over C10-C28)	999	983.6		mg/Kg		98	70 - 130			
Surrogate		LCS	LCS				Limits			
		%Recovery	Qualifier							
1-Chlorooctane		87					70 - 130			
o-Terphenyl		84					70 - 130			

Lab Sample ID: LCSD 880-45214/3-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
		Result	Qualifier				Limits			
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
Surrogate		LCSD	LCSD				Limits			
		%Recovery	Qualifier							
1-Chlorooctane		87					70 - 130			
o-Terphenyl		84					70 - 130			

Lab Sample ID: 890-3911-1 MS

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: PH06

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec	Limits		
	Result	Qualifier		Result	Qualifier				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			
Surrogate	MS	MS							Limits			
	%Recovery	Qualifier										
1-Chlorooctane	84								70 - 130			
o-Terphenyl	75								70 - 130			

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## QC Sample Results

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

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

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

Lab Sample ID: 890-3911-1 MSD

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: PH06

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	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
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	87		70 - 130								
o-Terphenyl	75		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44707/1-A

Matrix: Solid

Analysis Batch: 44800

Client Sample ID: Method Blank

Prep Type: Soluble

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

Lab Sample ID: LCS 880-44707/2-A

Matrix: Solid

Analysis Batch: 44800

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-44707/3-A

Matrix: Solid

Analysis Batch: 44800

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	271.0		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 890-3911-1 MS

Matrix: Solid

Analysis Batch: 44800

Client Sample ID: PH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<4.96	U F1	248	293.3	F1	mg/Kg		117	90 - 110

Lab Sample ID: 890-3911-1 MSD

Matrix: Solid

Analysis Batch: 44800

Client Sample ID: PH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<4.96	U F1	248	293.7	F1	mg/Kg		117	90 - 110	0	20

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## QC Association Summary

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

Job ID: 890-3911-1  
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	
890-3911-2	PH06	Total/NA	Solid	5035	
890-3911-3	PH06	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 45198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	Total BTEX	
890-3911-2	PH06	Total/NA	Solid	Total BTEX	
890-3911-3	PH06	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015NM Prep	
890-3911-2	PH06	Total/NA	Solid	8015NM Prep	
890-3911-3	PH06	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-1 MS	PH06	Total/NA	Solid	8015NM Prep	
890-3911-1 MSD	PH06	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015B NM	45214
890-3911-2	PH06	Total/NA	Solid	8015B NM	45214
890-3911-3	PH06	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214

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QC Association Summary

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

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

GC Semi VOA (Continued)

Analysis Batch: 45303 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45214
890-3911-1 MS	PH06	Total/NA	Solid	8015B NM	45214
890-3911-1 MSD	PH06	Total/NA	Solid	8015B NM	45214

Analysis Batch: 45427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Total/NA	Solid	8015 NM	
890-3911-2	PH06	Total/NA	Solid	8015 NM	
890-3911-3	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Soluble	Solid	DI Leach	
890-3911-2	PH06	Soluble	Solid	DI Leach	
890-3911-3	PH06	Soluble	Solid	DI Leach	
MB 880-44707/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44707/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44707/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3911-1 MS	PH06	Soluble	Solid	DI Leach	
890-3911-1 MSD	PH06	Soluble	Solid	DI Leach	

Analysis Batch: 44800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3911-1	PH06	Soluble	Solid	300.0	44707
890-3911-2	PH06	Soluble	Solid	300.0	44707
890-3911-3	PH06	Soluble	Solid	300.0	44707
MB 880-44707/1-A	Method Blank	Soluble	Solid	300.0	44707
LCS 880-44707/2-A	Lab Control Sample	Soluble	Solid	300.0	44707
LCSD 880-44707/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44707
890-3911-1 MS	PH06	Soluble	Solid	300.0	44707
890-3911-1 MSD	PH06	Soluble	Solid	300.0	44707

Lab Chronicle

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

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

Client Sample ID: PH06  
Date Collected: 01/19/23 13:30  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3911-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	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  
Date Collected: 01/19/23 13:40  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3911-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	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  
Date Collected: 01/19/23 13:50  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3911-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 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  
Project/Site: Harrier 35 Federal Com 001H

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Method Summary

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

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	Depth
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'

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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 1 of 1



Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments			
Program:	UST/PST <input type="checkbox"/>	PRP <input type="checkbox"/>	Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:			
Reporting:	Level II <input type="checkbox"/>	Level III <input type="checkbox"/>	PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/>	ADaPT <input type="checkbox"/>	Other: <input type="checkbox"/>

[illegible]

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 		1-28-23 9:06			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

## Eurofins Carlsbad

1089 N Canal St.

Carlsbad NM 88220

Phone 575-988-3199 Fax, 575-988-3199

## Chain of Custody Record



## Environment Testing

2/3/2023

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## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3911-1

SDG Number: 03D2024093

Login Number: 3911

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3911-1

SDG Number: 03D2024093

Login Number: 3911

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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



Environment Testing

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# 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](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

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

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

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Definitions/Glossary

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

Job ID: 890-3912-1  
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"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum  
Project/Site: 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.

## Client Sample Results

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

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

Client Sample ID: PH07

Lab Sample ID: 890-3912-1

Date Collected: 01/19/23 14:00

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 1'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		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 Calculation

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 - 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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/23 15:22	02/03/23 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130	02/01/23 15:22	02/03/23 13:25	1
o-Terphenyl	75		70 - 130	02/01/23 15:22	02/03/23 13:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.6	F1	5.02	mg/Kg			01/27/23 18:47	1

Client Sample ID: PH07

Lab Sample ID: 890-3912-2

Date Collected: 01/19/23 14:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

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

Eurofins Carlsbad

## Client Sample Results

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

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

Client Sample ID: PH07

Lab Sample ID: 890-3912-2

Date Collected: 01/19/23 14:10

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	93		70 - 130	01/31/23 14:43	02/01/23 10:03	1

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

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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 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
Oil 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
1-Chlorooctane	77		70 - 130			02/01/23 15:22	02/03/23 13:45	1
o-Terphenyl	77		70 - 130			02/01/23 15:22	02/03/23 13:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		4.97	mg/Kg			01/27/23 19:01	1

Client Sample ID: PH07

Lab Sample ID: 890-3912-3

Date Collected: 01/19/23 14:20

Matrix: Solid

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 14:43	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	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

Eurofins Carlsbad



Client Sample Results

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

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

Client Sample ID: PH07  
Date Collected: 01/19/23 14:20  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3912-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:06	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:06	1	
Oil 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 Chromatography - Soluble									
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  
Project/Site: Harrier 35 Federal Com 001H

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

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3912-1	PH07	93	88
890-3912-2	PH07	88	93
890-3912-3	PH07	91	96
890-3920-A-1-B MS	Matrix Spike	106	100
890-3920-A-1-C MSD	Matrix Spike Duplicate	92	109
LCS 880-45149/1-A	Lab Control Sample	101	108
LCSD 880-45149/2-A	Lab Control Sample Dup	103	104
MB 880-45146/5-A	Method Blank	68 S1-	92
MB 880-45149/5-A	Method Blank	74	91
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3911-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
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

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

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

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45146		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130			01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130			01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB 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		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	101		70 - 130					
1,4-Difluorobenzene (Surr)	108		70 - 130					

Lab Sample ID: LCSD 880-45149/2-A						Client Sample ID: Lab Control Sample Dup				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 45131						Prep Batch: 45149				
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2	35	

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## QC Sample Results

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

Job ID: 890-3912-1  
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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3920-A-1-B MS

Matrix: Solid

Analysis Batch: 45131

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130	
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130	
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130	
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
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

Surrogate	MSD		Limits
	%Recovery	Qualifier	
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

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1

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## QC Sample Results

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

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

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

Lab Sample ID: MB 880-45214/1-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45214

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	96		70 - 130			02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130			02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier				Limits	
Gasoline Range Organics (GRO)-C6-C10	999	861.4		mg/Kg		86	70 - 130	
Diesel Range Organics (Over C10-C28)	999	983.6		mg/Kg		98	70 - 130	
Surrogate		LCS	LCS					Limits
		%Recovery	Qualifier					
1-Chlorooctane		87						70 - 130
o-Terphenyl		84						70 - 130

Lab Sample ID: LCSD 880-45214/3-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
		Result	Qualifier				Limits			
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
Surrogate		LCSD	LCSD							
		%Recovery	Qualifier							
1-Chlorooctane		87								
o-Terphenyl		84								

Lab Sample ID: 890-3911-A-1-F MS

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier				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	
Surrogate	MS	MS								Limits
	%Recovery	Qualifier								
1-Chlorooctane	84									70 - 130
o-Terphenyl	75									70 - 130

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## QC Sample Results

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

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

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

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

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	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
Surrogate	MSD %Recovery	MSD 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

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/27/23 18:33	1

Lab Sample ID: LCS 880-44760/2-A

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	273.5		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-44760/3-A

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

Lab Sample ID: 890-3912-1 MS

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: PH07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	21.6	F1	251	308.8	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-3912-1 MSD

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: PH07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	21.6	F1	251	309.6	F1	mg/Kg		115	90 - 110	0	20

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## QC Association Summary

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

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

## GC VOA

## Analysis Batch: 45131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8021B	45149
890-3912-2	PH07	Total/NA	Solid	8021B	45149
890-3912-3	PH07	Total/NA	Solid	8021B	45149
MB 880-45146/5-A	Method Blank	Total/NA	Solid	8021B	45146
MB 880-45149/5-A	Method Blank	Total/NA	Solid	8021B	45149
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	8021B	45149
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45149
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	45149
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45149

## Prep Batch: 45146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45146/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 45149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	5035	
890-3912-2	PH07	Total/NA	Solid	5035	
890-3912-3	PH07	Total/NA	Solid	5035	
MB 880-45149/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45149/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45149/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3920-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-3920-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 45199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	Total BTEX	
890-3912-2	PH07	Total/NA	Solid	Total BTEX	
890-3912-3	PH07	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 45214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8015NM Prep	
890-3912-2	PH07	Total/NA	Solid	8015NM Prep	
890-3912-3	PH07	Total/NA	Solid	8015NM Prep	
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3911-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3911-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 45303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3912-1	PH07	Total/NA	Solid	8015B NM	45214
890-3912-2	PH07	Total/NA	Solid	8015B NM	45214
890-3912-3	PH07	Total/NA	Solid	8015B NM	45214
MB 880-45214/1-A	Method Blank	Total/NA	Solid	8015B NM	45214
LCS 880-45214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45214

