

April 28, 2023

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

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

Re: Closure Request

Gold Coast 26 Federal 001H

**Incident Number NAPP2234636400** 

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 delineation, excavation, and soil sampling activities performed at the Gold Coast 26 Federal 001H (Site). The purpose of the delineation, excavation, and soil sampling activities was to address impacts to soil resulting from a water transfer line release into the surrounding pasture. Based on the excavation activities and laboratory analytical results from the soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2234636400.

### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 35, Township 24 South, Range 32 East, in Lea County, New Mexico (32.1813°, -103.6385°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On December 2, 2022, internal corrosion of a surface water transfer line resulted in the release of approximately 2.43 barrels (bbls) of produced water onto the surrounding pasture area. No free-standing fluids were recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on December 12, 2022. The release was assigned Incident Number NAPP2234636400.

### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess applicability of Table I, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

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 and regional depth to water determination. The

closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321005103402301 located approximately 2.05 miles southwest of the Site. The groundwater well has a reported depth to groundwater of 289 feet bgs and a total depth of 367 feet bgs. 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 a stream, located approximately 4.3 miles northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and less than 300 feet from an occupied residence, school, hospital, institution, or church. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). The Site is located less than 300 feet from a wetland. 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): 100 mg/kg
- Chloride: 600 mg/kg

### SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On December 20, 2022, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six assessment soil samples (SS01 through SS06) were collected within and around the release extent at an approximate depth of 0.2 feet bgs to confirm the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-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 soil samples collected around the release extent (SS03 through SS06), indicated all COC concentrations were compliant with the Site Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for soil samples collected within the release extent (SS01 and SS02) indicated chloride concentrations exceeded the Site Closure Criteria. Based on the laboratory analytical results, impacted soil was identified within the release extent and excavation activities were warranted. Laboratory analytical results



are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

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

On February 2, 2023, Ensolum personnel were at the Site to oversee excavation activities based on surface staining in the pasture release area and laboratory analytical results exceeding the Site Closure Criteria in assessment samples SS01 and SS02. Impacted soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results. Excavation activities were performed via back-hoe and transport vehicles. To direct excavation activities, soil was field screened for VOCs and chloride as described above. The excavation was completed to a depth of 4 feet bgs. Photographic documentation is included in Appendix B.

Following 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 sample FS01 was collected from the floor of the excavation at a depth of 4 feet bgs. Composite soil sample SW01 was collected from the sidewall of the excavation at depths ranging from the ground surface to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above.

Laboratory analytical results for excavation sidewall sample SW01 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for excavation floor soil sample FS01 indicated chloride concentrations exceeded the Site Closure Criteria and additional excavation was required. On February 17, 2023, Ensolum personnel were onsite to oversee the removal of additional soil in the vicinity of floor sample FS01. Subsequent sample FS01A was collected from the floor of the excavation at a depth of 4.5 feet bgs. Composite soil samples SW02 and SW03 were collected from the sidewalls of the excavation at depths ranging from ground surface to 4.5 feet bgs. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation measured approximately 185 square feet in aerial extent. A total of approximately 31 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 secured with fencing once the excavation was complete.

Laboratory analytical results for all final excavation samples (FS01A and SW01 through SW03) indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

### **CLOSURE REQUEST**

Site assessment and excavation activities were conducted at the Site to address the December 2, 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. Based on the soil sample analytical results, no further remediation was required. The excavation will be backfilled, and the disturbed pasture area will be re-seeded with an approved BLM seed mixture.



Excavation of impacted soil has mitigated impacts at this Site. COG believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2234636400. The Final C-141 is included in Appendix E.

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

Sincerely, **Ensolum, LLC** 

Hadlie Green Staff Geologist

Aimee Cole Senior Managing Scientist

cc: Jacob Laird, ConocoPhillips Company

**Bureau of Land Management** 

### Appendices:

Figure 1 Site Receptor Map

Figure 2 Assessment Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records

Appendix B Photographic Log

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

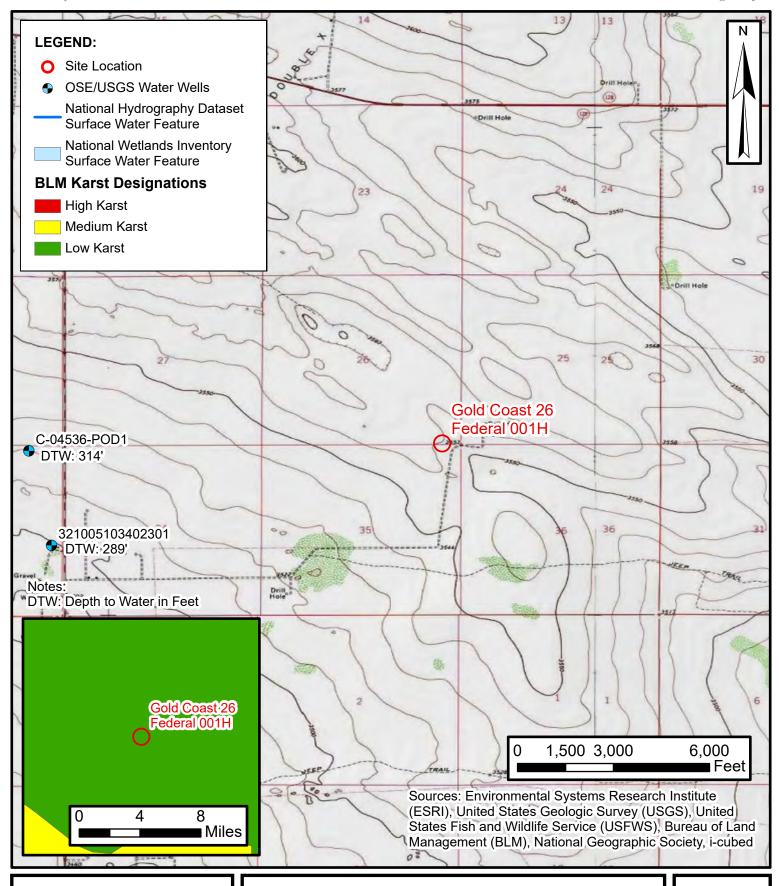
Appendix D NMOCD Notifications

Appendix E Final C-141





**FIGURES** 

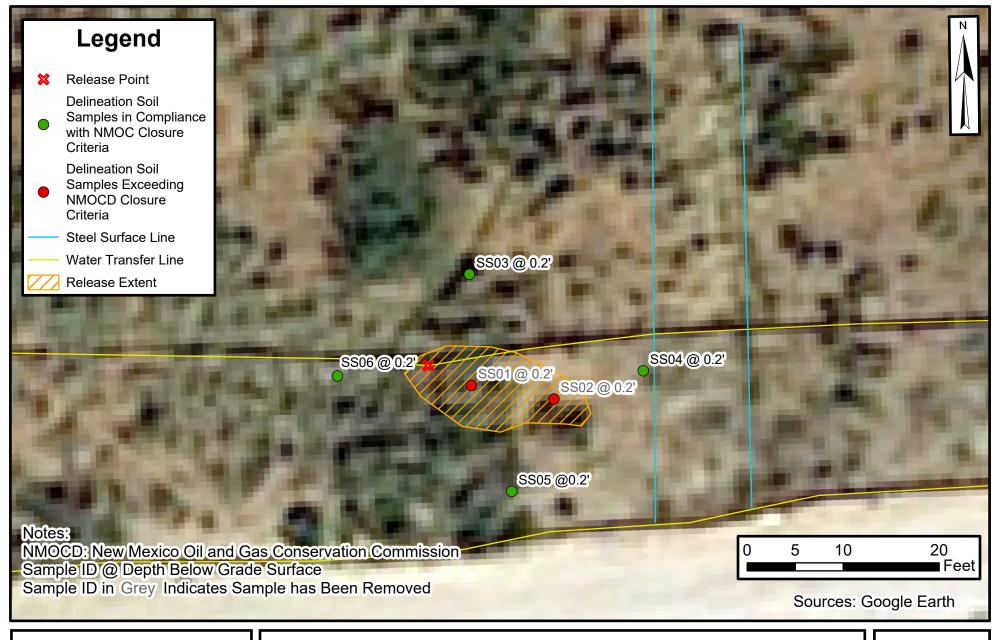




### SITE RECEPTOR MAP

COG Operating, LLC Gold Coast 26 Federal 001H

Incident Number: NAPP2234636400 Unit A, Sec 35, T24S, R32E Lea County, New Mexico FIGURE

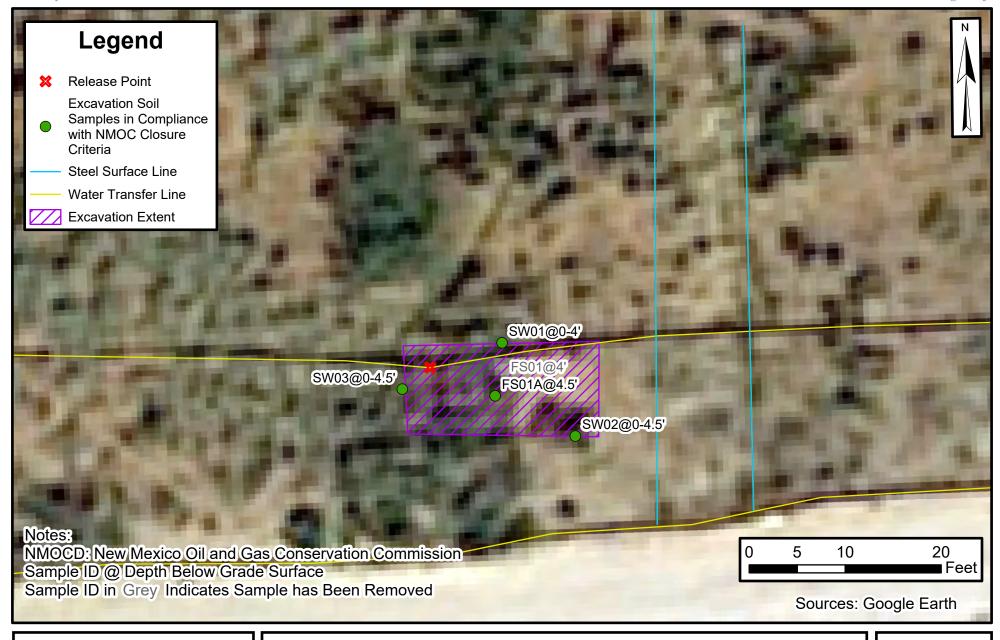




# **Assessment Soil Sample Locations**

COG Operating, LLC Gold Coast 26 Federal 001H

Incident Number: NAPP2234636400 Unit A, Sec 35, T24S, R32E Lea County, New Mexico FIGURE





# **Excavation Soil Sample Locations**

COG Operating, LLC Gold Coast 26 Federal 001H

Incident Number: NAPP2234636400 Unit A, Sec 35, T24S, R32E Lea County, New Mexico FIGURE 3



**TABLES** 



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Gold Coast 26 Federal 001H COG Operating, LLC Lea County, New Mexico

Sample Designation	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Clo	sure Criteria (NM	IAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
				Assess	ment Soil Sample	es				
SS01	12/20/2022	0.2	<0.00198	< 0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	6,980
SS02	12/20/2022	0.2	< 0.00199	< 0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	5,340
SS03	12/20/2022	0.2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	259
SS04	12/20/2022	0.2	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	6.53
SS05	12/20/2022	0.2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	<5.02
SS06	12/20/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<5.01
				Floor Exca	avation Soil Samp	oles				
FS01	02/02/2023	4	< 0.00198	< 0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	691
FS01A	02/17/2023	4.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	<5.02
				Sidewall Ex	cavation Soil San	nples				
SW01	02/02/2023	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	<4.95
SW02	02/17/2023	0 - 4.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<5.02
SW03	02/17/2023	0 - 4.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<4.99

### Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NE: not established

NMAC: New Mexico Adminstrative Code

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

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

Grey text represents samples that have been excavated



**APPENDIX A** 

Referenced Well Records



# 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

20E37

C 04536 POD1

33 24S 32E

625019

X

3561244

 $\mathbf{Y}$ 

**Driller License:** 1706

**Driller Company:** 

**ELITE DRILLERS CORPORATION** 

**Driller Name:** 

**BRYCE WALLACE** 

**Drill Start Date:** 

06/09/2021

**Drill Finish Date:** 

06/10/2021

**Plug Date:** 

Log File Date:

06/21/2021

**PCW Rcv Date:** 

**Source:** 

Shallow

**Pump Type:** 

Pipe Discharge Size:

**Estimated Yield:** 4 GPM

**Casing Size:** 

4.30

**Depth Well:** 

500 feet

**Depth Water:** 

314 feet

Water Bearing Stratifications:

Top Bottom Description

235

480 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.