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QC Association Summary

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

Job ID: 890-3912-1  
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



Lab Chronicle

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

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

Client Sample ID: PH07  
Date Collected: 01/19/23 14:00  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3912-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	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  
Date Collected: 01/19/23 14:10  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3912-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 10:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45199	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45428	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 13:45	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:01	CH	EET MID

Client Sample ID: PH07  
Date Collected: 01/19/23 14:20  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3912-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	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  
Project/Site: Harrier 35 Federal Com 001H

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

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum  
Project/Site: 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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing  
Xenco

## Chain of Custody


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

Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 1

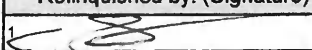
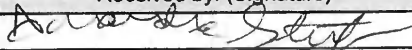
Project Manager:	Hadlie Green	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:		Turn Around		ANALYSIS REQUEST										Preservative Codes											
Project Number:	03D2024093	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	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:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm														HCL: HC	HNO <sub>3</sub> : HN								
PO #:																H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na								
<b>SAMPLE RECEIPT</b>		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	 890-3912 Chain of Custody										H <sub>3</sub> PO <sub>4</sub> : HP									
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	THERM-007																						NaHSO <sub>4</sub> : NABIS
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2																						Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	4.2																						Zn Acetate+NaOH: Zn
Total Containers:		Corrected Temperature:	4.0																						NaOH+Ascorbic Acid: SAPC
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TPH (8015)	Chlorides	BTEX (8021)									Sample Comments							
PH07	S	1.19.23	1400	1'	G	1	x	x	x																
PH07	S	1.19.23	1410	3'	G	1	x	x	x																
PH07	S	1.19.23	1420	6'	G	1	x	x	x																
																	<b>Incident Number</b>								
																	NAPP2225531487								

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
		1-20-23 906			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020 2



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3912-1

SDG Number: 03D2024093

Login Number: 3912

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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



## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3912-1

SDG Number: 03D2024093

Login Number: 3912

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Hadlie Green  
Ensolum  
601 N. Marienfeld St.  
Suite 400  
Midland, Texas 79701  
Generated 2/3/2023 4:48:59 PM

## JOB DESCRIPTION

Harrier 35 Federal Com 001H  
SDG NUMBER 03D2024093


## JOB NUMBER

890-3913-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

**Eurofins Carlsbad****Job Notes**

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

**Authorization**

Generated  
2/3/2023 4:48:59 PM

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

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

Laboratory Job ID: 890-3913-1  
SDG: 03D2024093

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Definitions/Glossary

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

Job ID: 890-3913-1  
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"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 890-3913-1  
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'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/31/23 14:43	02/01/23 10:44	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/31/23 14:43	02/01/23 10:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	01/31/23 14:43	02/01/23 10:44	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/31/23 14:43	02/01/23 10:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/01/23 12:31	1

## 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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	02/01/23 15:22	02/03/23 14:28	1
o-Terphenyl	74		70 - 130	02/01/23 15:22	02/03/23 14:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.05	U	5.05	mg/Kg			01/27/23 19:11	1

Client Sample ID: PH08

Lab Sample ID: 890-3913-2

Date Collected: 01/19/23 14:30

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		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

## Client Sample Results

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

Job ID: 890-3913-1  
SDG: 03D2024093

Client Sample ID: PH08

Lab Sample ID: 890-3913-2

Date Collected: 01/19/23 14:30

Matrix: Solid

Date Received: 01/20/23 09:06

Sample Depth: 3'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130	01/31/23 14:43	02/01/23 11:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/01/23 12:31	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 14:48	1
Oil 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
1-Chlorooctane	77		70 - 130			02/01/23 15:22	02/03/23 14:48	1
o-Terphenyl	75		70 - 130			02/01/23 15:22	02/03/23 14:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.5		5.04	mg/Kg			01/27/23 19:16	1

Client Sample ID: PH08

Lab Sample ID: 890-3913-3

Date Collected: 01/19/23 14:35

Matrix: Solid

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 14:43	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

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/01/23 12:31	1

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

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

Eurofins Carlsbad

Client Sample Results

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

Job ID: 890-3913-1  
SDG: 03D2024093

Client Sample ID: PH08  
Date Collected: 01/19/23 14:35  
Date Received: 01/20/23 09:06  
Sample Depth: 6'

Lab Sample ID: 890-3913-3  
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		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	
Oil 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 Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	105		5.00	mg/Kg			01/27/23 19:30	1	



Surrogate Summary

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

Job ID: 890-3913-1  
SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3913-1	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-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3911-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
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

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

Job ID: 890-3913-1  
SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45146/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45146		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130			01/31/23 14:29	01/31/23 17:14	1
1,4-Difluorobenzene (Surr)	92		70 - 130			01/31/23 14:29	01/31/23 17:14	1

Lab Sample ID: MB 880-45149/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	MB Result	MB 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
Surrogate	MB %Recovery	MB 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		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	101		70 - 130					
1,4-Difluorobenzene (Surr)	108		70 - 130					

Lab Sample ID: LCSD 880-45149/2-A						Client Sample ID: Lab Control Sample Dup		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 45131						Prep Batch: 45149		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit
Benzene	0.100	0.1062		mg/Kg		106	70 - 130	2 35

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## QC Sample Results

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

Job ID: 890-3913-1  
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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-3920-A-1-B MS

Matrix: Solid

Analysis Batch: 45131

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45149

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00202	U	0.101	0.08904		mg/Kg		88	70 - 130	
Toluene	<0.00202	U	0.101	0.08562		mg/Kg		85	70 - 130	
Ethylbenzene	<0.00202	U	0.101	0.08420		mg/Kg		84	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.202	0.1762		mg/Kg		87	70 - 130	
o-Xylene	<0.00202	U	0.101	0.08713		mg/Kg		86	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
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

Surrogate	MSD		Limits
	%Recovery	Qualifier	
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

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1

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## QC Sample Results

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

Job ID: 890-3913-1  
SDG: 03D2024093

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

Lab Sample ID: MB 880-45214/1-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45214

Analyte	MB Result	MB 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
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/01/23 15:22	02/03/23 09:09	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			02/01/23 15:22	02/03/23 09:09	1
o-Terphenyl	102		70 - 130			02/01/23 15:22	02/03/23 09:09	1

Lab Sample ID: LCS 880-45214/2-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	861.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	999	983.6		mg/Kg		98	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	87		70 - 130				
o-Terphenyl	84		70 - 130				

Lab Sample ID: LCSD 880-45214/3-A

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	87		70 - 130						
o-Terphenyl	84		70 - 130						

Lab Sample ID: 890-3911-A-1-F MS

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	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
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	84		70 - 130						
o-Terphenyl	75		70 - 130						

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## QC Sample Results

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

Job ID: 890-3913-1  
SDG: 03D2024093

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

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

Matrix: Solid

Analysis Batch: 45303

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45214

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	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
Surrogate	MSD %Recovery	MSD 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

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			01/27/23 18:33	1

Lab Sample ID: LCS 880-44760/2-A

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	273.5		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-44760/3-A

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

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

Lab Sample ID: 890-3912-A-1-B MS

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	21.6	F1	251	308.8	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-3912-A-1-C MSD

Matrix: Solid

Analysis Batch: 44877

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	21.6	F1	251	309.6	F1	mg/Kg		115	90 - 110	0	20

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## QC Association Summary

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

Job ID: 890-3913-1  
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	
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

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## QC Association Summary

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

Job ID: 890-3913-1  
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

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Lab Chronicle

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

Job ID: 890-3913-1  
SDG: 03D2024093

Client Sample ID: PH08  
Date Collected: 01/19/23 14:25  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3913-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 10:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45200	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45429	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 14:28	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:11	CH	EET MID

Client Sample ID: PH08  
Date Collected: 01/19/23 14:30  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3913-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45149	01/31/23 14:43	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45131	02/01/23 11:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45200	02/01/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			45429	02/03/23 17:32	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45214	02/01/23 15:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45303	02/03/23 14:48	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	44760	01/25/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			44877	01/27/23 19:16	CH	EET MID

Client Sample ID: PH08  
Date Collected: 01/19/23 14:35  
Date Received: 01/20/23 09:06

Lab Sample ID: 890-3913-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 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  
Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-3913-1  
SDG: 03D2024093

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum  
Project/Site: 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	Depth
890-3913-1	PH08	Solid	01/19/23 14:25	01/20/23 09:06	1'
890-3913-2	PH08	Solid	01/19/23 14:30	01/20/23 09:06	3'
890-3913-3	PH08	Solid	01/19/23 14:35	01/20/23 09:06	6'

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- 13
- 14



## Eurofins Carlsbad

1089 N Canal St.

Carlsbad NM 88220

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

## Chain of Custody Record



## Environment Testing

2/3/2023

[illegible]

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3913-1

SDG Number: 03D2024093

Login Number: 3913

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3913-1

SDG Number: 03D2024093

Login Number: 3913

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/23/23 07:42 AM

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



## APPENDIX B

### Lithologic Soil Sampling Log

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PROJECT NUMBER <i>03D2024093</i>	DRILLING DATE <i>8-6-24</i>	WELL DIAMETER <i>8" C. 3/4"</i>
PROJECT NAME <i>Harrier 35Ft</i>	DRILLER <i>WTW</i>	TOTAL DEPTH <i>110'</i>
CLIENT <i>COE</i>	LATITUDE <i>32.099172</i>	CASING <i>N/A</i>
LOCATION <i>Edley Co Nw Co</i>	LONGITUDE <i>103.641717</i>	SCREEN <i>NA</i>
PROJECT MANAGER <i>Heather Green</i>	TOC Elevation <i>N/A</i>	SURFACE COMPLETION <i>N/A</i>

COMMENTS State drilling technology used, outside auger diameter, sampler type, and sampler diameter.

 LOGGED BY *SD*  
 CHECKED BY

PID	Samples	% Recovery	Water	Depth (ft)	Graphic Log	Material Description State lithology, color, plasticity (fine grain soils only), moisture, density, and odor	Well Completion Grout Interval Bentonite Interval Sand Interval
							<i>Open Bore</i>
				<i>10</i>		<i>SAND, fine grain, poorly sorted, Pink, Dry No odor. Some Cat-ch (black)</i>	
				<i>20</i>		<i>Sand, fine grain, poorly sorted, Pink Dry No odor.</i>	
				<i>25</i>		<i>Gravel layer @ 25'</i>	
				<i>30</i>		<i>Clay, dark reddish BRN. Dry No odor</i>	
				<i>40</i>		<i>Sandy Clay, dark reddish BRN. Dry No odor</i>	
				<i>50</i>		<i>Sandstone, pink, dry, No odor</i>	
				<i>60</i>		<i>Sandy clay, reddish BRN, Dry, No odor</i>	
				<i>70</i>		<i>Sandy clay, reddish BRN, Dry No odor</i>	
				<i>80</i>		<i>Sand, fine grain, some clay, reddish brown Dry No odor</i>	
				<i>90</i>		<i>Sand, fine grain, Consolidated, pink, Poorly sorted, Dry, No odor</i>	
				<i>100</i>		<i>Sandy clay, dark reddish BRN, Dry No odor</i>	
				<i>110</i>		<i>Sandy clay dark reddish BRN. Dry No odor</i>	



## APPENDIX C

### Photographic Log

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**Photographic Log**

COG Operating, LLC

Harrier 35 Federal Com 001H

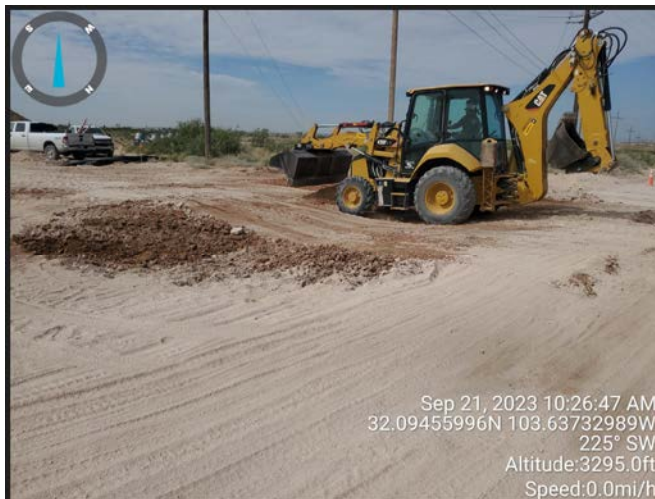
Incident Number NAPP2225531487



Photograph: 1                      Date: 9/20/2023  
 Description: Excavation activities  
 View: Southwest



Photograph: 2                      Date: 9/2/2023  
 Description: Excavation activities  
 View: West



Photograph: 3                      Date: 9/20/2023  
 Description: Excavation activities  
 View: Southwest



Photograph: 4                      Date: 8/6/2024  
 Description: Depth to water boring location  
 View: Southeast



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Hadlie Green

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 9/28/2023 4:14:51 PM

## JOB DESCRIPTION

Harrier 35 Federal Com 001H

SDG NUMBER 32.0947,-103.63701

## JOB NUMBER

890-5319-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

# Eurofins Carlsbad

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

## Authorization



Generated  
9/28/2023 4:14:51 PM

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

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

Laboratory Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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Definitions/Glossary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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



## Case Narrative

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## Job ID: 890-5319-1

## Laboratory: Eurofins Carlsbad

## Narrative

Job Narrative  
890-5319-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

## Receipt

The samples were received on 9/21/2023 1:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

## Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-5319-1), FS02 (890-5319-2), FS03 (890-5319-3), FS04 (890-5319-4), FS05 (890-5319-5), FS06 (890-5319-6), FS07 (890-5319-7), SW01 (890-5319-8), SW02 (890-5319-9), SW03 (890-5319-10), SW04 (890-5319-11) and SW05 (890-5319-12).

## GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-63094 and analytical batch 880-63185 was outside the control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (890-5319-1), FS03 (890-5319-3), FS04 (890-5319-4) and FS05 (890-5319-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63185 recovered above the upper control limit for Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW04 (890-5319-11) and SW05 (890-5319-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-63317 recovered above the upper control limit for Toluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-63317/51).

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-63317/2), (CCV 880-63317/20) and (MB 880-63018/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5314-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

## GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-5310-A-1-H MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Case Narrative

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Job ID: 890-5319-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-63132/20), (CCV 880-63132/31), (CCV 880-63132/47), (CCV 880-63132/5), (CCV 880-63132/58) and (LCS 880-63115/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The method blank for preparation batch 880-63115 and analytical batch 880-63132 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-63096/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-63096 and analytical batch 880-63134 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC

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

## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS01

Lab Sample ID: 890-5319-1

Date Collected: 09/21/23 09:10

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 16:10	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130	09/22/23 14:56	09/25/23 16:10	1
1,4-Difluorobenzene (Surr)	95		70 - 130	09/22/23 14:56	09/25/23 16:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 16:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/23/23 15:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130	09/22/23 14:59	09/23/23 15:04	1
o-Terphenyl	87		70 - 130	09/22/23 14:59	09/23/23 15:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2610		24.9	mg/Kg			09/26/23 11:03	5

Client Sample ID: FS02

Lab Sample ID: 890-5319-2

Date Collected: 09/21/23 09:15

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 17:54	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 17:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	09/22/23 14:56	09/25/23 17:54	1

Eurofins Carlsbad

## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS02

Lab Sample ID: 890-5319-2

Date Collected: 09/21/23 09:15

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130	09/22/23 14:56	09/25/23 17:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 17:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/23/23 15:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130			09/22/23 14:59	09/23/23 15:46	1
o-Terphenyl	87		70 - 130			09/22/23 14:59	09/23/23 15:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	167		4.97	mg/Kg			09/26/23 11:09	1

Client Sample ID: FS03

Lab Sample ID: 890-5319-3

Date Collected: 09/21/23 09:20

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 18:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			09/22/23 14:56	09/25/23 18:19	1
1,4-Difluorobenzene (Surr)	113		70 - 130			09/22/23 14:56	09/25/23 18:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			09/25/23 18:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			09/23/23 16:07	1

Eurofins Carlsbad

## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## Client Sample ID: FS03

## Lab Sample ID: 890-5319-3

Date Collected: 09/21/23 09:20

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			09/22/23 14:59	09/23/23 16:07	1
o-Terphenyl	92		70 - 130			09/22/23 14:59	09/23/23 16:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4450		25.1	mg/Kg			09/26/23 11:15	5

## Client Sample ID: FS04

## Lab Sample ID: 890-5319-4

Date Collected: 09/21/23 09:25

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 18:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			09/22/23 14:56	09/25/23 18:45	1
1,4-Difluorobenzene (Surr)	111		70 - 130			09/22/23 14:56	09/25/23 18:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 18:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			09/23/23 16:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 16:28	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 16:28	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 16:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			09/22/23 14:59	09/23/23 16:28	1
o-Terphenyl	99		70 - 130			09/22/23 14:59	09/23/23 16:28	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## Client Sample ID: FS04

Lab Sample ID: 890-5319-4

Date Collected: 09/21/23 09:25

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	255		4.99	mg/Kg			09/26/23 11:21	1

## Client Sample ID: FS05

Lab Sample ID: 890-5319-5

Date Collected: 09/21/23 09:30

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 19:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	145	S1+	70 - 130			09/22/23 14:56	09/25/23 19:10	1
1,4-Difluorobenzene (Surr)	111		70 - 130			09/22/23 14:56	09/25/23 19:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 19:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			09/23/23 16:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		09/22/23 14:59	09/23/23 16:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			09/22/23 14:59	09/23/23 16:49	1
o-Terphenyl	91		70 - 130			09/22/23 14:59	09/23/23 16:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	177		4.99	mg/Kg			09/26/23 11:26	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS06

Lab Sample ID: 890-5319-6

Date Collected: 09/21/23 09:35

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 2

## 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		09/22/23 14:56	09/25/23 19:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 19:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	09/22/23 14:56	09/25/23 19:35	1
1,4-Difluorobenzene (Surr)	103		70 - 130	09/22/23 14:56	09/25/23 19:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 19:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/23/23 17:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	09/22/23 14:59	09/23/23 17:10	1
o-Terphenyl	95		70 - 130	09/22/23 14:59	09/23/23 17:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	193		5.02	mg/Kg			09/26/23 11:33	1

Client Sample ID: FS07

Lab Sample ID: 890-5319-7

Date Collected: 09/21/23 09:40

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 2

## 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		09/22/23 14:56	09/25/23 20:00	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:00	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	09/22/23 14:56	09/25/23 20:00	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS07

Lab Sample ID: 890-5319-7

Date Collected: 09/21/23 09:40

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	88		70 - 130	09/22/23 14:56	09/25/23 20:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 20:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			09/23/23 17:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/22/23 14:59	09/23/23 17:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			09/22/23 14:59	09/23/23 17:32	1
o-Terphenyl	87		70 - 130			09/22/23 14:59	09/23/23 17:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	182		4.96	mg/Kg			09/26/23 11:51	1

Client Sample ID: SW01

Lab Sample ID: 890-5319-8

Date Collected: 09/21/23 09:45

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 14:56	09/25/23 20:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			09/22/23 14:56	09/25/23 20:25	1
1,4-Difluorobenzene (Surr)	79		70 - 130			09/22/23 14:56	09/25/23 20:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/25/23 20:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			09/23/23 17:53	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: SW01

Lab Sample ID: 890-5319-8

Date Collected: 09/21/23 09:45

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		09/22/23 14:59	09/23/23 17:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			09/22/23 14:59	09/23/23 17:53	1
o-Terphenyl	104		70 - 130			09/22/23 14:59	09/23/23 17:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	193		5.05	mg/Kg			09/26/23 11:57	1

Client Sample ID: SW02

Lab Sample ID: 890-5319-9

Date Collected: 09/21/23 09:50

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/22/23 14:56	09/25/23 20:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			09/22/23 14:56	09/25/23 20:51	1
1,4-Difluorobenzene (Surr)	87		70 - 130			09/22/23 14:56	09/25/23 20:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			09/25/23 20:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/23/23 18:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		09/22/23 14:59	09/23/23 18:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130			09/22/23 14:59	09/23/23 18:14	1
o-Terphenyl	84		70 - 130			09/22/23 14:59	09/23/23 18:14	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## Client Sample ID: SW02