1/4/23 11:50 AM

POINT OF DIVERSION SUMMARY

Received by OCD: 5/1/2023 2:30:17 PM



USGS Home Contact USGS Search USGS

**National Water Information System: Web Interface** 

**USGS** Water Resources

ata Category:		Geographic Area:		
Groundwater	~	United States	~	G

Click to hideNews Bulletins

• See the <u>Water Data for the Nation Blog</u> for the latest news and updates.

Groundwater levels for the Nation

■ Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 321005103402301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

### USGS 321005103402301 24S.32E.33.42241

Lea County, New Mexico
Latitude 32°10'21.6", Longitude 103°40'18.9" NAD83
Land-surface elevation 3,499.00 feet above NGVD29
The depth of the well is 367 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Οι	ıtput	torma	τς	

<u>Tab-separa</u>	ited data										
Graph of d	<u>ata</u>										
Reselect pe	<u>eriod</u>										
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

Exp	lanation
-----	----------

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface

Received by OCD: 5/1/2023 2:30:17

Section	Code	Description
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	Α	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals <u>Help</u> Data Tips Explanation of terms Subscribe for system changes News

Accessibility FOIA Privacy

<u>U.S. Department of the Interior</u> | <u>U.S. Geological Survey</u> **Title: Groundwater for USA: Water Levels** 

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Policies and Notices

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2023-01-04 13:45:08 EST

0.33 0.27 nadww01





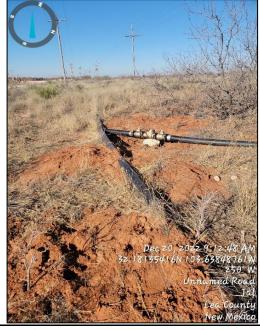
**APPENDIX B** 

Photographic Log

# **ENSOLUM**

### **Photographic Log**

COG Operating, LLC Gold Coast 26 Federal 1H Lea County, New Mexico



Date: 12/20/2022 Photograph: 1 Description: Initial release extent assessment

View: Southwest

Description: Excavation Activities

View: Southwest

Photograph: 2

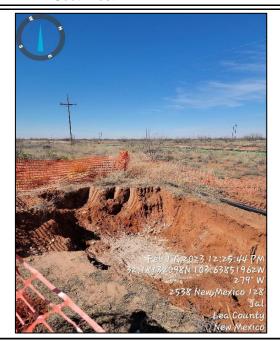


Date: 1/6/2023

Photograph: 3 Date: 1/25/2023

Description: Excavation activities

View: Southwest



Photograph: 4 Date: 2/17/2023

Description: Excavation Activities

View: Northwest



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/30/2022 12:38:28 PM

# **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181380,-103.638525

### **JOB NUMBER**

890-3687-1

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 12/30/2022 12:38:28 PM

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

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

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Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3687-1 SDG: 32.181380,-103.638525

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### **Definitions/Glossary**

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

### **Qualifiers**

_	$\overline{}$	.,	$\overline{}$	•
G	U	v	U	А

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

### **GC Semi VOA**

Qualifier	Qualifier Description
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**

EDL

LOD

LOQ

MCL

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)

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)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level"

NEG Negative / Absent POS Positive / Present **Practical Quantitation Limit PQL PRES** Presumptive

**Quality Control** QC 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: Gold Coast Federal 1H

Job ID: 890-3687-1

SDG: 32.181380,-103.638525

Job ID: 890-3687-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3687-1

### Receipt

The sample was received on 12/20/2022 2:21 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 3.2°C

### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-3687-1).

### **GC VOA**

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-42758 and analytical batch 880-42900 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

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

### HPLC/IC

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

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### **Client Sample Results**

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Lab Sample ID: 890-3687-1 **Client Sample ID: SS03** Date Collected: 12/20/22 09:40 Matrix: Solid Date Received: 12/20/22 14:21

Sample Depth: 0.2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
Ethylbenzene	<0.00202	U *+	0.00202	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
m-Xylene & p-Xylene	<0.00403	U *+ F1	0.00403	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
o-Xylene	<0.00202	U *+	0.00202	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
Xylenes, Total	<0.00403	U *+	0.00403	mg/Kg		12/27/22 16:46	12/29/22 18:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	170	S1+	70 - 130			12/27/22 16:46	12/29/22 18:05	1
1,4-Difluorobenzene (Surr)	72		70 - 130			12/27/22 16:46	12/29/22 18:05	1
Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			12/30/22 12:53	1
Method: SW846 8015 NM - Diese Analyte	Result	Qualifier	RL	Unit mg/// g	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/27/22 11:28	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 16:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 16:33	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 07:58	12/22/22 16:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130			12/22/22 07:58	12/22/22 16:33	1
o-Terphenyl	94		70 - 130			12/22/22 07:58	12/22/22 16:33	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	259		5.00	mg/Kg	_		12/29/22 12:51	1

### **Surrogate Summary**

 Client: Ensolum
 Job ID: 890-3687-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3687-1	SS03	170 S1+	72	
890-3687-1 MS	SS03	198 S1+	79	
890-3687-1 MSD	SS03	182 S1+	74	
LCS 880-42758/1-A	Lab Control Sample	189 S1+	86	
LCSD 880-42758/2-A	Lab Control Sample Dup	197 S1+	80	
MB 880-42758/5-A	Method Blank	124	72	
Surrogate Legend				
BFB = 4-Bromofluorobe	nzene (Surr)			
DFBZ = 1,4-Difluoroben	zene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-23018-A-1-D MS	Matrix Spike	118	94	
880-23018-A-1-E MSD	Matrix Spike Duplicate	119	93	
890-3687-1	SS03	105	94	
LCS 880-42467/2-A	Lab Control Sample	106	117	
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99	
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

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### QC Sample Results

Client: Ensolum Job ID: 890-3687-1 SDG: 32.181380,-103.638525 Project/Site: Gold Coast Federal 1H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42758/5-A

**Matrix: Solid** Analysis Batch: 42900 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42758

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	12/27/22 16:46	12/29/22 17:39	1
1.4-Difluorobenzene (Surr)	72		70 - 130	12/27/22 16:46	12/29/22 17:39	1

Lab Sample ID: LCS 880-42758/1-A

**Matrix: Solid** 

Analysis Batch: 42900

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 42758

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1142	-	mg/Kg		114	70 - 130	
Toluene	0.100	0.1112		mg/Kg		111	70 - 130	
Ethylbenzene	0.100	0.1288		mg/Kg		129	70 - 130	
m-Xylene & p-Xylene	0.200	0.2632	*+	mg/Kg		132	70 - 130	
o-Xylene	0.100	0.1327	*+	mg/Kg		133	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-42758/2-A

**Matrix: Solid** 

Analysis Batch: 42900

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

Prep Type: Total/NA Prep Batch: 42758

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1196		mg/Kg		120	70 - 130	5	35
Toluene	0.100	0.1153		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1402	*+	mg/Kg		140	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2850	*+	mg/Kg		142	70 - 130	8	35
o-Xylene	0.100	0.1412	*+	mg/Kg		141	70 - 130	6	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-3687-1 MS

**Matrix: Solid** 

Analysis Batch: 42900

**Client Sample ID: SS03** Prep Type: Total/NA

Prep Batch: 42758

MS MS Sample Sample Spike Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits 70 - 130 <0.00202 U 0.100 113 Benzene 0.1138 mg/Kg Toluene <0.00202 U 0.100 0.1086 mg/Kg 108 70 - 130

### QC Sample Results

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: 890-3687-1 MS **Matrix: Solid** 

Analysis Batch: 42900

**Client Sample ID: SS03** Prep Type: Total/NA

Prep Batch: 42758

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 0.100 Ethylbenzene <0.00202 U \*+ 0.1300 129 70 - 130 mg/Kg m-Xylene & p-Xylene <0.00403 U\*+F1 0.201 0.2635 F1 mg/Kg 131 70 - 130 0.100 o-Xylene <0.00202 U\*+ 0.1281 128 70 - 130 mg/Kg

MS MS

Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	198	S1+	70 - 130	
1,4-Difluorobenzene (Surr)	79		70 - 130	

Lab Sample ID: 890-3687-1 MSD

**Matrix: Solid** 

Analysis Batch: 42900

Client Sample ID: SS03 Prep Type: Total/NA

Prep Batch: 42758

Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier %Rec RPD Limit Analyte Unit Limits 0.0990 Benzene <0.00202 U 0.1047 mg/Kg 106 70 - 130 8 35 <0.00202 U 0.1008 Toluene 0.0990 mg/Kg 102 70 - 130 8 35 120 Ethylbenzene <0.00202 U\*+ 0.0990 0.1192 mg/Kg 70 - 130 9 35 0.198 0.2400 70 - 130 35 m-Xylene & p-Xylene <0.00403 U\*+ F1 mg/Kg 121 0.0990 <0.00202 U\*+ 0.1186 120 70 - 130 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	182	S1+	70 - 130
1,4-Difluorobenzene (Surr)	74		70 - 130

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

Lab Sample ID: MB 880-42467/1-A

**Matrix: Solid** 

Analysis Batch: 42459

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 42467

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1
o-Terphenyl	141	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1

Lab Sample ID: LCS 880-42467/2-A

**Matrix: Solid** 

Analysis Batch: 42459

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

Prep Batch: 42467

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1044		mg/Kg		104	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	1016		mg/Kg		102	70 - 130

C10-C28)

Job ID: 890-3687-1

Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: LCS 880-42467/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 42459

Prep Type: Total/NA

Prep Batch: 42467

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 106 70 - 130 o-Terphenyl 117 70 - 130

Lab Sample ID: LCSD 880-42467/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 42459

Prep Type: Total/NA

Prep Batch: 42467

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 899.3 90 70 - 13015 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 881.2 88 mg/Kg 70 - 13020 14 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 106 70 - 130 1-Chlorooctane 70 - 130 o-Terphenyl 99

Lab Sample ID: 880-23018-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 42459** 

Prep Type: Total/NA

Prep Batch: 42467

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<50.0	U	999	1193		mg/Kg		116	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	<50.0	U	999	981.3		mg/Kg		98	70 - 130	
C10-C28)										

C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 118 o-Terphenyl 94 70 - 130

Lab Sample ID: 880-23018-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 42459 Prep Batch: 42467

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20
Diesel Range Organics (Over	<50.0	U	997	976.0		mg/Kg		98	70 - 130	1	20

C10-C28)

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	93		70 - 130

Client Sample ID: Method Blank

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

### QC Sample Results

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A

**Matrix: Solid** 

Analysis Batch: 42734

**Prep Type: Soluble** MB MB

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 12/29/22 11:59

Lab Sample ID: LCS 880-42637/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 42734** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 257.9 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-42637/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 42734

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 258.4 mg/Kg 103 90 - 110

Lab Sample ID: 890-3686-A-1-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 12660 Chloride 7320 F1 5030 106 90 - 110 mg/Kg

Lab Sample ID: 890-3686-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 42734

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 7320 F1 5030 Chloride 11900 mg/Kg 91 90 - 110 6 20

### **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3687-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

**GC VOA** 

Prep Batch: 42758

Lab Sample ID 890-3687-1	Client Sample ID SS03	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-42758/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3687-1 MS	SS03	Total/NA	Solid	5035	
890-3687-1 MSD	SS03	Total/NA	Solid	5035	

Analysis Batch: 42900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Total/NA	Solid	8021B	42758
MB 880-42758/5-A	Method Blank	Total/NA	Solid	8021B	42758
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	8021B	42758
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42758
890-3687-1 MS	SS03	Total/NA	Solid	8021B	42758
890-3687-1 MSD	SS03	Total/NA	Solid	8021B	42758

Analysis Batch: 42959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42467
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42467

Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 42637

Released to Imaging: 5/15/2023 11:07:30 AM

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

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# **QC Association Summary**

Client: Ensolum Job ID: 890-3687-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

HPLC/IC (Continued)

### Leach Batch: 42637 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### Analysis Batch: 42734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3687-1	SS03	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	42637
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	42637

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### **Lab Chronicle**

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**Client Sample ID: SS03** Lab Sample ID: 890-3687-1

Matrix: Solid

<b>Date Collecte</b>	ed: 12/20/22 09:40
<b>Date Receive</b>	d: 12/20/22 14:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 18:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42959	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42692	12/27/22 11:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 16:33	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42734	12/29/22 12:51	CH	EET MID

### **Laboratory References:**

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

### **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3687-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

### **Laboratory: Eurofins Midland**

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

Authority	Pre	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	LAP	T104704400-22-25	06-30-23
TI ( )				
the agency does not of	' '	t the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for
,	' '	t the laboratory is not certifi  Matrix	ed by the governing authority. This list ma	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

### **Method Summary**

Client: Ensolum Project/Site: Gold Coast Federal 1H Job ID: 890-3687-1

SDG: 32.181380,-103.638525

Laboratory	
EET MID	
EET MID	

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	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: Gold Coast Federal 1H

Job ID: 890-3687-1

SDG: 32.181380,-103.638525

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3687-1	SS03	Solid	12/20/22 09:40	12/20/22 14:21	0.2'

3

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

Total 200.7 / 6010

200.8 / 6020:

eurofins:

**Environment Testing** 

# Chain of Custody

Midland, TX (432) 704-5440, San Ant EL Paso, TX (915) 585-3443, Lubbo Hobbs, NM (575) 392-7550, Carlsb Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

ghway  O  NALYSIS REQUEST  ANALYSIS REQUEST	Work Order No:    www.xenco.com   Page       Work Order Comments     work Order No     work Order Comments     wor	of uperfund
m.com	Level III   PST/UST   TRRP      ADaPT   Other	<u>e</u>
		des
	None: NO	r: H <sub>2</sub> O
890-3687 Chain of Custody	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	18 of 20
	Sample Comments	
		P
		0 AM
+		7:3

SAMPLE RECEIPT Samples Received Intact:

Cooler Custody Seals:

Yes No NIA Yes No NIA

Correction Factor: Temperature Reading:

Corrected Temperature

Yes Temp Blank

o

Thermometer ID:

W0091

N<sub>O</sub>

**Parameters** 

Yes No Wet Ice

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

Sample Custody Seals:

Sample Identification

Matrix (1)

Date

Time

Depth

Comp Grab/

Cont # of

BTEX

TPH

CHLORIDES

12-70-12 Sampled

OHPO

Sampled

Project Location:

32 181380, -103.638525

Due Date:

✓ Routine

Rush

Code

Turn Around

Julianna Falcomata

Project Number Project Name:

Sampler's Name

City, State ZIP:

817-683-2503 Carlsbad, NM 88220 3122 Nat'l Parks Highway

Email: jadams@ensolum.com, kjennings@e

City, State ZIP:

Company Name: Bill to: (if different)

3122 Nat'l Parks H Carlsbad, NM 8822

Ensolum, LLC Kalei Jennings

Gold Coast Federal 1H

03D2024127

Address:

Project Manager

Company Name:

Ensolum, LLC Josh Adams

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

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co

Cu Fe Pb

Mg M

Mo Ni K Se Ag SiO<sub>2</sub> Na Sr

TI Sn U V Zn

Hg: 1631 / 245.1 / 7470 / 7471

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3687-1

SDG Number: 32.181380,-103.638525

Login Number: 3687 List Source: Eurofins Carlsbad List Number: 1

Creator: Stutzman, Amanda

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

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3687-1

SDG Number: 32.181380,-103.638525

Login Number: 3687
List Source: Eurofins Midland
List Number: 2
List Creation: 12/22/22 12:50 PM

Creator: Rodriguez, Leticia

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

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**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St.

Suite 400 Midland, Texas 79701

Generated 12/30/2022 12:43:12 PM

## **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181380,-103.638525

## **JOB NUMBER**

890-3689-1

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 12/30/2022 12:43:12 PM

Authorized for release by Jessica Kramer, Project Manager <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440 10

12

Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3689-1 SDG: 32.181380,-103.638525

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## **Definitions/Glossary**

Job ID: 890-3689-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**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** 

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**Glossary** 

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

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

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

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

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

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

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

NC Not Calculated

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

NEG Negative / Absent POS Positive / Present

**PQL Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Gold Coast Federal 1H

Job ID: 890-3689-1

SDG: 32.181380,-103.638525

Job ID: 890-3689-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3689-1

#### Receipt

The sample was received on 12/20/2022 2:21 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 3.2°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-3689-1).

#### **GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-3689-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

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

#### HPLC/IC

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

Matrix: Solid

## **Client Sample Results**

Client: Ensolum Job ID: 890-3689-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Client Sample ID: SS04 Lab Sample ID: 890-3689-1

Date Collected: 12/20/22 09:45 Date Received: 12/20/22 14:21

Sample Depth: 0.2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 15:00	12/30/22 05:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130			12/27/22 15:00	12/30/22 05:16	1
1,4-Difluorobenzene (Surr)	66	S1-	70 - 130			12/27/22 15:00	12/30/22 05:16	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	П	0.00400	mg/Kg			12/30/22 13:18	1
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (0	GC)		_			
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) (C	GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ	ics (DRO) (C	GC)		<u>D</u>	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Range Organ Result <50.0	ics (DRO) (0 Qualifier	RL 50.0	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <	ics (DRO) (0 Qualifier	RL 50.0	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <	Qualifier Unics (DRO) Qualifier	RL 50.0	Unit mg/Kg		<u> </u>	Analyzed 12/27/22 11:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result <50.0 sel Range Orga Result	Qualifier U nics (DRO) Qualifier U u U U U U U U U U U U U U U U U U U	(GC) RL RL	Unit mg/Kg		Prepared	Analyzed 12/27/22 11:28 Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0	cics (DRO) (On Qualifier Unics (DRO) Qualifier Unics (DRO) Qualifier Unics Unics Unics (DRO) Unics (DRO)	(GC)  RL  50.0  RL  50.0	Unit mg/Kg  Unit mg/Kg		Prepared 12/22/22 07:58	Analyzed  12/27/22 11:28  Analyzed  12/22/22 16:55	Dil Fac
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0	cics (DRO) (On Qualifier Unics (DRO) Qualifier Unics (DRO) Qualifier Unics Unics Unics (DRO) Unics (DRO)	GC) RL 50.0  (GC) RL 50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58	Analyzed  12/27/22 11:28  Analyzed  12/22/22 16:55  12/22/22 16:55	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0 <50.0	cics (DRO) (Control of the control o	GC) RL 50.0  (GC) RL 50.0  50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58	Analyzed  12/27/22 11:28  Analyzed  12/22/22 16:55  12/22/22 16:55	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	sel Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0 <50.0 %Recovery	cics (DRO) (Control of the control o	GC)  RL  50.0  (GC)  RL  50.0  50.0  Limits	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared	Analyzed  12/27/22 11:28  Analyzed  12/22/22 16:55  12/22/22 16:55  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Range Organ   Result	ics (DRO) (Control of the control of	GC)  RL  50.0  (GC)  RL  50.0  50.0  50.0  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared 12/22/22 07:58	Analyzed 12/27/22 11:28  Analyzed 12/22/22 16:55 12/22/22 16:55  Analyzed 12/22/22 16:55	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Range Organ   Result   <50.0	ics (DRO) (Control of the control of	GC)  RL  50.0  (GC)  RL  50.0  50.0  50.0  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared 12/22/22 07:58	Analyzed 12/27/22 11:28  Analyzed 12/22/22 16:55 12/22/22 16:55  Analyzed 12/22/22 16:55	Dil Fac

## **Surrogate Summary**

Client: Ensolum Job ID: 890-3689-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3689-1	SS04	72	66 S1-	
890-3696-A-1-E MS	Matrix Spike	109	98	
890-3696-A-1-F MSD	Matrix Spike Duplicate	108	92	
LCS 880-42737/1-A	Lab Control Sample	105	94	
LCSD 880-42737/2-A	Lab Control Sample Dup	95	91	
MB 880-42737/5-A	Method Blank	75	85	
MB 880-42802/5-A	Method Blank	74	86	

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 Recove
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-23018-A-1-D MS	Matrix Spike	118	94	
880-23018-A-1-E MSD	Matrix Spike Duplicate	119	93	
390-3689-1	SS04	92	89	
LCS 880-42467/2-A	Lab Control Sample	106	117	
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99	
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## **QC Sample Results**

Client: Ensolum Job ID: 890-3689-1 SDG: 32.181380,-103.638525 Project/Site: Gold Coast Federal 1H

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

Lab Sample ID: MB 880-42737/5-A

**Matrix: Solid** 

Analysis Batch: 42840

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42737

	MB	мв						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/27/22 15:00	12/29/22 23:27	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/27/22 15:00	12/29/22 23:27	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Pr	epared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130	12/27	7/22 15:00	12/29/22 23:27	1
1,4-Difluorobenzene (Surr)	85		70 - 130	12/27	7/22 15:00	12/29/22 23:27	1

Lab Sample ID: LCS 880-42737/1-A

Matrix: Solid

Analysis Batch: 42840

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42737

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.0996	0.1057	-	mg/Kg		106	70 - 130	
Toluene	0.0996	0.09401		mg/Kg		94	70 - 130	
Ethylbenzene	0.0996	0.09041		mg/Kg		91	70 - 130	
m-Xylene & p-Xylene	0.199	0.1926		mg/Kg		97	70 - 130	
o-Xylene	0.0996	0.09735		mg/Kg		98	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-42737/2-A

**Matrix: Solid** 

Analysis Batch: 42840

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

Prep Type: Total/NA

Prep Batch: 42737

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.0998	0.08878		mg/Kg		89	70 - 130	17	35
Toluene	0.0998	0.08441		mg/Kg		85	70 - 130	11	35
Ethylbenzene	0.0998	0.07686		mg/Kg		77	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1644		mg/Kg		82	70 - 130	16	35
o-Xylene	0.0998	0.08365		mg/Kg		84	70 - 130	15	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1.4-Difluorobenzene (Surr)	91		70 - 130