## Lab Sample ID: 890-5319-9

Date Collected: 09/21/23 09:50

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	184		5.05	mg/Kg			09/26/23 12:14	1

## Client Sample ID: SW03

## Lab Sample ID: 890-5319-10

Date Collected: 09/21/23 09:55

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:56	09/25/23 21:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130			09/22/23 14:56	09/25/23 21:16	1
1,4-Difluorobenzene (Surr)	93		70 - 130			09/22/23 14:56	09/25/23 21:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/25/23 21:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			09/23/23 18:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 18:35	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 18:35	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		09/22/23 14:59	09/23/23 18:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			09/22/23 14:59	09/23/23 18:35	1
o-Terphenyl	91		70 - 130			09/22/23 14:59	09/23/23 18:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	185		4.95	mg/Kg			09/26/23 12:20	1

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## Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: SW04

Lab Sample ID: 890-5319-11

Date Collected: 09/21/23 10:00

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/22/23 14:53	09/27/23 14:00	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/22/23 14:53	09/27/23 14:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130	09/22/23 14:53	09/27/23 14:00	1
1,4-Difluorobenzene (Surr)	99		70 - 130	09/22/23 14:53	09/27/23 14:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/27/23 14:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			09/23/23 18:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 18:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 18:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	09/22/23 14:59	09/23/23 18:56	1
o-Terphenyl	91		70 - 130	09/22/23 14:59	09/23/23 18:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	173		5.00	mg/Kg			09/26/23 12:26	1

Client Sample ID: SW05

Lab Sample ID: 890-5319-12

Date Collected: 09/21/23 10:05

Matrix: Solid

Date Received: 09/21/23 13:04

Sample Depth: 0-2

## 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		09/22/23 14:53	09/27/23 14:26	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/22/23 14:53	09/27/23 14:26	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		09/22/23 14:53	09/27/23 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130	09/22/23 14:53	09/27/23 14:26	1

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Client Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: SW05  
Date Collected: 09/21/23 10:05  
Date Received: 09/21/23 13:04  
Sample Depth: 0-2

Lab Sample ID: 890-5319-12  
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	91		70 - 130			09/22/23 14:53	09/27/23 14:26	1	
Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00404	U	0.00404	mg/Kg			09/27/23 14:26	1	
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.6	U	49.6	mg/Kg			09/23/23 17:53	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	<49.6	U	49.6	mg/Kg		09/22/23 17:09	09/23/23 17:53	1	
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		09/22/23 17:09	09/23/23 17:53	1	
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		09/22/23 17:09	09/23/23 17:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	84		70 - 130			09/22/23 17:09	09/23/23 17:53	1	
o-Terphenyl	75		70 - 130			09/22/23 17:09	09/23/23 17:53	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	164		4.98	mg/Kg			09/26/23 12:32	1	

## Surrogate Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5314-A-1-B MS	Matrix Spike	90	111
890-5314-A-1-C MSD	Matrix Spike Duplicate	146 S1+	103
890-5315-A-1-D MS	Matrix Spike	90	96
890-5315-A-1-E MSD	Matrix Spike Duplicate	112	97
890-5319-1	FS01	136 S1+	95
890-5319-2	FS02	99	79
890-5319-3	FS03	137 S1+	113
890-5319-4	FS04	137 S1+	111
890-5319-5	FS05	145 S1+	111
890-5319-6	FS06	132 S1+	103
890-5319-7	FS07	116	88
890-5319-8	SW01	121	79
890-5319-9	SW02	125	87
890-5319-10	SW03	110	93
890-5319-11	SW04	149 S1+	99
890-5319-12	SW05	141 S1+	91
LCS 880-63093/1-A	Lab Control Sample	126	105
LCS 880-63094/1-A	Lab Control Sample	98	97
LCSD 880-63093/2-A	Lab Control Sample Dup	116	92
LCSD 880-63094/2-A	Lab Control Sample Dup	106	105
MB 880-63018/5-A	Method Blank	69 S1-	79
MB 880-63093/5-A	Method Blank	78	101
MB 880-63094/5-A	Method Blank	68 S1-	90
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5310-A-1-G MS	Matrix Spike	81	71
890-5310-A-1-H MSD	Matrix Spike Duplicate	79	69 S1-
890-5315-A-1-H MS	Matrix Spike	79	75
890-5315-A-1-I MSD	Matrix Spike Duplicate	80	77
890-5319-1	FS01	80	87
890-5319-2	FS02	78	87
890-5319-3	FS03	83	92
890-5319-4	FS04	91	99
890-5319-5	FS05	84	91
890-5319-6	FS06	86	95
890-5319-7	FS07	79	87
890-5319-8	SW01	91	104
890-5319-9	SW02	74	84
890-5319-10	SW03	83	91
890-5319-11	SW04	84	91
890-5319-12	SW05	84	75

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Surrogate Summary

Client: Ensolum

Project/Site: Harrier 35 Federal Com 001H

Job ID: 890-5319-1

SDG: 32.0947,-103.63701

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
LCS 880-63096/2-A	Lab Control Sample	59 S1-	62 S1-
LCS 880-63115/2-A	Lab Control Sample	132 S1+	138 S1+
LCSD 880-63096/3-A	Lab Control Sample Dup	75	82
LCSD 880-63115/3-A	Lab Control Sample Dup	103	103
MB 880-63096/1-A	Method Blank	109	126
MB 880-63115/1-A - IN3	Method Blank	111	111
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum

Job ID: 890-5319-1

Project/Site: Harrier 35 Federal Com 001H

SDG: 32.0947,-103.63701

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

Lab Sample ID: MB 880-63018/5-A

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63018

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/21/23 16:34	09/26/23 14:50	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/21/23 16:34	09/26/23 14:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	09/21/23 16:34	09/26/23 14:50	1
1,4-Difluorobenzene (Surr)	79		70 - 130	09/21/23 16:34	09/26/23 14:50	1

Lab Sample ID: MB 880-63093/5-A

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63093

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:53	09/27/23 04:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/23 14:53	09/27/23 04:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	09/22/23 14:53	09/27/23 04:21	1
1,4-Difluorobenzene (Surr)	101		70 - 130	09/22/23 14:53	09/27/23 04:21	1

Lab Sample ID: LCS 880-63093/1-A

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 63093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1022		mg/Kg		102	70 - 130
Toluene	0.100	0.1116		mg/Kg		112	70 - 130
Ethylbenzene	0.100	0.1086		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2164		mg/Kg		108	70 - 130
o-Xylene	0.100	0.1014		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-63093/2-A

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09848		mg/Kg		98	70 - 130	4	35

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## QC Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

Lab Sample ID: LCSD 880-63093/2-A

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.1088		mg/Kg		109	70 - 130		3	35
Ethylbenzene	0.100	0.1032		mg/Kg		103	70 - 130		5	35
m-Xylene & p-Xylene	0.200	0.2043		mg/Kg		102	70 - 130		6	35
o-Xylene	0.100	0.1031		mg/Kg		103	70 - 130		2	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: 890-5314-A-1-B MS

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 63093

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00200	U	0.0998	0.1135		mg/Kg		113	70 - 130	
Toluene	<0.00200	U	0.0998	0.1190		mg/Kg		119	70 - 130	
Ethylbenzene	<0.00200	U	0.0998	0.1155		mg/Kg		114	70 - 130	
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2255		mg/Kg		113	70 - 130	
o-Xylene	<0.00200	U	0.0998	0.1108		mg/Kg		111	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 890-5314-A-1-C MSD

Matrix: Solid

Analysis Batch: 63317

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 63093

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00200	U	0.0990	0.1229		mg/Kg		124	70 - 130		8	35
Toluene	<0.00200	U	0.0990	0.1162		mg/Kg		117	70 - 130		2	35
Ethylbenzene	<0.00200	U	0.0990	0.1079		mg/Kg		107	70 - 130		7	35
m-Xylene & p-Xylene	<0.00399	U	0.198	0.2125		mg/Kg		107	70 - 130		6	35
o-Xylene	<0.00200	U	0.0990	0.1110		mg/Kg		112	70 - 130		0	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-63094/5-A

Matrix: Solid

Analysis Batch: 63185

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63094

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/22/23 14:56	09/25/23 11:44	1

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## QC Sample Results

Client: Ensolum

Job ID: 890-5319-1

Project/Site: Harrier 35 Federal Com 001H

SDG: 32.0947,-103.63701

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

Lab Sample ID: MB 880-63094/5-A

Matrix: Solid

Analysis Batch: 63185

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63094

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/22/23 14:56	09/25/23 11:44	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130			09/22/23 14:56	09/25/23 11:44	1
1,4-Difluorobenzene (Surr)	90		70 - 130			09/22/23 14:56	09/25/23 11:44	1

Lab Sample ID: LCS 880-63094/1-A

Matrix: Solid

Analysis Batch: 63185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 63094

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	0.100	0.1071		mg/Kg		107	70 - 130
Toluene	0.100	0.1060		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1059		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2085		mg/Kg		104	70 - 130
o-Xylene	0.100	0.09705		mg/Kg		97	70 - 130
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
4-Bromofluorobenzene (Surr)	98		70 - 130				
1,4-Difluorobenzene (Surr)	97		70 - 130				

Lab Sample ID: LCSD 880-63094/2-A

Matrix: Solid

Analysis Batch: 63185

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 63094

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Benzene	0.100	0.1106		mg/Kg		111	70 - 130	3	35
Toluene	0.100	0.1118		mg/Kg		112	70 - 130	5	35
Ethylbenzene	0.100	0.1033		mg/Kg		103	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2073		mg/Kg		104	70 - 130	1	35
o-Xylene	0.100	0.1041		mg/Kg		104	70 - 130	7	35
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	106		70 - 130						
1,4-Difluorobenzene (Surr)	105		70 - 130						