Lab Sample ID: 890-3696-A-1-E MS

**Matrix: Solid** 

Analysis Batch: 42840

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

Prep Batch: 42737

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.100	0.08650		mg/Kg		86	70 - 130	
Toluene	< 0.00199	U	0.100	0.08622		mg/Kg		85	70 - 130	

**Eurofins Carlsbad** 

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Prep Batch: 42737

## QC Sample Results

Client: Ensolum Job ID: 890-3689-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: 890-3696-A-1-E MS Client Sample ID: Matrix Spike **Prep Type: Total/NA** 

**Matrix: Solid** 

Analysis Batch: 42840

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U	0.100	0.08343		mg/Kg		83	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1798		mg/Kg		89	70 - 130	
o-Xylene	<0.00199	U	0.100	0.09084		mg/Kg		90	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-3696-A-1-F MSD **Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 42840									Prep	Batch:	42737
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U	0.0994	0.08977		mg/Kg		90	70 - 130	4	35
Toluene	<0.00199	U	0.0994	0.08424		mg/Kg		84	70 - 130	2	35
Ethylbenzene	<0.00199	U	0.0994	0.07982		mg/Kg		80	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1690		mg/Kg		84	70 - 130	6	35
o-Xylene	< 0.00199	U	0.0994	0.08420		mg/Kg		84	70 - 130	8	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: MB 880-42802/5-A

**Matrix: Solid** 

Analysis Batch: 42840

	Client Sample ID: Method Blank
	Prep Type: Total/NA
	Prep Batch: 42802
MD	

MB MB

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/28/22 13:43	12/29/22 12:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/28/22 13:43	12/29/22 12:54	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	12/28/22 13:43	12/29/22 12:54	1
1,4-Difluorobenzene (Surr)	86		70 - 130	12/28/22 13:43	12/29/22 12:54	1

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

Lab Sample ID: MB 880-42467/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 42459

•	МВ	MB					•	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1

(GRO)-C6-C10

**Eurofins Carlsbad** 

Prep Batch: 42467

12/30/2022

## **QC Sample Results**

 Client: Ensolum
 Job ID: 890-3689-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

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

Lab Sample ID: MB 880-42467/1-A

Matrix: Solid

Analysis Batch: 42459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42467

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130			12/22/22 07:58	12/22/22 08:06	1
o-Terphenyl	141	S1+	70 - 130			12/22/22 07:58	12/22/22 08:06	1

Lab Sample ID: LCS 880-424 Matrix: Solid Analysis Batch: 42459	467/2-A						Client	Sample	ID: Lab Contro Prep Type: Prep Bate	Total/N
Analysis Datch. 42433			Spike	LCS	LCS				%Rec	,II. 424(
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10			1000	1044		mg/Kg		104	70 - 130	
Diesel Range Organics (Over C10-C28)			1000	1016		mg/Kg		102	70 - 130	
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	106		70 - 130							
o-Terphenyl	117		70 - 130							

Lab Sample ID: LCSD 880-42467/3-A Matrix: Solid Analysis Batch: 42459				Clier	nt Sam	ple ID:	•	ol Sample Type: Total Batch:	tal/NA
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	899.3		mg/Kg		90	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	881.2		mg/Kg		88	70 - 130	14	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 880-23018-A-1 Matrix: Solid Analysis Batch: 42459								Client Sample ID: Matrix Prep Type: Tot Prep Batch: 4		
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1193		mg/Kg		116	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	999	981.3		mg/Kg		98	70 - 130	
	MS	MS								

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 118
 70 - 130

 o-Terphenyl
 94
 70 - 130

Lab Sample ID: 880-23018-A-1-E MSD

Job ID: 890-3689-1

Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 42467

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20
Diesel Range Organics (Over	<50.0	U	997	976.0		mg/Kg		98	70 - 130	1	20

C10-C28)

**Matrix: Solid** 

Analysis Batch: 42459

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A Client Sample ID: Method Blank

**Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 42734

мв мв

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 12/29/22 11:59

Lab Sample ID: LCS 880-42637/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 42734

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	257.9		mg/Kg		103	90 - 110	

Lab Sample ID: LCSD 880-42637/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	258.4		ma/Ka		103	90 110		20	

Lab Sample ID: 890-3686-A-1-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	7320	F1	5030	12660		ma/Ka		106	90 110	 

Lab Sample ID: 890-3686-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 42734

Analysis Daton. 42104												
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	7320	F1	5030	11900		ma/Ka		91	90 - 110	6	20	

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3689-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

**GC VOA** 

Prep Batch: 42737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	5035	
MB 880-42737/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42737/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42737/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3696-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3696-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 42802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42802/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 42840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	8021B	42737
MB 880-42737/5-A	Method Blank	Total/NA	Solid	8021B	42737
MB 880-42802/5-A	Method Blank	Total/NA	Solid	8021B	42802
LCS 880-42737/1-A	Lab Control Sample	Total/NA	Solid	8021B	42737
LCSD 880-42737/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42737
890-3696-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	42737
890-3696-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42737

Analysis Batch: 42977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42467
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42467

Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Total/NA	Solid	8015 NM	

**Eurofins Carlsbad** 

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## **QC Association Summary**

Client: Ensolum

Job ID: 890-3689-1

Project/Site: Gold Coast Federal 1H

SDG: 32.181380,-103.638525

HPLC/IC

#### Leach Batch: 42637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 42734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3689-1	SS04	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	42637
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	42637

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## **Lab Chronicle**

Client: Ensolum Job ID: 890-3689-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**Client Sample ID: SS04** Lab Sample ID: 890-3689-1 Date Collected: 12/20/22 09:45

Matrix: Solid

Date Received: 12/20/22 14:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	42737	12/27/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42840	12/30/22 05:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42977	12/30/22 13:18	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42693	12/27/22 11:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 16:55	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42734	12/29/22 13:43	CH	EET MID

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

 Client: Ensolum
 Job ID: 890-3689-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

#### **Laboratory: Eurofins Midland**

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

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

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## **Method Summary**

Client: Ensolum

**Method Description** 

**Total BTEX Calculation** 

Microextraction

Volatile Organic Compounds (GC)

Diesel Range Organics (DRO) (GC)

Diesel Range Organics (DRO) (GC)

**Deionized Water Leaching Procedure** 

Anions, Ion Chromatography

Closed System Purge and Trap

Job ID: 890-3689-1 SDG: 32.181380,-103.638525 Project/Site: Gold Coast Federal 1H

Protocol	Laboratory
SW846	EET MID
TAL SOP	EET MID
SW846	EET MID
SW846	EET MID
140 A1404	FETAND

MCAWW **EET MID** SW846 **EET MID** SW846 EET MID

**EET MID** 

ASTM

**Protocol References:** 

Method

8021B

Total BTEX 8015 NM

8015B NM

8015NM Prep

DI Leach

300.0

5035

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: Gold Coast Federal 1H

Job ID: 890-3689-1

SDG: 32.181380,-103.638525

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3689-1	SS04	Solid	12/20/22 09:45	12/20/22 14:21	0.2'

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Xenco Environment Testing

# **Chain of Custody**

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

Work Order No:

www.xenco.com

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Instant   Lice   Instant   Lice   Company Name   Ensolum   Lice   Company Name   Lice   Li
Bill to: (if different)  Company Name: Ensolum, LLC  Address: 3122 Nat'l Parks Highway  City, State ZIP: Carlsbad, NM 88220  Rush Code  Co
Ensolum, LLC  3122 Nat! Parks Highway  Carisbad. NM 88220  MALVSIS REQUEST  ANALVSIS REQUEST  ANALVSIS REQUEST  ANALVSIS REQUEST  ANALVSIS REQUEST  ANALVSIS REQUEST  State of Project: NM Reporting: Level II   Level III   L
Program: UST/PST   PROgram: UST/
State of Project: NM Reporting: Level III  L
PST/US ADaPT □ No Co H2 H2 Na Na SiO2 Na

Revised Date: 08/25/2020 Rev. 2020.2

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3689-1

SDG Number: 32.181380,-103.638525

Login Number: 3689
List Source: Eurofins Carlsbad
List Number: 1

Creator: Stutzman, Amanda

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

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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3689-1

SDG Number: 32.181380,-103.638525

Login Number: 3689
List Source: Eurofins Midland
List Number: 2
List Creation: 12/22/22 12:50 PM

Creator: Rodriguez, Leticia

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

,

12/30/2022

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/30/2022 12:38:29 PM

## **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181.380,-103.638525

## **JOB NUMBER**

890-3691-1

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 12/30/2022 12:38:29 PM

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

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

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Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3691-1 SDG: 32.181.380,-103.638525

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## **Definitions/Glossary**

Job ID: 890-3691-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** LCS and/or LCSD is outside acceptance limits, high biased.

F1 MS and/or MSD recovery exceeds control limits. S1+ Surrogate recovery exceeds control limits, high biased. U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

S1+ Surrogate recovery exceeds control limits, high biased. 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 Contains No Free Liquid **CNF** 

Duplicate Error Ratio (normalized absolute difference) DER

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

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

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

Method Detection Limit MDL ML Minimum Level (Dioxin) MPN Most Probable Number MOI 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 **Practical Quantitation Limit PQL** 

**PRES** Presumptive

**Quality Control** QC

Relative Error Ratio (Radiochemistry) **RER** 

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Gold Coast Federal 1H

Job ID: 890-3691-1 SDG: 32.181.380,-103.638525

Job ID: 890-3691-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3691-1

#### Receipt

The sample was received on 12/20/2022 2:21 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 3.2°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3691-1).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-42758 and analytical batch 880-42900 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-3691-1

## **Client Sample Results**

Client: Ensolum Job ID: 890-3691-1

Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

Date Collected: 12/20/22 09:50 Date Received: 12/20/22 14:21

**Client Sample ID: SS05** 

Sample Depth: 0.2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
Ethylbenzene	<0.00201	U *+	0.00201	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
o-Xylene	<0.00201	U *+	0.00201	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
Xylenes, Total	<0.00402	U *+	0.00402	mg/Kg		12/27/22 16:46	12/29/22 19:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130			12/27/22 16:46	12/29/22 19:50	1
1,4-Difluorobenzene (Surr)	81		70 - 130			12/27/22 16:46	12/29/22 19:50	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/30/22 12:53	1
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (0	GC)		Б	Drawarad		·
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) ((	GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
- -	el Range Organ	ics (DRO) ((	GC)		<u>D</u>	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Range Organ Result <50.0	ics (DRO) (0 Qualifier	RL 50.0	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result <50.0 sel Range Organ	ics (DRO) (0 Qualifier	RL 50.0	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <50.0 sel Range Organ	ics (DRO) ((Qualifier U)	RL 50.0	Unit mg/Kg	<del>-</del>	· ·	Analyzed 12/27/22 11:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <50.0 sel Range Orga Result	ics (DRO) (O Qualifier U nics (DRO) Qualifier	GC)  RL  50.0  (GC)  RL	Unit mg/Kg	<del>-</del>	Prepared	Analyzed 12/27/22 11:28 Analyzed	Dil Fac  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result <50.0 sel Range Orga Result <50.0	ics (DRO) (Control of the control of	GC) RL 50.0  (GC) RL 50.0	Unit mg/Kg  Unit mg/Kg	<del>-</del>	Prepared 12/22/22 07:58	Analyzed  12/27/22 11:28  Analyzed  12/22/22 17:39	Dil Fac  Dil Fac  1  Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0	ics (DRO) (Control of the control of	GC) RL 50.0  (GC) RL 50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg	<del>-</del>	Prepared 12/22/22 07:58 12/22/22 07:58	Analyzed  12/27/22 11:28  Analyzed  12/22/22 17:39  12/22/22 17:39	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0 <50.0	ics (DRO) (CQualifier U)  nics (DRO) Qualifier U  U  U	GC) RL 50.0  (GC) RL 50.0  50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg	<del>-</del>	Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58	Analyzed 12/27/22 11:28  Analyzed 12/22/22 17:39 12/22/22 17:39 12/22/22 17:39	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	el Range Organ Result <50.0  sel Range Orga Result <50.0 <50.0 <50.0  %Recovery	ics (DRO) (CQualifier U)  nics (DRO) Qualifier U  U  U	GC) RL 50.0  (GC) RL 50.0  50.0  50.0  Limits	Unit mg/Kg  Unit mg/Kg  mg/Kg	<del>-</del>	Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared	Analyzed  12/27/22 11:28  Analyzed  12/22/22 17:39  12/22/22 17:39  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	el Range Organ Result <50.0  sel Range Orga Result <50.0 <50.0 <50.0  %Recovery 98 91	ics (DRO) (Control of the control of	GC)  RL  50.0  (GC)  RL  50.0  50.0  50.0  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<del>-</del>	Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared 12/22/22 07:58	Analyzed 12/27/22 11:28  Analyzed 12/22/22 17:39 12/22/22 17:39  Analyzed 12/22/22 17:39	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Range Organ   Result	ics (DRO) (Control of the control of	GC)  RL  50.0  (GC)  RL  50.0  50.0  50.0  Limits  70 - 130  70 - 130	Unit mg/Kg  Unit mg/Kg  mg/Kg	<del>-</del>	Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared 12/22/22 07:58	Analyzed 12/27/22 11:28  Analyzed 12/22/22 17:39 12/22/22 17:39  Analyzed 12/22/22 17:39	Dil Fac  1  Dil Fac  1  1  Dil Fac  1

## **Surrogate Summary**

Job ID: 890-3691-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

-				Percent Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3687-A-1-C MS	Matrix Spike	198 S1+	79	
890-3687-A-1-D MSD	Matrix Spike Duplicate	182 S1+	74	
890-3691-1	SS05	197 S1+	81	
LCS 880-42758/1-A	Lab Control Sample	189 S1+	86	
LCSD 880-42758/2-A	Lab Control Sample Dup	197 S1+	80	
MB 880-42758/5-A	Method Blank	124	72	
Surrogate Legend				
BFB = 4-Bromofluoroben	zene (Surr)			
DFBZ = 1,4-Difluorobenz	ene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

_			
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-23018-A-1-D MS	Matrix Spike	118	94
880-23018-A-1-E MSD	Matrix Spike Duplicate	119	93
890-3691-1	SS05	98	91
LCS 880-42467/2-A	Lab Control Sample	106	117
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+
Surrogate Legend			

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## QC Sample Results

Client: Ensolum Job ID: 890-3691-1 Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42758/5-A

Lab Sample ID: LCS 880-42758/1-A

**Matrix: Solid** Analysis Batch: 42900 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42758

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	12/27/22 16:46	12/29/22 17:39	1
1,4-Difluorobenzene (Surr)	72		70 - 130	12/27/22 16:46	12/29/22 17:39	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 42758

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1142 mg/Kg 114 70 - 130 Toluene 0.100 0.1112 mg/Kg 111 70 - 130 0.100 0.1288 129 Ethylbenzene mg/Kg 70 - 130 0.200 0.2632 \*+ 132 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.1327 \*+ 133 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-42758/2-A

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 42900

Analysis Batch: 42900

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

Prep Type: Total/NA

Prep Batch: 42758

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1196		mg/Kg		120	70 - 130	5	35
Toluene	0.100	0.1153		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1402	*+	mg/Kg		140	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2850	*+	mg/Kg		142	70 - 130	8	35
o-Xylene	0.100	0.1412	*+	mg/Kg		141	70 - 130	6	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1 4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-3687-A-1-C MS

**Matrix: Solid** 

Analysis Batch: 42900

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

Prep Batch: 42758

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.100	0.1138		mg/Kg	_	113	70 - 130	
Toluene	<0.00202	U	0.100	0.1086		mg/Kg		108	70 - 130	

Client Sample ID: Matrix Spike

70 - 130

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Method Blank

Analyzed

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42467

Dil Fac

128

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 42758

## QC Sample Results

Job ID: 890-3691-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

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

<0.00202 U\*+

Lab Sample ID: 890-3687-A-1-C MS

**Matrix: Solid** Analysis Batch: 42900

o-Xylene

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits <0.00202 U \*+ 0.100 0.1300 70 - 130 Ethylbenzene mg/Kg 129 m-Xylene & p-Xylene <0.00403 U\*+F1 0.201 0.2635 mg/Kg 131 70 - 130

0.1281

mg/Kg

0.100

MS MS Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 198 1,4-Difluorobenzene (Surr) 70 - 130 79

Lab Sample ID: 890-3687-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 42900 Prep Batch: 42758 Sample Sample Spike MSD MSD RPD Result Qualifier RPD Limit Analyte babbA Result Qualifier %Rec Limits Unit Benzene <0.00202 U 0.0990 0.1047 mg/Kg 106 70 - 130 8 35 Toluene <0.00202 U 0.0990 0.1008 mg/Kg 102 70 - 130 8 35 Ethylbenzene <0.00202 U\*+ 0.0990 0.1192 120 70 - 130 35 mg/Kg 9 m-Xylene & p-Xylene <0.00403 U\*+ F1 0.198 0.2400 mg/Kg 121 70 - 130 9 35 <0.00202 U\*+ 0.0990 0.1186 70 - 130 o-Xylene mg/Kg 120 8

MSD MSD Qualifier Limits Surrogate %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 182 S1+ 1,4-Difluorobenzene (Surr) 70 - 130 74

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

Lab Sample ID: MB 880-42467/1-A

**Matrix: Solid** 

Analysis Batch: 42459

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 07:58	12/22/22 08:06	1

%Recovery Qualifier Limits Surrogate 70 - 130 1-Chlorooctane 142 S1+ 141 S1+ 70 - 130 o-Terphenyl

MB MB

12/22/22 07:58 12/22/22 08:06 12/22/22 07:58 12/22/22 08:06

Prepared

Lab Sample ID: LCS 880-42467/2-A

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 42459 Prep Batch: 42467

	Spike	LUS	LUS				/ortec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1044		mg/Kg		104	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	1016		mg/Kg		102	70 - 130
C10-C28)							

## QC Sample Results

Client: Ensolum Job ID: 890-3691-1 Project/Site: Gold Coast Federal 1H

SDG: 32.181.380,-103.638525

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

Lab Sample ID: LCS 880-42467/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 42459 Prep Batch: 42467

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-42467/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Prep Batch: 42467 Analysis Batch: 42459

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	899.3		mg/Kg		90	70 - 130	15	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	881.2		mg/Kg		88	70 - 130	14	20
C10 C28)									

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	99		70 - 130

118

1000 1000

Lab Sample ID: 880-23018-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 42459** Prep Batch: 42467

Sample Sample Spike MS MS Result Qualifier Result Qualifier Analyte Added Unit %Rec Limits Gasoline Range Organics <50.0 U 999 1193 mg/Kg 116 70 - 130

(GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 999 981.3 mg/Kg 98 70 - 130

70 - 130

C10-C28) MS MS %Recovery Qualifier Limits Surrogate

o-Terphenyl 94 70 - 130 Lab Sample ID: 880-23018-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 42459 Prep Batch: 42467

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<50.0	U	997	976.0		ma/Ka		98	70 - 130	1	20	

·			
	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 _ 130
o-Terphenyl	93		70 - 130

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1-Chlorooctane

C10-C28)

Client: Ensolum

Job ID: 890-3691-1

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

SDG: 32.181.380,-103.638525

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A

Project/Site: Gold Coast Federal 1H

**Matrix: Solid** 

Analysis Batch: 42734

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Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 12/29/22 11:59

Lab Sample ID: LCS 880-42637/2-A

**Matrix: Solid** 

**Analysis Batch: 42734** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 257.9 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-42637/3-A

**Matrix: Solid** 

Analysis Batch: 42734

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 258.4 mg/Kg 103 90 - 110

Lab Sample ID: 890-3686-A-1-C MS

**Matrix: Solid** 

Analysis Batch: 42734

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 12660 Chloride 7320 5030 106 90 - 110 mg/Kg

Lab Sample ID: 890-3686-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 42734

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 7320 F1 5030 Chloride 11900 mg/Kg 91 90 - 110 6 20

## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3691-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181.380,-103.638525

#### **GC VOA**

#### Prep Batch: 42758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	5035	
MB 880-42758/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 42900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	8021B	42758
MB 880-42758/5-A	Method Blank	Total/NA	Solid	8021B	42758
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	8021B	42758
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42758
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42758
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42758

#### Analysis Batch: 42961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

## Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42467
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42467

#### Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 42695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Total/NA	Solid	8015 NM	

## HPLC/IC

#### Leach Batch: 42637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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Released to Imaging: 5/15/2023 11:07:30 AM

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## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3691-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181.380,-103.638525

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## HPLC/IC (Continued)

## Leach Batch: 42637 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 42734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3691-1	SS05	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	42637
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	42637

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## **Lab Chronicle**

 Client: Ensolum
 Job ID: 890-3691-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181.380,-103.638525

Client Sample ID: SS05 Lab Sample ID: 890-3691-1

Date Collected: 12/20/22 09:50

Date Received: 12/20/22 14:21

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 19:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42961	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42695	12/27/22 11:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 17:39	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42734	12/29/22 14:01	CH	EET MID

#### Laboratory References:

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

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## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3691-1 Project/Site: Gold Coast Federal 1H SDG: 32.181.380,-103.638525

**Laboratory: Eurofins Midland** 

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>		
Texas	NE	ELAP	T104704400-22-25	06-30-23		
The following analytes	are included in this report, bu	It the laboratory is not certifi	ed by the governing authority. This list ma	av include analytes for		
the agency does not of	fer certification.	•	, , ,	.,		
the agency does not of Analysis Method	fer certification .  Prep Method	Matrix	Analyte	-,		
0 ,		Matrix Solid	Analyte Total TPH			

#### **Method Summary**

Client: Ensolum Project/Site: Gold Coast Federal 1H Job ID: 890-3691-1

SDG: 32.181.380,-103.638525

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: Gold Coast Federal 1H

Job ID: 890-3691-1

SDG: 32.181.380,-103.638525

Lab Sample ID	Client Sample ID	Matrix	Collected	Bossiyad	5 "
Lab Sample ID	Cheff Sample ID	Matrix	Collected	Received	Depth
890-3691-1	SS05	Solid	12/20/22 09:50	12/20/22 14:21	0.2'

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

Total 200.7 / 6010

200.8 / 6020:

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

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg

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Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Tl Sn U V Zn