Lab Sample ID: 890-5315-A-1-D MS

Matrix: Solid

Analysis Batch: 63185

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 63094

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Benzene	<0.00199	U	0.0998	0.09256		mg/Kg		93	70 - 130
Toluene	<0.00199	U	0.0998	0.09644		mg/Kg		97	70 - 130
Ethylbenzene	<0.00199	U	0.0998	0.08653		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1704		mg/Kg		85	70 - 130
o-Xylene	<0.00199	U	0.0998	0.08172		mg/Kg		82	70 - 130

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## QC Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

Lab Sample ID: 890-5315-A-1-D MS  
Matrix: Solid  
Analysis Batch: 63185

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 63094

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-5315-A-1-E MSD  
Matrix: Solid  
Analysis Batch: 63185

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 63094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.1076		mg/Kg		109	70 - 130	15	35
Toluene	<0.00199	U	0.0990	0.1095		mg/Kg		111	70 - 130	13	35
Ethylbenzene	<0.00199	U	0.0990	0.1048		mg/Kg		105	70 - 130	19	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.2084		mg/Kg		105	70 - 130	20	35
o-Xylene	<0.00199	U	0.0990	0.1029		mg/Kg		104	70 - 130	23	35

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

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

Lab Sample ID: MB 880-63096/1-A  
Matrix: Solid  
Analysis Batch: 63134

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 63096

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/22/23 14:59	09/23/23 08:04	1

	MB	MB						
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	109		70 - 130	09/22/23 14:59	09/23/23 08:04	1		
o-Terphenyl	126		70 - 130	09/22/23 14:59	09/23/23 08:04	1		

Lab Sample ID: LCS 880-63096/2-A  
Matrix: Solid  
Analysis Batch: 63134

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 63096

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	848.5		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	746.1		mg/Kg		75	70 - 130		

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	59	S1-	70 - 130
o-Terphenyl	62	S1-	70 - 130

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QC Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

Lab Sample ID: LCSD 880-63096/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 63134				Prep Batch: 63096							
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	890.5		mg/Kg		89	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	743.5		mg/Kg		74	70 - 130	0	20
LCSD LCSD											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	75		70 - 130								
o-Terphenyl	82		70 - 130								

Lab Sample ID: 890-5315-A-1-H MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 63134				Prep Batch: 63096							
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U F1	995	718.3	F1	mg/Kg		69	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U	995	759.7		mg/Kg		76	70 - 130		
MS MS											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	79		70 - 130								
o-Terphenyl	75		70 - 130								

Lab Sample ID: 890-5315-A-1-I MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 63134				Prep Batch: 63096							
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U F1	995	740.6		mg/Kg		71	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.3	U	995	782.1		mg/Kg		79	70 - 130	3	20
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	80		70 - 130								
o-Terphenyl	77		70 - 130								

Lab Sample ID: LCS 880-63115/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 63132				Prep Batch: 63115							
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	726.2		mg/Kg		73	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	892.4		mg/Kg		89	70 - 130		
LCS LCS											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	132	S1+	70 - 130								

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QC Sample Results

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

Lab Sample ID: LCS 880-63115/2-A  
Matrix: Solid  
Analysis Batch: 63132

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 63115

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	138	S1+	70 - 130

Lab Sample ID: LCSD 880-63115/3-A  
Matrix: Solid  
Analysis Batch: 63132

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 63115

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	832.8		mg/Kg		83	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			1000	976.0		mg/Kg		98	70 - 130	9	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane	103		70 - 130								
<i>o</i> -Terphenyl	103		70 - 130								

Lab Sample ID: 890-5310-A-1-G MS  
Matrix: Solid  
Analysis Batch: 63132

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 63115

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1010	713.8		mg/Kg		71	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	725.5		mg/Kg		72	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	81		70 - 130								
o-Terphenyl	71		70 - 130								

Lab Sample ID: 890-5310-A-1-H MSD  
Matrix: Solid  
Analysis Batch: 63132

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 63115

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1010	709.5		mg/Kg		70	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	712.9		mg/Kg		71	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	79		70 - 130								
<i>o</i> -Terphenyl	69	S1-	70 - 130								

## QC Sample Results

Client: Ensolum

Job ID: 890-5319-1

Project/Site: Harrier 35 Federal Com 001H

SDG: 32.0947,-103.63701

## Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

Lab Sample ID: MB 880-63115/1-A

Matrix: Solid

Analysis Batch: 63132

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 63115

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 - IN3	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
Diesel Range Organics (Over C10-C28) - IN3	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
Oil Range Organics (Over C28-C36) - IN3	<50.0	U	50.0	mg/Kg		09/22/23 17:09	09/23/23 08:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane - IN3	111		70 - 130			09/22/23 17:09	09/23/23 08:04	1
o-Terphenyl - IN3	111		70 - 130			09/22/23 17:09	09/23/23 08:04	1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63118/1-A

Matrix: Solid

Analysis Batch: 63312

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			09/26/23 09:53	1

Lab Sample ID: LCS 880-63118/2-A

Matrix: Solid

Analysis Batch: 63312

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.9		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-63118/3-A

Matrix: Solid

Analysis Batch: 63312

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	241.4		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-5319-6 MS

Matrix: Solid

Analysis Batch: 63312

Client Sample ID: FS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	193		251	430.8		mg/Kg		95	90 - 110

Lab Sample ID: 890-5319-6 MSD

Matrix: Solid

Analysis Batch: 63312

Client Sample ID: FS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	193		251	430.3		mg/Kg		95	90 - 110	0	20

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## QC Association Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## GC VOA

## Prep Batch: 63018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-63018/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 63093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-11	SW04	Total/NA	Solid	5035	
890-5319-12	SW05	Total/NA	Solid	5035	
MB 880-63093/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63093/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63093/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5314-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-5314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 63094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	5035	
890-5319-2	FS02	Total/NA	Solid	5035	
890-5319-3	FS03	Total/NA	Solid	5035	
890-5319-4	FS04	Total/NA	Solid	5035	
890-5319-5	FS05	Total/NA	Solid	5035	
890-5319-6	FS06	Total/NA	Solid	5035	
890-5319-7	FS07	Total/NA	Solid	5035	
890-5319-8	SW01	Total/NA	Solid	5035	
890-5319-9	SW02	Total/NA	Solid	5035	
890-5319-10	SW03	Total/NA	Solid	5035	
MB 880-63094/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63094/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63094/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5315-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-5315-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 63185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8021B	63094
890-5319-2	FS02	Total/NA	Solid	8021B	63094
890-5319-3	FS03	Total/NA	Solid	8021B	63094
890-5319-4	FS04	Total/NA	Solid	8021B	63094
890-5319-5	FS05	Total/NA	Solid	8021B	63094
890-5319-6	FS06	Total/NA	Solid	8021B	63094
890-5319-7	FS07	Total/NA	Solid	8021B	63094
890-5319-8	SW01	Total/NA	Solid	8021B	63094
890-5319-9	SW02	Total/NA	Solid	8021B	63094
890-5319-10	SW03	Total/NA	Solid	8021B	63094
MB 880-63094/5-A	Method Blank	Total/NA	Solid	8021B	63094
LCS 880-63094/1-A	Lab Control Sample	Total/NA	Solid	8021B	63094
LCSD 880-63094/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63094
890-5315-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	63094
890-5315-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63094

## Analysis Batch: 63317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-11	SW04	Total/NA	Solid	8021B	63093

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## QC Association Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## GC VOA (Continued)

## Analysis Batch: 63317 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8021B	63093
MB 880-63018/5-A	Method Blank	Total/NA	Solid	8021B	63018
MB 880-63093/5-A	Method Blank	Total/NA	Solid	8021B	63093
LCS 880-63093/1-A	Lab Control Sample	Total/NA	Solid	8021B	63093
LCSD 880-63093/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63093
890-5314-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	63093
890-5314-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63093

## Analysis Batch: 63349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	Total BTEX	
890-5319-2	FS02	Total/NA	Solid	Total BTEX	
890-5319-3	FS03	Total/NA	Solid	Total BTEX	
890-5319-4	FS04	Total/NA	Solid	Total BTEX	
890-5319-5	FS05	Total/NA	Solid	Total BTEX	
890-5319-6	FS06	Total/NA	Solid	Total BTEX	
890-5319-7	FS07	Total/NA	Solid	Total BTEX	
890-5319-8	SW01	Total/NA	Solid	Total BTEX	
890-5319-9	SW02	Total/NA	Solid	Total BTEX	
890-5319-10	SW03	Total/NA	Solid	Total BTEX	
890-5319-11	SW04	Total/NA	Solid	Total BTEX	
890-5319-12	SW05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 63096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015NM Prep	
890-5319-2	FS02	Total/NA	Solid	8015NM Prep	
890-5319-3	FS03	Total/NA	Solid	8015NM Prep	
890-5319-4	FS04	Total/NA	Solid	8015NM Prep	
890-5319-5	FS05	Total/NA	Solid	8015NM Prep	
890-5319-6	FS06	Total/NA	Solid	8015NM Prep	
890-5319-7	FS07	Total/NA	Solid	8015NM Prep	
890-5319-8	SW01	Total/NA	Solid	8015NM Prep	
890-5319-9	SW02	Total/NA	Solid	8015NM Prep	
890-5319-10	SW03	Total/NA	Solid	8015NM Prep	
890-5319-11	SW04	Total/NA	Solid	8015NM Prep	
MB 880-63096/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63096/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63096/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5315-A-1-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5315-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Prep Batch: 63115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8015NM Prep	
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## GC Semi VOA (Continued)

## Prep Batch: 63115 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 63132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-12	SW05	Total/NA	Solid	8015B NM	63115
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015B NM	63115
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63115
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63115
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	63115
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63115

## Analysis Batch: 63134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015B NM	63096
890-5319-2	FS02	Total/NA	Solid	8015B NM	63096
890-5319-3	FS03	Total/NA	Solid	8015B NM	63096
890-5319-4	FS04	Total/NA	Solid	8015B NM	63096
890-5319-5	FS05	Total/NA	Solid	8015B NM	63096
890-5319-6	FS06	Total/NA	Solid	8015B NM	63096
890-5319-7	FS07	Total/NA	Solid	8015B NM	63096
890-5319-8	SW01	Total/NA	Solid	8015B NM	63096
890-5319-9	SW02	Total/NA	Solid	8015B NM	63096
890-5319-10	SW03	Total/NA	Solid	8015B NM	63096
890-5319-11	SW04	Total/NA	Solid	8015B NM	63096
MB 880-63096/1-A	Method Blank	Total/NA	Solid	8015B NM	63096
LCS 880-63096/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63096
LCSD 880-63096/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63096
890-5315-A-1-H MS	Matrix Spike	Total/NA	Solid	8015B NM	63096
890-5315-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63096