Hg: 1631 / 245.1 / 7470 / 7471

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

Xenco Environment Testing

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		0950	Time Sampled	e Reading: emperature:	er ID:	Wet Ice:	the lab, if re	TAT slarts	Due Date:	☑ Routine	Tur	Emai							sting	
		.2'	2	الرين	-0.	(Yes)	the lab, if received by 4:30pm	TAT starts the day received by		Rush	Turn Around	Email: jadams@ensolum.com, kjennings@ensolum.com	City, State ZIP:	Address:	Company Name:	Bill to: (if different)				
		0	Grab/ Comp	2	$\mathfrak{D}J$	N <sub>O</sub>	0pm	P P				ensolu	ZIP:		Vame:	fferent)	Hobbs	EL Pas	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	
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				1 Cha							NAL						8-3199	4-1296	2-0300 09-333	
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-		-	_	890-3691 Chain of Custody							ANALYSIS REQUEST		70	S	70					
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			w	Zn Acetate+NaC NaOH+Ascorbic	NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	H₃PO4: HP	H2S04: H2	HCL: HC	Cool: Cool	None: NO	P	-	ST U	]	ids	omme	Page			
			Sample	scorbio	NaSC	Ð	2		õ	O	Presen	Other:	TRRP		RC	nts	ge			
				OH: Zn Acid: SAPC	v		NaO	HNC	MeC	DIV				]	<b>P</b>		-			
			Comments	SAPC			NaOH: Na	HNO3: HN	MeOH: Me	DI Water: H <sub>2</sub> O	ative Codes		Level IV		Juperfund		읔			
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SAMPLE RECEIPT

Samples Received Intact:

Yes No Yes

Correction Factor:

Thermometer ID:

Kes No Wet Ice

No

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Corrected Temperature Temperature Reading: Temp Blank:

Sample Custody Seals: Cooler Custody Seals:

Sample Identification

3 Matrix

Sampled

Date

Sampler's Name:

Project Location:

32.181380, -103.638525

Julianna Falcomata

Project Number Project Name: Phone:

817-683-2503 Carlsbad, NM 88220 3122 Nat'l Parks Highway

Gold Coast Federal 1H

03D2024127

City, State ZIP: Address: Company Name: Project Manager:

Ensolum, LLC Josh Adams

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3691-1

SDC Number: 33 191 390 103 639535

SDG Number: 32.181.380,-103.638525

List Source: Eurofins Carlsbad

Login Number: 3691
List Number: 1

Creator: Stutzman, Amanda

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

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## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3691-1

SDG Number: 32.181.380,-103.638525

Login Number: 3691
List Source: Eurofins Midland
List Number: 2
List Creation: 12/22/22 12:50 PM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St.

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 12/30/2022 12:38:59 PM

# **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181380,-103.638525

## **JOB NUMBER**

890-3692-1

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 12/30/2022 12:38:59 PM

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

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

Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3692-1 SDG: 32.181380,-103.638525

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## **Definitions/Glossary**

Client: Ensolum Job ID: 890-3692-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

#### **Qualifiers**

GC	VOA
Qual	ifier

*+	LCS and/or LCSD is outside acceptance limits, high biase
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.
11	Indicates the analyte was analyzed for but not detected

**Qualifier Description** 

#### GC Semi VOA

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

#### HPLC/IC

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

#### Glossary

Ciossary	
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
	N 10 1 1 1 1

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 L

PRES	Presumptive
QC	Quality Control

KEK	Relative Error Ratio	(Radiocnemistry)

RL Reporting Limit or Requested Limit (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: Gold Coast Federal 1H

Job ID: 890-3692-1

SDG: 32.181380,-103.638525

Job ID: 890-3692-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3692-1

#### Receipt

The sample was received on 12/20/2022 2:21 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 3.2°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3692-1).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-42758 and analytical batch 880-42900 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-3692-1

## **Client Sample Results**

Client: Ensolum Job ID: 890-3692-1

Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**Client Sample ID: SS06** Date Collected: 12/20/22 09:55 Date Received: 12/20/22 14:21

Sample Depth: 0.2'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
Ethylbenzene	< 0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
o-Xylene	< 0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 20:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130			12/27/22 16:46	12/29/22 20:16	1
1,4-Difluorobenzene (Surr)	69	S1-	70 - 130			12/27/22 16:46	12/29/22 20:16	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/30/22 12:53	1
· ·								
- -	el Range Organ	ics (DRO) (	GC)					
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) ((	GC)	Unit	D	Prepared	Analyzed	Dil Fac
Thethod: SW846 8015 NM - Diese	•	Qualifier	•		<u>D</u>	Prepared	Analyzed 12/27/22 11:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	Result   <50.0	Qualifier U	<b>RL</b> 50.0	Unit	<u>D</u>	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte	Result  <50.0 sel Range Orga	Qualifier U	<b>RL</b> 50.0	Unit	<u>D</u>	Prepared Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	Result  <50.0 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 50.0	<b>Unit</b> mg/Kg		<u> </u>	12/27/22 11:28	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte	Result <50.0  sel Range Orga Result	Qualifier Unics (DRO) Qualifier	RL 50.0 (GC)	Unit mg/Kg		Prepared	12/27/22 11:28  Analyzed	1
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0  sel Range Orga Result	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC)	Unit mg/Kg		Prepared	12/27/22 11:28  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0	Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58	12/27/22 11:28  Analyzed 12/22/22 18:01 12/22/22 18:01	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <50.0  sel Range Orga Result <50.0	Qualifier U  nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0	Unit mg/Kg  Unit mg/Kg		Prepared 12/22/22 07:58	12/27/22 11:28  Analyzed  12/22/22 18:01	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits	Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58	12/27/22 11:28  Analyzed  12/22/22 18:01  12/22/22 18:01  12/22/22 18:01  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0 (GC) RL 50.0 50.0	Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58	Analyzed 12/22/22 18:01 12/22/22 18:01 12/22/22 18:01	Dil Face
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U	RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits	Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared	12/27/22 11:28  Analyzed  12/22/22 18:01  12/22/22 18:01  12/22/22 18:01  Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <50.0	Qualifier U  nics (DRO) Qualifier U  U  Qualifier	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	Unit mg/Kg  Unit mg/Kg mg/Kg		Prepared 12/22/22 07:58 12/22/22 07:58 12/22/22 07:58 Prepared 12/22/22 07:58	Analyzed 12/22/22 18:01 12/22/22 18:01 12/22/22 18:01 Analyzed 12/22/22 18:01	Dil Fac

5.01

mg/Kg

<5.01 U

**Eurofins Carlsbad** 

12/29/22 14:09

## **Surrogate Summary**

Job ID: 890-3692-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

-				Percent Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3687-A-1-C MS	Matrix Spike	198 S1+	79	
890-3687-A-1-D MSD	Matrix Spike Duplicate	182 S1+	74	
890-3692-1	SS06	146 S1+	69 S1-	
LCS 880-42758/1-A	Lab Control Sample	189 S1+	86	
LCSD 880-42758/2-A	Lab Control Sample Dup	197 S1+	80	
MB 880-42758/5-A	Method Blank	124	72	
Surrogate Legend				
BFB = 4-Bromofluoroben	zene (Surr)			
DFBZ = 1,4-Difluorobenz	ene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-23018-A-1-D MS	Matrix Spike	118	94
880-23018-A-1-E MSD	Matrix Spike Duplicate	119	93
890-3692-1	SS06	100	92
LCS 880-42467/2-A	Lab Control Sample	106	117
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+

1CO = 1-Chlorooctane OTPH = o-Terphenyl

## QC Sample Results

Client: Ensolum Job ID: 890-3692-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: MB 880-42758/5-A

**Matrix: Solid** Analysis Batch: 42900 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42758

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepa	ared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	12/27/22	2 16:46	12/29/22 17:39	1
1,4-Difluorobenzene (Surr)	72		70 - 130	12/27/22	2 16:46	12/29/22 17:39	1

Lab Sample ID: LCS 880-42758/1-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Analysis Batch: 42900

Prep Type: Total/NA Prep Batch: 42758

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1142 mg/Kg 114 70 - 130 Toluene 0.100 0.1112 mg/Kg 111 70 - 130 0.100 0.1288 129 Ethylbenzene mg/Kg 70 - 130 0.200 0.2632 \*+ 132 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 133 70 - 130 o-Xylene 0.1327 \*+ mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-42758/2-A

**Matrix: Solid** 

Analysis Batch: 42900

Prep Type: Total/NA Prep Batch: 42758

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Limit Benzene 0.100 0.1196 mg/Kg 120 70 - 130 5 35 Toluene 0.100 0.1153 mg/Kg 115 70 - 130 4 35 Ethylbenzene 0.100 0.1402 \*+ mg/Kg 140 70 - 130 35 8 0.200 m-Xylene & p-Xylene 0.2850 \*+ mg/Kg 142 70 - 130 35 0.100 o-Xylene 0.1412 \*+ mg/Kg 141 70 - 130 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1.4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-3687-A-1-C MS

**Matrix: Solid** 

Analysis Batch: 42900

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

Prep Batch: 42758

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.100	0.1138		mg/Kg	_	113	70 - 130	
Toluene	<0.00202	U	0.100	0.1086		mg/Kg		108	70 - 130	

## QC Sample Results

Job ID: 890-3692-1 Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: 890-3687-A-1-C MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 42900

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U *+	0.100	0.1300		mg/Kg		129	70 - 130	
m-Xylene & p-Xylene	<0.00403	U *+ F1	0.201	0.2635	F1	mg/Kg		131	70 - 130	
o-Xylene	<0.00202	U *+	0.100	0.1281		mg/Kg		128	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	198	S1+	70 - 130
1,4-Difluorobenzene (Surr)	79		70 - 130

Lab Sample ID: 890-3687-A-1-D MSD

**Matrix: Solid** 

Analysis Batch: 42900

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 42758

Prep Batch: 42758

Sample Sample Spike MSD MSD Result Qualifier Result Qualifier %Rec RPD Limit Analyte babbA Unit Limits 0.0990 Benzene <0.00202 U 0.1047 mg/Kg 106 70 - 130 8 35 Toluene <0.00202 U 0.0990 0.1008 mg/Kg 102 70 - 130 8 35 Ethylbenzene <0.00202 U\*+ 0.0990 0.1192 120 70 - 130 9 35 mg/Kg 0.198 35 m-Xylene & p-Xylene <0.00403 U\*+ F1 0.2400 mg/Kg 121 70 - 130 0.0990 <0.00202 U\*+ 0.1186 120 70 - 130 o-Xylene mg/Kg

MSD MSD

MB MB

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	182	S1+	70 - 130
1,4-Difluorobenzene (Surr)	74		70 - 130

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

Lab Sample ID: MB 880-42467/1-A **Matrix: Solid** 

Analysis Batch: 42459

Client Sample ID: Method Blank	
Prep Type: Total/NA	
Prep Batch: 42467	

Result Qualifier RL Unit D Prepared Analyzed Dil Fac Analyte 50.0 12/22/22 08:06 <50.0 U 12/22/22 07:58 Gasoline Range Organics mg/Kg (GRO)-C6-C10 12/22/22 08:06 Diesel Range Organics (Over <50.0 U 50.0 12/22/22 07:58 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 12/22/22 07:58 12/22/22 08:06 mg/Kg

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1
o-Terphenyl	141	S1+	70 - 130	12/22/22 07:58	12/22/22 08:06	1

Lab Sample ID: LCS 880-42467/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

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Analysis Batch: 42459

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1044		mg/Kg		104	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1016		mg/Kg		102	70 - 130	
C10-C28)								

**Eurofins Carlsbad** 

Prep Type: Total/NA

Prep Batch: 42467

Prep Batch: 42467

Prep Batch: 42467

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 42467

Prep Batch: 42467

## QC Sample Results

Client: Ensolum Job ID: 890-3692-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: LCS 880-42467/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 42459

	LUS	LUS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-42467/3-A Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 42459

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	899.3		mg/Kg		90	70 - 130	15	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	881.2		mg/Kg		88	70 - 130	14	20
C10-C28)									

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 106 70 - 130 o-Terphenyl 99 70 - 130

Lab Sample ID: 880-23018-A-1-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 42459** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1193		mg/Kg		116	70 - 130	
Diesel Range Organics (Over	<50.0	U	999	981.3		mg/Kg		98	70 - 130	

C10-C28)

	IVIS I	VIS .	
Surrogate	%Recovery (	Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 880-23018-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 42459** 

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<50.0	U	997	976.0		mg/Kg		98	70 - 130	1	20

C10-C28)

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	93		70 - 130

Client Sample ID: Method Blank

## QC Sample Results

Client: Ensolum Job ID: 890-3692-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A

**Matrix: Solid** 

Analysis Batch: 42734

Analyte

Chloride

**Prep Type: Soluble** 

MB MB Result Qualifier RL Unit D Prepared Analyzed Dil Fac <5.00 U 5.00 mg/Kg 12/29/22 11:59

Lab Sample ID: LCS 880-42637/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 42734** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 257.9 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-42637/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 42734

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 258.4 mg/Kg 103 90 - 110

Lab Sample ID: 890-3686-A-1-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 12660 Chloride 7320 5030 106 90 - 110 mg/Kg

Lab Sample ID: 890-3686-A-1-D MSD Client Sample ID: Matrix Spike Duplicate **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 7320 F1 5030 Chloride 11900 mg/Kg 91 90 - 110 6 20

## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3692-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

**GC VOA** 

Prep Batch: 42758

<b>Lab Sample ID</b> 890-3692-1	Client Sample ID SS06	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-42758/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 42900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Total/NA	Solid	8021B	42758
MB 880-42758/5-A	Method Blank	Total/NA	Solid	8021B	42758
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	8021B	42758
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42758
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42758
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42758

#### Analysis Batch: 42962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42467
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42467

#### Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 42696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 42637

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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## **QC Association Summary**

Client: Ensolum Job ID: 890-3692-1 Project/Site: Gold Coast Federal 1H

SDG: 32.181380,-103.638525

## HPLC/IC (Continued)

#### Leach Batch: 42637 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 42734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3692-1	SS06	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3686-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	42637
890-3686-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	42637

#### Lab Chronicle

Client: Ensolum Job ID: 890-3692-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Client Sample ID: SS06 Lab Sample ID: 890-3692-1

Matrix: Solid

Date Collected: 12/20/22 09:55
Date Received: 12/20/22 14:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 20:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42962	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42696	12/27/22 11:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 18:01	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42734	12/29/22 14:09	CH	EET MID

#### Laboratory References:

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

**Eurofins Carlsbad** 

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## **Accreditation/Certification Summary**

 Client: Ensolum
 Job ID: 890-3692-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

#### **Laboratory: Eurofins Midland**

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

Authority	Pre	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	LAP	T104704400-22-25	06-30-23
TI ( )				
the agency does not of	' '	t the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for
,	' '	t the laboratory is not certifi  Matrix	ed by the governing authority. This list ma Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

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## **Method Summary**

Client: Ensolum

Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Job ID: 890-3692-1

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: Gold Coast Federal 1H

Job ID: 890-3692-1

SDG: 32.181380,-103.638525

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Depth

 890-3692-1
 SS06
 Solid
 12/20/22 09:55
 12/20/22 14:21
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Relinquished by: (Signature)

Received by: (Signature)

2:20:33

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

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# Chain of Custody

Midland, TX (432) Hobbs, NM (57 EL Paso, TX (9: Houston, TX (281) 240-4200. Dallas, TX (214) 902-0300

	Environment Testing	nt Testing	Midland	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Work Order No:	12
	Xenco		EL Pasc	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296		
			Hopos.	HODDS, NWI (373) 382-7330, Gallsbad, NWI (473) 300-0130	www.xenco.com Page of of	
Project Manager:	Josh Adams		Bill to: (if different)	Kalei Jennings	Work Order Comments	
Company Name:	Ensolum, LLC		Company Name:	Ensolum, LLC	Program: UST/PST ☐PRP ☐Brownfields ☐RC ☐uperfund ☐	
Address:	3122 Nat'l Parks Highway		Address:	3122 Nat'l Parks Highway		
City, State ZIP:	Carlsbad, NM 88220		City, State ZIP:	Carlsbad, NM 88220	Reporting: Level III Level III PST/UST TRRP Level IV	
Phone:	817-683-2503	Email:	jadams@ensolur	jadams@ensolum.com, kjennings@ensolum.com	Deliverables: EDD ADaPT Other:	
Project Name:	Gold Coast Federal 1H		Turn Around	ANALYSIS REC	REQUEST Preservative Codes	
Project Number:	03D2024127	☑ Routine	□ Rush C	Pres. Code	None: NO DI Water: H <sub>2</sub> O	
Project Location:	32.181380, -103.638525	Due Date:			<u>u</u>	
Sampler's Name:	Julianna Falcomata		TAT starts the day received by			
PO #:		the lab, if re	ceived by 4:30pm	ers	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na	
SAMPLE RECEIPT	PT Temp Blank: (Yes)	s No Wet Ice:	( Yes) No	mete	H <sub>3</sub> PO <sub>2</sub> : HP	
Samples Received Intact:	Yes) No	Thermometer ID:	Cinago	arar	NaHUCA: NABEO	
Cooler Custody Seals:	Yes No NIA	Correction Factor:	10.2	890-3692	Chain of Custody	20
Sample Custody Seals:	Yes No N/A	Temperature Reading:	000	≡S -	NaOH+Ascorbic Acid: SAPC	of
Total Containers:	Con	Corrected Temperature:	ن ا	RIDE	NACOTOTA COLOR OF COLOR	18
Sample Identification	Matrix	Date Time Sampled Sampled	Depth Grab/ #		Sample Comments	age
900	-d S	0.2012 0955	.2' C	× × ×		F
						r
						30 A
						1:07:
	Ш	W I	11		Ma Ma Ma Ni Kisa Asigin Na sa Tisa II V	3 1
Total 200.7 / 6010	010 200.8 / 6020:	8RCRA 1	13PPM Texas 11	B Cd Ca Cr Co Cu F	e Poing Min Monik Se AgisiO <sub>2</sub> na Sritistio v Zii Monise An Till Ha: 1631/245.1/7470/7471	2023
Circle Method(s) a	Circle Method(s) and Metal(s) to be analyzed	ICLP / s	SPLP GO IO. ONCO	ICEP / SPEP 60 10. ORCHA SO AS DA DE CO CO CO CO CO INTERNO		5/2
Notice: Signature of this of service. Eurofins Xenu	document and relinquishment of sar	nples constitutes a valid	purchase order from cli sume any responsibility	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	s. It assigns standard terms and conditions are due to circumstances beyond the control	5/1
of Eurofins Xenco. A mir	nimum charge of \$85.00 will be appli	ed to each project and a	charge of \$5 for each sa	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 Euroins Xenco, but not analyzed. These terms	Terring Alli De enioreed diness biektonsy instrument	ıg.

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3692-1

SDG Number: 32.181380,-103.638525

Login Number: 3692
List Source: Eurofins Carlsbad
List Number: 1

Creator: Stutzman, Amanda

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

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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3692-1

SDG Number: 32.181380,-103.638525

List Source: Eurofins Midland
List Number: 2
List Creation: 12/22/22 12:50 PM

Creator: Rodriguez, Leticia

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

*y* **2**10

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400

Midland, Texas 79701 Generated 12/31/2022 10:18:06 AM

# **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181380,-103.638525

## **JOB NUMBER**

890-3693-1

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 12/31/2022 10:18:06 AM

Authorized for release by Jessica Kramer, Project Manager <u>Jessica.Kramer@et.eurofinsus.com</u> (432)704-5440 4

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Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3693-1 SDG: 32.181380,-103.638525

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#### **Definitions/Glossary**

Job ID: 890-3693-1 Client: Ensolum Project/Site: Gold Coast Federal 1H

SDG: 32.181380,-103.638525

#### **Qualifiers**

~	_	٠,	$\overline{}$	•
G	b	V	U	А

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Quannon	Qualifier Bookington
*_	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Qualifier Description

**HPLC/IC** 

U

Qualifier

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

#### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	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) Limit of Quantitation (DoD/DOE) LOQ

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

MDL Method Detection Limit 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

**Quality Control** 

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) Toxicity Equivalent Quotient (Dioxin) TEQ

**TNTC** Too Numerous To Count

**Eurofins Carlsbad** 

RER

#### Case Narrative

Client: Ensolum

Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Job ID: 890-3693-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3693-1

#### Receipt

The samples were received on 12/20/2022 2:21 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 3.2°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3693-1) and SS02 (890-3693-2).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-42758 and analytical batch 880-42900 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

#### GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-42468 and analytical batch 880-42463 was outside the upper control limits.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-42468 and analytical batch 880-42463 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD NM: The laboratory control sample (LCS) associated with preparation batch 880-42626 and analytical batch 880-42660 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

#### HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-42637 and analytical batch 880-42734 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Matrix: Solid

Client: Ensolum

Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**Client Sample ID: SS01** Lab Sample ID: 890-3693-1

Date Collected: 12/20/22 09:30 Date Received: 12/20/22 14:21

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Ethylbenzene	<0.00198	U *+	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
o-Xylene	<0.00198	U *+	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Xylenes, Total	<0.00396	U *+	0.00396	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	173	S1+	70 - 130			12/27/22 16:46	12/29/22 20:41	1
1,4-Difluorobenzene (Surr)	73		70 - 130			12/27/22 16:46	12/29/22 20:41	1

Method: TAL SOP Total BTEX - Total	al BTEX Calc	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/30/22 12:53	1

Method: SW846 8015 NM - Diesel R	ange Organi	ics (DRO) (G	(C)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/27/22 10:47	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1

Surre	ogate	%Recovery	Qualifier	Limits	Prep	ared	Analyzed	Dil Fac
1-Ch	lorooctane	86		70 - 130	12/22/2	2 08:02	12/22/22 16:54	1
1-Ch	lorooctane	82		70 - 130	12/22/2	2 08:02	12/22/22 17:16	1
o-Ter	phenyl	91		70 - 130	12/22/2	2 08:02	12/22/22 16:54	1
o-Ter	phenyl	85		70 - 130	12/22/2	2 08:02	12/22/22 17:16	1

Method: MCAWW 300.0 - Anions, I	on Chromatography - So	luble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6980	50.0	mg/Kg			12/29/22 14:18	10

**Client Sample ID: SS02** Lab Sample ID: 890-3693-2 Date Collected: 12/20/22 09:35 **Matrix: Solid** 

Date Received: 12/20/22 14:21

Sample Depth: 2'

Method: SW846 8021B - Vola	atile Organic Comp	ounds (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Ethylbenzene	<0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
o-Xylene	<0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 21:08	1

Matrix: Solid

## **Client Sample Results**

Client: Ensolum Job ID: 890-3693-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Client Sample ID: SS02 Lab Sample ID: 890-3693-2

Date Collected: 12/20/22 09:35

Date Received: 12/20/22 14:21

5340 F1

Sample Depth: 2'