## Analysis Batch: 63160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Total/NA	Solid	8015 NM	
890-5319-2	FS02	Total/NA	Solid	8015 NM	
890-5319-3	FS03	Total/NA	Solid	8015 NM	
890-5319-4	FS04	Total/NA	Solid	8015 NM	
890-5319-5	FS05	Total/NA	Solid	8015 NM	
890-5319-6	FS06	Total/NA	Solid	8015 NM	
890-5319-7	FS07	Total/NA	Solid	8015 NM	
890-5319-8	SW01	Total/NA	Solid	8015 NM	
890-5319-9	SW02	Total/NA	Solid	8015 NM	
890-5319-10	SW03	Total/NA	Solid	8015 NM	
890-5319-11	SW04	Total/NA	Solid	8015 NM	
890-5319-12	SW05	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 63118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Soluble	Solid	DI Leach	
890-5319-2	FS02	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: Ensolum

Job ID: 890-5319-1

Project/Site: Harrier 35 Federal Com 001H

SDG: 32.0947,-103.63701

## HPLC/IC (Continued)

## Leach Batch: 63118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-3	FS03	Soluble	Solid	DI Leach	
890-5319-4	FS04	Soluble	Solid	DI Leach	
890-5319-5	FS05	Soluble	Solid	DI Leach	
890-5319-6	FS06	Soluble	Solid	DI Leach	
890-5319-7	FS07	Soluble	Solid	DI Leach	
890-5319-8	SW01	Soluble	Solid	DI Leach	
890-5319-9	SW02	Soluble	Solid	DI Leach	
890-5319-10	SW03	Soluble	Solid	DI Leach	
890-5319-11	SW04	Soluble	Solid	DI Leach	
890-5319-12	SW05	Soluble	Solid	DI Leach	
MB 880-63118/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63118/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63118/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5319-6 MS	FS06	Soluble	Solid	DI Leach	
890-5319-6 MSD	FS06	Soluble	Solid	DI Leach	

## Analysis Batch: 63312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5319-1	FS01	Soluble	Solid	300.0	63118
890-5319-2	FS02	Soluble	Solid	300.0	63118
890-5319-3	FS03	Soluble	Solid	300.0	63118
890-5319-4	FS04	Soluble	Solid	300.0	63118
890-5319-5	FS05	Soluble	Solid	300.0	63118
890-5319-6	FS06	Soluble	Solid	300.0	63118
890-5319-7	FS07	Soluble	Solid	300.0	63118
890-5319-8	SW01	Soluble	Solid	300.0	63118
890-5319-9	SW02	Soluble	Solid	300.0	63118
890-5319-10	SW03	Soluble	Solid	300.0	63118
890-5319-11	SW04	Soluble	Solid	300.0	63118
890-5319-12	SW05	Soluble	Solid	300.0	63118
MB 880-63118/1-A	Method Blank	Soluble	Solid	300.0	63118
LCS 880-63118/2-A	Lab Control Sample	Soluble	Solid	300.0	63118
LCSD 880-63118/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63118
890-5319-6 MS	FS06	Soluble	Solid	300.0	63118
890-5319-6 MSD	FS06	Soluble	Solid	300.0	63118

Eurofins Carlsbad

Lab Chronicle

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS01  
Date Collected: 09/21/23 09:10  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-1  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 16:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 16:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 15:04	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 15:04	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		5			63312	09/26/23 11:03	CH	EET MID

Client Sample ID: FS02  
Date Collected: 09/21/23 09:15  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-2  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 17:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 17:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 15:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 15:46	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:09	CH	EET MID

Client Sample ID: FS03  
Date Collected: 09/21/23 09:20  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-3  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 18:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 18:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:07	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		5			63312	09/26/23 11:15	CH	EET MID

Client Sample ID: FS04  
Date Collected: 09/21/23 09:25  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 18:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 18:45	SM	EET MID

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Lab Chronicle

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: FS04  
Date Collected: 09/21/23 09:25  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-4  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:28	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:28	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:21	CH	EET MID

Client Sample ID: FS05  
Date Collected: 09/21/23 09:30  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-5  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 19:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 19:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 16:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 16:49	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:26	CH	EET MID

Client Sample ID: FS06  
Date Collected: 09/21/23 09:35  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-6  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 19:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 19:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 17:10	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:33	CH	EET MID

Client Sample ID: FS07  
Date Collected: 09/21/23 09:40  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-7  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 17:32	SM	EET MID

Eurofins Carlsbad

## Lab Chronicle

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

## Client Sample ID: FS07

## Lab Sample ID: 890-5319-7

Date Collected: 09/21/23 09:40

Matrix: Solid

Date Received: 09/21/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:51	CH	EET MID

## Client Sample ID: SW01

## Lab Sample ID: 890-5319-8

Date Collected: 09/21/23 09:45

Matrix: Solid

Date Received: 09/21/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:53	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 17:53	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 11:57	CH	EET MID

## Client Sample ID: SW02

## Lab Sample ID: 890-5319-9

Date Collected: 09/21/23 09:50

Matrix: Solid

Date Received: 09/21/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 20:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 20:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:14	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:14	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:14	CH	EET MID

## Client Sample ID: SW03

## Lab Sample ID: 890-5319-10

Date Collected: 09/21/23 09:55

Matrix: Solid

Date Received: 09/21/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63094	09/22/23 14:56	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63185	09/25/23 21:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/25/23 21:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:35	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:20	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Client Sample ID: SW04  
Date Collected: 09/21/23 10:00  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-11  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	63093	09/22/23 14:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 14:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/27/23 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 18:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.007 g	10 mL	63096	09/22/23 14:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63134	09/23/23 18:56	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:26	CH	EET MID

Client Sample ID: SW05  
Date Collected: 09/21/23 10:05  
Date Received: 09/21/23 13:04

Lab Sample ID: 890-5319-12  
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	63093	09/22/23 14:53	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63317	09/27/23 14:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63349	09/27/23 14:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			63160	09/23/23 17:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 17:53	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	63118	09/22/23 18:03	AG	EET MID
Soluble	Analysis	300.0		1			63312	09/26/23 12:32	CH	EET MID

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

Accreditation/Certification Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

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

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

Method Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

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

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

Sample Summary

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

Job ID: 890-5319-1  
SDG: 32.0947,-103.63701

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5319-1	FS01	Solid	09/21/23 09:10	09/21/23 13:04	4
890-5319-2	FS02	Solid	09/21/23 09:15	09/21/23 13:04	4
890-5319-3	FS03	Solid	09/21/23 09:20	09/21/23 13:04	4
890-5319-4	FS04	Solid	09/21/23 09:25	09/21/23 13:04	4
890-5319-5	FS05	Solid	09/21/23 09:30	09/21/23 13:04	3
890-5319-6	FS06	Solid	09/21/23 09:35	09/21/23 13:04	2
890-5319-7	FS07	Solid	09/21/23 09:40	09/21/23 13:04	2
890-5319-8	SW01	Solid	09/21/23 09:45	09/21/23 13:04	0-4
890-5319-9	SW02	Solid	09/21/23 09:50	09/21/23 13:04	0-4
890-5319-10	SW03	Solid	09/21/23 09:55	09/21/23 13:04	0-4
890-5319-11	SW04	Solid	09/21/23 10:00	09/21/23 13:04	0-2
890-5319-12	SW05	Solid	09/21/23 10:05	09/21/23 13:04	0-2





Environment Testing  
Xenco

## Chain of Custody

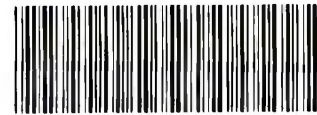
Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300  
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334  
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296  
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: \_\_\_\_\_

www.xenco.com Page 1 of 2

Project Manager:	Hadlie Green	Bill to: (if different)	Hadlie Green
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	hgreen@ensolum.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: _____

Project Name:		Harrier 35 Federal Com 001H		Turn Around		ANALYSIS REQUEST										Preservative Codes						
Project Number:		03D2024093		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush		 890-5319 Chain of Custody										None: NO DI Water: H <sub>2</sub> O						
Project Location:		32.0947,-103.63701		Due Date:												Cool: Cool MeOH: Me						
Sampler's Name:		Peter Van Patten		TAT starts the day received by the lab, if received by 4:30pm												HCL: HC HNO <sub>3</sub> : HN						
PO #:																H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> NaOH: Na						
<b>SAMPLE RECEIPT</b>		Temp Blank:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Wet Ice:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No												H <sub>3</sub> PO <sub>4</sub> : HP		
Samples Received Intact:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID:		710001												NaHSO <sub>4</sub> : NABIS				
Cooler Custody Seals:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Correction Factor:		-0.2												Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>				
Sample Custody Seals:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Temperature Reading:		2.6												Zn Acetate+NaOH: Zn				
Total Containers:				Corrected Temperature:		2.4												NaOH+Ascorbic Acid: SAPC				
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)											Sample Comments	
FS01		Soil	9/21/2023	910	4	Comp	1	x	x	x												
FS02		Soil	9/21/2023	915	4	Comp	1	x	x	x												
FS03		Soil	9/21/2023	920	4	Comp	1	x	x	x												
FS04		Soil	9/21/2023	925	4	Comp	1	x	x	x												
FS05		Soil	9/21/2023	930	3	Comp	1	x	x	x												
FS06		Soil	9/21/2023	935	2	Comp	1	x	x	x												
FS07		Soil	9/21/2023	940	2	Comp	1	x	x	x												
SW01		Soil	9/21/2023	945	0-4	Comp	1	x	x	x												
SW02		Soil	9/21/2023	950	0-4	Comp	1	x	x	x												
SW03		Soil	9/21/2023	955	0-4	Comp	1	x	x	x												

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
<i>1 Peter Van Patten</i>	<i>CEL</i>	9-21 17:04	<i>2</i>		
<i>3</i>			<i>4</i>		
<i>5</i>			<i>6</i>		

Revised Date: 08/25/2020 Rev. 2020.2

Revised Date: 08/25/2020 Rev. 2020.2

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5319-1  
SDG Number: 32.0947,-103.63701

Login Number: 5319

List Number: 1

Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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

## Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5319-1  
SDG Number: 32.0947,-103.63701

Login Number: 5319

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland  
List Creation: 09/22/23 10:54 AM

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



APPENDIX E

Final C-141

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release




Incident ID	
District RP	
Facility ID	
Application ID	

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

### Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> 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:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name _____	Title: _____
Signature: <u></u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>09/12/2022</u>

Received by OCD: 11/19/2024 10:11:42 AM

Well:	Harrier 35
Asset Area:	Delaware east
Release Discovery Date & Time:	9/4/22 7am
Release Type:	Produced Water
Provide any known details about the event:	

## Spill 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!
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Released to Imaging: 3/7/2025 4:50:14 PM

Total Volume Release:

6.952



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1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 142261

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 142261
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	9/12/2022

Incident ID	NAPP2225531487
District RP	
Facility ID	fAPP2203945184
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

<p><b>Characterization Report Checklist:</b> Each of the following items must be included in the report.</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li><li><input checked="" type="checkbox"/> Field data</li><li><input checked="" type="checkbox"/> Data table of soil contaminant concentration data</li><li><input checked="" type="checkbox"/> Depth to water determination</li><li><input checked="" type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li><li><input checked="" type="checkbox"/> Boring or excavation logs</li><li><input checked="" type="checkbox"/> Photographs including date and GIS information</li><li><input checked="" type="checkbox"/> Topographic/Aerial maps</li><li><input checked="" type="checkbox"/> 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.

State of New Mexico  
Oil Conservation Division

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: \_\_\_\_\_

Incident ID	NAPP2225531487
District RP	
Facility ID	fAPP2203945184
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Jacob LairdTitle: Environmental EngineerSignature: Jacob LairdDate: 6/1/2023email: Jacob.Laird@conocophillips.comTelephone: 575-703-5482**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

- ☐ Approved      ☐ Approved with Attached Conditions of Approval      ☐ Denied      ☐ Deferral Approved

*see text box below - NV*Signature: Nelson VelezDate: 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

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**From:** [OCDOnline@state.nm.us](mailto: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](mailto: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  
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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS  
  
Action 222614

CONDITIONS

Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137
	Action Number:  222614
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Conditions of approval are as follows; 1. Exploratory groundwater soil boring should be in relatively close proximity to the point of release. 2. Remediation Due date has been set to November 20, 2023 (90-days) for the appropriate reporting documentation or the final closure report.	8/22/2023

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

QUESTIONS  
  
Action 375431

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 375431
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2225531487
Incident Name	NAPP2225531487 HARRIER 35 FEDERAL COM 001H @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2203945184] HARRIER 35 FED COM #001H RT BAT

Location of Release Source	
Please answer all the questions in this group.	
Site Name	HARRIER 35 FEDERAL COM 001H
Date Release Discovered	09/04/2022
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Valve   Produced Water   Released: 7 BBL   Recovered: 0 BBL   Lost: 7 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



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

QUESTIONS, Page 2

Action 375431

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:	229137
	Action Number:	375431
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS****Nature and Volume of Release (continued)**

Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.

*With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.*

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

*Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.*

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024
--	---

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

QUESTIONS, Page 3

Action 375431

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	375431
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride	(EPA 300.0 or SM4500 Cl B)	28000
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	409
GRO+DRO	(EPA SW-846 Method 8015M)	210
BTEX	(EPA SW-846 Method 8021B or 8260B)	0.1
Benzene	(EPA SW-846 Method 8021B or 8260B)	0.1

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	09/20/2023
On what date will (or did) the final sampling or liner inspection occur	09/20/2023
On what date will (or was) the remediation complete(d)	09/20/2023
What is the estimated surface area (in square feet) that will be reclaimed	1400
What is the estimated volume (in cubic yards) that will be reclaimed	220
What is the estimated surface area (in square feet) that will be remediated	1400
What is the estimated volume (in cubic yards) that will be remediated	220

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

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Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

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**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 4

Action 375431

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:	229137
	Action Number:	375431
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HARRIER 35 FED COM #001H RT BAT [fAPP2203945184]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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

QUESTIONS, Page 5  
  
Action 375431

QUESTIONS (continued)

Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137
	Action Number:  375431
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS, Page 6

Action 375431

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	375431
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	375435
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/20/2023
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1400

**Remediation Closure Request**

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	1400
What was the total volume (cubic yards) remediated	220
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1400
What was the total volume (in cubic yards) reclaimed	220
Summarize any additional remediation activities not included by answers (above)	excavation of impacted and waste-containing soil. Depth to groundwater verified to be greater than 100 feet below ground surface per requirements of approved Remediation Work Plan.

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024
--	---

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QUESTIONS, Page 7  
  
Action 375431

QUESTIONS (continued)

Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137
	Action Number:  375431
	Action Type:  [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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**Santa Fe, NM 87505**

CONDITIONS

Action 375431

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 375431
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation closure report approved, release resolved.	10/8/2024



## APPENDIX B

### Photographic Log

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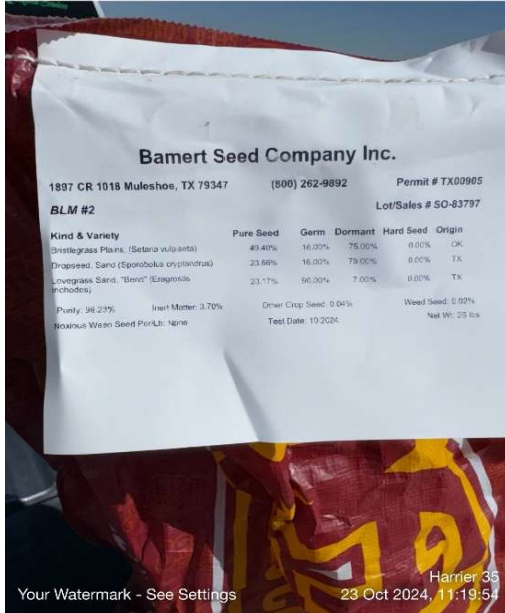


**Photographic Log**

COG Operating, LLC

Harrier 35 Federal Com 001H

Incident Number NAPP2225531487

**LAT: 32.094862 LON: -103.637313 ±13ft**

Photograph: 1 Date: 10/23/2024  
Description: Seed mix utilized for reseeding activities

**LAT: 32.094702 LON: -103.637043 ±16ft**

Photograph: 2 Date: 10/23/2024  
Description: Reseeding activities

**LAT: 32.094682 LON: -103.637071 ±13ft**

Photograph: 3 Date: 10/23/2024  
Description: Reseeding activities



Photograph: 4 Date: 10/24/2024  
Description: Backfill sampling activities  
View: East



## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 10/28/2024 12:46:13 PM

## JOB DESCRIPTION

HARRIER 35 FEDERAL COM 001 H  
03D2024093

## JOB NUMBER

890-7307-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

# Eurofins Carlsbad

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

## Authorization



Generated  
10/28/2024 12:46:13 PM

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

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Laboratory Job ID: 890-7307-1  
SDG: 03D2024093

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Definitions/Glossary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

## Case Narrative

Client: Ensolum  
Project: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1

**Job ID: 890-7307-1**

**Eurofins Carlsbad**

### Job Narrative 890-7307-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The sample was received on 10/24/2024 2:42 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C.

#### Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: BF 01 (890-7307-1).

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-94091 and analytical batch 880-93912 was outside the upper control limits.

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

#### Diesel Range Organics

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

#### HPLC/IC

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

Eurofins Carlsbad



Client Sample Results

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Client Sample ID: BF 01

Lab Sample ID: 890-7307-1

Date Collected: 10/24/24 12:00

Matrix: Solid

Date Received: 10/24/24 14:42

Sample Depth: 1

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		10/25/24 08:26	10/25/24 14:49	1	
Toluene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	1	
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/25/24 08:26	10/25/24 14:49	1	
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/25/24 08:26	10/25/24 14:49	1	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/25/24 08:26	10/25/24 14:49	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	120		70 - 130			10/25/24 08:26	10/25/24 14:49	1	
1,4-Difluorobenzene (Surr)	106		70 - 130			10/25/24 08:26	10/25/24 14:49	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			10/25/24 14:49	1	

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.8	U	49.8	mg/Kg			10/25/24 21:59	1	

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	1	
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	1	
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/25/24 07:33	10/25/24 21:59	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	104		70 - 130			10/25/24 07:33	10/25/24 21:59	1	
o-Terphenyl	87		70 - 130			10/25/24 07:33	10/25/24 21:59	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	177		10.0	mg/Kg			10/26/24 03:42	1	



Surrogate Summary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Method: 8021B - Volatile Organic Compounds (GC)  
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-7307-1	BF 01	120	106
890-7309-A-61-B MS	Matrix Spike	109	100
890-7309-A-61-C MSD	Matrix Spike Duplicate	108	102
LCS 880-94091/1-A	Lab Control Sample	107	94
LCSD 880-94091/2-A	Lab Control Sample Dup	111	102
MB 880-94091/5-A	Method Blank	163 S1+	121
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-7304-A-1-B MS	Matrix Spike	101	104
890-7304-A-1-C MSD	Matrix Spike Duplicate	102	104
890-7307-1	BF 01	104	87
LCS 880-94078/2-A	Lab Control Sample	119	109
LCSD 880-94078/3-A	Lab Control Sample Dup	125	113
MB 880-94078/1-A	Method Blank	106	88
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

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

Lab Sample ID: MB 880-94091/5-A

Matrix: Solid

Analysis Batch: 93912

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 94091

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/24 08:26	10/25/24 11:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/24 08:26	10/25/24 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	163	S1+	70 - 130	10/25/24 08:26	10/25/24 11:37	1
1,4-Difluorobenzene (Surr)	121		70 - 130	10/25/24 08:26	10/25/24 11:37	1

Lab Sample ID: LCS 880-94091/1-A

Matrix: Solid

Analysis Batch: 93912

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 94091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09606		mg/Kg		96	70 - 130
Toluene	0.100	0.1028		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.1189		mg/Kg		119	70 - 130
m-Xylene & p-Xylene	0.200	0.2439		mg/Kg		122	70 - 130
o-Xylene	0.100	0.1253		mg/Kg		125	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-94091/2-A

Matrix: Solid

Analysis Batch: 93912

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 94091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1012		mg/Kg		101	70 - 130	5	35
Toluene	0.100	0.09790		mg/Kg		98	70 - 130	5	35
Ethylbenzene	0.100	0.1093		mg/Kg		109	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2151		mg/Kg		108	70 - 130	13	35
o-Xylene	0.100	0.1238		mg/Kg		124	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-7309-A-61-B MS

Matrix: Solid

Analysis Batch: 93912

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 94091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.09603		mg/Kg		96	70 - 130
Toluene	<0.00201	U	0.100	0.1029		mg/Kg		103	70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

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

Lab Sample ID: 890-7309-A-61-B MS  
Matrix: Solid  
Analysis Batch: 93912

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 94091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.1095		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2416		mg/Kg		121	70 - 130
o-Xylene	<0.00201	U	0.100	0.1207		mg/Kg		121	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	109		70 - 130						
1,4-Difluorobenzene (Surr)	100		70 - 130						

Lab Sample ID: 890-7309-A-61-C MSD  
Matrix: Solid  
Analysis Batch: 93912

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 94091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.09961		mg/Kg		100	70 - 130	4	35
Toluene	<0.00201	U	0.100	0.1017		mg/Kg		102	70 - 130	1	35
Ethylbenzene	<0.00201	U	0.100	0.1059		mg/Kg		106	70 - 130	3	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2282		mg/Kg		114	70 - 130	6	35
o-Xylene	<0.00201	U	0.100	0.1251		mg/Kg		125	70 - 130	4	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	108		70 - 130								
1,4-Difluorobenzene (Surr)	102		70 - 130								

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

Lab Sample ID: MB 880-94078/1-A  
Matrix: Solid  
Analysis Batch: 94159

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 94078

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/25/24 07:33	10/25/24 15:57	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	106		70 - 130	10/25/24 07:33	10/25/24 15:57	1		
o-Terphenyl	88		70 - 130	10/25/24 07:33	10/25/24 15:57	1		

Lab Sample ID: LCS 880-94078/2-A  
Matrix: Solid  
Analysis Batch: 94159

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 94078

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1190		mg/Kg		119	70 - 130
Diesel Range Organics (Over C10-C28)	1000	935.3		mg/Kg		94	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

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

Lab Sample ID: LCS 880-94078/2-A

Matrix: Solid

Analysis Batch: 94159

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 94078

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

Lab Sample ID: LCSD 880-94078/3-A

Matrix: Solid

Analysis Batch: 94159

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 94078

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1210		mg/Kg		121	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	921.0		mg/Kg		92	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-7304-A-1-B MS

Matrix: Solid

Analysis Batch: 94159

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 94078

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	913.2		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	784		997	1488		mg/Kg		71	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 890-7304-A-1-C MSD

Matrix: Solid

Analysis Batch: 94159

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 94078

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	912.8		mg/Kg		92	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	784		997	1491		mg/Kg		71	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	104		70 - 130

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QC Sample Results

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-94122/1-A Matrix: Solid Analysis Batch: 94163										Client Sample ID: Method Blank Prep Type: Soluble	
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	<10.0	U	10.0	mg/Kg			10/26/24 02:02	1			

Lab Sample ID: LCS 880-94122/2-A Matrix: Solid Analysis Batch: 94163										Client Sample ID: Lab Control Sample Prep Type: Soluble	
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.6		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-94122/3-A Matrix: Solid Analysis Batch: 94163										Client Sample ID: Lab Control Sample Dup Prep Type: Soluble	
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	268.0		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 880-50236-A-35-B MS Matrix: Solid Analysis Batch: 94163										Client Sample ID: Matrix Spike Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	23.9		251	284.7		mg/Kg		104	90 - 110		

Lab Sample ID: 880-50236-A-35-C MSD Matrix: Solid Analysis Batch: 94163										Client Sample ID: Matrix Spike Duplicate Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	23.9		251	284.7		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

GC VOA

Analysis Batch: 93912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8021B	94091
MB 880-94091/5-A	Method Blank	Total/NA	Solid	8021B	94091
LCS 880-94091/1-A	Lab Control Sample	Total/NA	Solid	8021B	94091
LCSD 880-94091/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	94091
890-7309-A-61-B MS	Matrix Spike	Total/NA	Solid	8021B	94091
890-7309-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	94091

Prep Batch: 94091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	5035	
MB 880-94091/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-94091/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-94091/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-7309-A-61-B MS	Matrix Spike	Total/NA	Solid	5035	
890-7309-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 94156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 94078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8015NM Prep	
MB 880-94078/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-94078/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-94078/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-7304-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-7304-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 94159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8015B NM	94078
MB 880-94078/1-A	Method Blank	Total/NA	Solid	8015B NM	94078
LCS 880-94078/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	94078
LCSD 880-94078/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	94078
890-7304-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	94078
890-7304-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	94078

Analysis Batch: 94243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 94122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Soluble	Solid	DI Leach	
MB 880-94122/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-94122/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-94122/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

HPLC/IC (Continued)

Leach Batch: 94122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-50236-A-35-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-50236-A-35-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 94163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-7307-1	BF 01	Soluble	Solid	300.0	94122
MB 880-94122/1-A	Method Blank	Soluble	Solid	300.0	94122
LCS 880-94122/2-A	Lab Control Sample	Soluble	Solid	300.0	94122
LCSD 880-94122/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	94122
880-50236-A-35-B MS	Matrix Spike	Soluble	Solid	300.0	94122
880-50236-A-35-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	94122

Lab Chronicle

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Client Sample ID: BF 01

Date Collected: 10/24/24 12:00

Date Received: 10/24/24 14:42

Lab Sample ID: 890-7307-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	94091	10/25/24 08:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	93912	10/25/24 14:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			94156	10/25/24 14:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			94243	10/25/24 21:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	94078	10/25/24 07:33	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	94159	10/25/24 21:59	TKC	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	94122	10/25/24 11:34	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	94163	10/26/24 03:42	CH	EET MID

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



Accreditation/Certification Summary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400	06-30-25
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum  
Project/Site: HARRIER 35 FEDERAL COM 001 H

Job ID: 890-7307-1  
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 001 H

Job ID: 890-7307-1  
SDG: 03D2024093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-7307-1	BF 01	Solid	10/24/24 12:00	10/24/24 14:42	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14


**Work Order Comments**

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other: \_\_\_\_\_





890-7307 Chain of Custody

Preservative Codes	
None: NO	DI Water: H <sub>2</sub> O
Cool: Cool	MeOH: Me
HCL: HC	HNO <sub>3</sub> : HN
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na
H <sub>3</sub> PO <sub>4</sub> : HP	
NaHSO <sub>4</sub> : NABIS	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	
Sample Comments	

[illegible]

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.

of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$3 for each sample submitted to Eurofins Xenco, but not less than \$100.00.					
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 	2 	10/24/14	3		
4			5		
6			7		

Revised Date: 06-25-2010 Rev: 3000

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-7307-1

SDG Number: 03D2024093

Login Number: 7307

List Source: Eurofins Carlsbad

List Number: 1

Creator: Bruns, Shannon

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-7307-1

SDG Number: 03D2024093

Login Number: 7307

List Source: Eurofins Midland

List Number: 2

List Creation: 10/25/24 08:44 AM

Creator: Rios, Minerva

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

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

QUESTIONS

Action 404706

**QUESTIONS**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2225531487
Incident Name	NAPP2225531487 HARRIER 35 FEDERAL COM 001H @ 0
Incident Type	Produced Water Release
Incident Status	Reclamation Report Received
Incident Facility	[fAPP2203945184] HARRIER 35 FED COM #001H RT BAT

**Location of Release Source**

Please answer all the questions in this group.

Site Name	HARRIER 35 FEDERAL COM 001H
Date Release Discovered	09/04/2022
Surface Owner	Federal

**Incident Details**

Please answer all the questions in this group.

Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Valve   Produced Water   Released: 7 BBL   Recovered: 0 BBL   Lost: 7 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.



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QUESTIONS, Page 2

Action 404706

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024
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QUESTIONS, Page 3

Action 404706

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	None
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	28000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	409
GRO+DRO (EPA SW-846 Method 8015M)	210
BTEX (EPA SW-846 Method 8021B or 8260B)	0.1
Benzene (EPA SW-846 Method 8021B or 8260B)	0.1

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	09/20/2023
On what date will (or did) the final sampling or liner inspection occur	09/20/2023
On what date will (or was) the remediation complete(d)	09/20/2023
What is the estimated surface area (in square feet) that will be reclaimed	1400
What is the estimated volume (in cubic yards) that will be reclaimed	220
What is the estimated surface area (in square feet) that will be remediated	1400
What is the estimated volume (in cubic yards) that will be remediated	220

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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Action 404706

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HARRIER 35 FED COM #001H RT BAT [fAPP2203945184]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: <a href="mailto:brittany.Esparza@ConocoPhillips.com">brittany.Esparza@ConocoPhillips.com</a> Date: 08/20/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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Action 404706

QUESTIONS (continued)

Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137
	Action Number:  404706
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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Action 404706

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	375435
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/20/2023
What was the (estimated) number of samples that were to be gathered	7
What was the sampling surface area in square feet	1400

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	1400
What was the total volume (cubic yards) remediated	220
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1400
What was the total volume (in cubic yards) reclaimed	220
Summarize any additional remediation activities not included by answers (above)	excavation of impacted and waste-containing soil. Depth to groundwater verified to be greater than 100 feet below ground surface per requirements of approved Remediation Work Plan.

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

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

I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 08/20/2024
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Action 404706

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Reclamation Report</b>	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	1400
What was the total volume of replacement material (in cubic yards) for this site	220
<i>Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.</i>	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeding commence(d)	10/23/2024
Summarize any additional reclamation activities not included by answers (above)	na
<i>The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeding plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 11/19/2024

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Action 404706

QUESTIONS (continued)

Operator:  COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:  229137
	Action Number:  404706
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

<b>Revegetation Report</b>	
<i>Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.</i>	
Requesting a restoration complete approval with this submission	No
<i>Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.</i>	

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CONDITIONS

Action 404706

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 404706
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	3/7/2025