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	194	S1+	70 - 130			12/27/22 16:46	12/29/22 21:08	
1,4-Difluorobenzene (Surr)	74		70 - 130			12/27/22 16:46	12/29/22 21:08	
· Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/30/22 12:53	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/28/22 12:35	
	•		•		_			
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte Gasoline Range Organics	•	Qualifier	•	Unit mg/Kg	D	Prepared 12/27/22 08:39	Analyzed 12/27/22 21:50	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier U *-	RL	mg/Kg	<u>D</u>	<u>.</u>		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result < 50.0	Qualifier U *-	RL 50.0		<u>D</u>	12/27/22 08:39	12/27/22 21:50	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result < 50.0	Qualifier U *-	RL 50.0	mg/Kg	<u> </u>	12/27/22 08:39	12/27/22 21:50	Dil Fac
Analyte  Gasoline Range Organics (GRO)-C6-C10  Diesel Range Organics (Over C10-C28)  Oll Range Organics (Over C28-C36)	Result <50.0 <50.0	Qualifier U *-	FL 50.0 50.0	mg/Kg	<u>D</u>	12/27/22 08:39 12/27/22 08:39	12/27/22 21:50	
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)	Result <50.0 <50.0 <50.0	Qualifier U *- U	FL 50.0 50.0 50.0	mg/Kg	<u>D</u>	12/27/22 08:39 12/27/22 08:39 12/27/22 08:39	12/27/22 21:50 12/27/22 21:50 12/27/22 21:50	
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result   <50.0   <50.0   <50.0   <50.0   <80.0     <80.0     <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0   <80.0	Qualifier U *- U	50.0 50.0 50.0 <i>Limits</i>	mg/Kg	<u> </u>	12/27/22 08:39 12/27/22 08:39 12/27/22 08:39 Prepared	12/27/22 21:50 12/27/22 21:50 12/27/22 21:50 Analyzed	1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U*- U Qualifier	RL 50.0 50.0 50.0 <b>Limits</b> 70 - 130 70 - 130	mg/Kg	<u>D</u>	12/27/22 08:39 12/27/22 08:39 12/27/22 08:39 Prepared 12/27/22 08:39	12/27/22 21:50 12/27/22 21:50 12/27/22 21:50 Analyzed 12/27/22 21:50	Dil Fac

50.0

mg/Kg

**Eurofins Carlsbad** 

12/29/22 14:27

2

2

3

5

7

0

10

12

13

## **Surrogate Summary**

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

_			
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3687-A-1-C MS	Matrix Spike	198 S1+	79
890-3687-A-1-D MSD	Matrix Spike Duplicate	182 S1+	74
890-3693-1	SS01	173 S1+	73
890-3693-2	SS02	194 S1+	74
LCS 880-42758/1-A	Lab Control Sample	189 S1+	86
LCSD 880-42758/2-A	Lab Control Sample Dup	197 S1+	80
MB 880-42758/5-A	Method Blank	124	72
MB 880-42758/5-A 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 Limit
		1CO1	OTPH1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
30-22965-A-21-E MS	Matrix Spike	98	85	
30-22965-A-21-F MSD	Matrix Spike Duplicate	103	91	
80-23040-A-1-E MS	Matrix Spike	111	95	
80-23040-A-1-F MSD	Matrix Spike Duplicate	100	88	
90-3693-1	SS01	86	91	
90-3693-1	SS01	82	85	
0-3693-2	SS02	127	120	
S 880-42468/2-A	Lab Control Sample	99	100	
S 880-42626/2-A	Lab Control Sample	100	98	
SD 880-42468/3-A	Lab Control Sample Dup	117	117	
SD 880-42626/3-A	Lab Control Sample Dup	96	105	
B 880-42468/1-A	Method Blank	128	132 S1+	
B 880-42626/1-A	Method Blank	100	102	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

#### **QC Sample Results**

Client: Ensolum Job ID: 890-3693-1 SDG: 32.181380,-103.638525 Project/Site: Gold Coast Federal 1H

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

Lab Sample ID: MB 880-42758/5-A

Lab Sample ID: LCS 880-42758/1-A

**Matrix: Solid** 

Analysis Batch: 42900

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42758

ı		IVID	IVID						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
	Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
	Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
	m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
	o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
	Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepa	ared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	12/27/22	2 16:46	12/29/22 17:39	1
1,4-Difluorobenzene (Surr)	72		70 - 130	12/27/22	2 16:46	12/29/22 17:39	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42758

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1142		mg/Kg		114	70 - 130	
Toluene	0.100	0.1112		mg/Kg		111	70 - 130	
Ethylbenzene	0.100	0.1288		mg/Kg		129	70 - 130	
m-Xylene & p-Xylene	0.200	0.2632	*+	mg/Kg		132	70 - 130	
o-Xylene	0.100	0.1327	*+	mg/Kg		133	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-42758/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

Matrix: Solid

Analysis Batch: 42900

Analysis Batch: 42900

Prep Type: Total/NA Prep Batch: 42758

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1196		mg/Kg		120	70 - 130	5	35
Toluene	0.100	0.1153		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1402	*+	mg/Kg		140	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2850	*+	mg/Kg		142	70 - 130	8	35
o-Xylene	0.100	0.1412	*+	mg/Kg		141	70 - 130	6	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-3687-A-1-C MS

Released to Imaging: 5/15/2023 11:07:30 AM

**Matrix: Solid** 

Analysis Batch: 42900

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

Prep Batch: 42758

_	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.100	0.1138		mg/Kg		113	70 - 130	
Toluene	<0.00202	U	0.100	0.1086		mg/Kg		108	70 - 130	

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 42758

#### QC Sample Results

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: 890-3687-A-1-C MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 42900

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U *+	0.100	0.1300		mg/Kg		129	70 - 130	
m-Xylene & p-Xylene	<0.00403	U *+ F1	0.201	0.2635	F1	mg/Kg		131	70 - 130	
o-Xylene	<0.00202	U *+	0.100	0.1281		mg/Kg		128	70 - 130	

MS MS %Recovery Surrogate Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 198 S1+ 1,4-Difluorobenzene (Surr) 70 - 130 79

Lab Sample ID: 890-3687-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 42900									Prep	Batch:	42758
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0990	0.1047		mg/Kg		106	70 - 130	8	35
Toluene	<0.00202	U	0.0990	0.1008		mg/Kg		102	70 - 130	8	35
Ethylbenzene	<0.00202	U *+	0.0990	0.1192		mg/Kg		120	70 - 130	9	35
m-Xylene & p-Xylene	<0.00403	U *+ F1	0.198	0.2400		mg/Kg		121	70 - 130	9	35
o-Xylene	<0.00202	U *+	0.0990	0.1186		mg/Kg		120	70 - 130	8	35

MSD MSD Surrogate Qualifier Limits %Recovery S1+ 70 - 130 4-Bromofluorobenzene (Surr) 182 1,4-Difluorobenzene (Surr) 74 70 - 130

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

Lab Sample ID: MB 880-42468/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Prep Batch: 42468

Analysis Batch: 42463

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1

MB MB %Recovery Qualifier Limits Prepared Dil Fac Surrogate Analyzed 12/22/22 08:02 1-Chlorooctane 128 70 - 130 12/22/22 08:27 132 S1+ 70 - 130 12/22/22 08:02 12/22/22 08:27 o-Terphenyl

Lab Sample ID: LCS 880-42468/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 42463 Prep Batch: 42468

	эріке	LUS	LUS				70 Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	790.5		mg/Kg		79	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	837.0		mg/Kg		84	70 - 130
C10-C28)							

Job ID: 890-3693-1

Client: Ensolum Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: LCS 880-42468/2-A

**Matrix: Solid** 

Analysis Batch: 42463

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42468

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 99 70 - 130 o-Terphenyl 100 70 - 130

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 880-42468/3-A **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 42463 Prep Batch: 42468 Spike LCSD LCSD %Rec RPD

Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 977.6 \*1 98 70 - 13021 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1006 101 mg/Kg 70 - 13018 20 C10-C28)

LCSD LCSD

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

Sample Sample

Lab Sample ID: 880-22965-A-21-E MS Client Sample ID: Matrix Spike

MS MS

**Matrix: Solid** 

**Analysis Batch: 42463** 

Prep Type: Total/NA

Prep Batch: 42468

Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U \*1 999 889.9 mg/Kg 86 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over 259 999 1028 mg/Kg 77 70 - 130 C10-C28)

Spike

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 98 o-Terphenyl 85 70 - 130

Lab Sample ID: 880-22965-A-21-F MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

997

Analysis Batch: 42463

Prep Batch: 42468 Sample Sample MSD MSD RPD Spike %Rec Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <50.0 U \*1 997 1025 Gasoline Range Organics 99 70 - 130 14 20 mg/Kg

1084

mg/Kg

83

70 - 130

(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)

Analyte

MSD MSD %Recovery Qualifier Surrogate Limits 1-Chlorooctane 103 70 - 130 91 70 - 130 o-Terphenyl

259

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## QC Sample Results

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

MD MD

102

Lab Sample ID: MB 880-42626/1-A

**Matrix: Solid** Analysis Batch: 42660 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42626

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		12/27/22 08:39	12/27/22 13:30	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		12/27/22 08:39	12/27/22 13:30	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/27/22 08:39	12/27/22 13:30	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130			12/27/22 08:39	12/27/22 13:30	1

Lab Sample ID: LCS 880-42626/2-A Client Sample ID: Lab Control Sample

70 - 130

**Matrix: Solid** Analysis Batch: 42660

o-Terphenyl

Prep Type: Total/NA

12/27/22 13:30

12/27/22 08:39

Prep Batch: 42626

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	616.6	*_	mg/Kg		62	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	862.0		mg/Kg		86	70 - 130	

LCS LCS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 100 70 - 130 o-Terphenyl 98 70 - 130

Lab Sample ID: LCSD 880-42626/3-A

**Matrix: Solid** 

Analysis Batch: 42660

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 42626

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	681.6	*-	mg/Kg		68	70 - 130	10	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	951.2		mg/Kg		95	70 - 130	10	20
C10-C28)									

LCSD LCSD %Recovery Qualifier Limits Surrogate 70 - 130 1-Chlorooctane 96 105 70 - 130 o-Terphenyl

Lab Sample ID: 880-23040-A-1-E MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 42660

Prep Type: Total/NA Prep Batch: 42626

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<49.9	U *-	999	1195		mg/Kg		120	70 - 130	 
(GRO)-C6-C10										
Diesel Range Organics (Over	110		999	1100		mg/Kg		99	70 - 130	
C10-C28)										

Prep Batch: 42626

Prep Type: Total/NA

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: 880-23040-A-1-E MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 42660

MS	MS		
%Recovery	Qualifier	Limits	
111		70 _ 130	
95		70 - 130	

Lab Sample ID: 880-23040-A-1-F MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Surrogate 1-Chlorooctane o-Terphenyl

Analysis Batch: 42660									Prep	Batch:	42626
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<49.9	U *-	999	1089		mg/Kg		109	70 - 130	9	20
(GRO)-C6-C10											
Diesel Range Organics (Over	110		999	1011		mg/Kg		90	70 - 130	8	20
C10-C28)											

MSD MSD Surrogate %Recovery Qualifier Limits 100 70 - 130 1-Chlorooctane 88 70 - 130 o-Terphenyl

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

	IVID IVID						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00 U	5.00	ma/Ka			12/29/22 11:59	1

Lab Sample ID: LCS 880-42637/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** 

Analysis Batch: 42734

		Spike	LCS	LCS				%Rec		
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	 	250	257.9		ma/Ka		103	90 _ 110	-	

Lab Sample ID: LCSD 880-42637/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** 

Analysis Batch: 42734

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	258.4		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3693-2 MS **Client Sample ID: SS02 Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 42734

Analysis Batom 42704	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	5340	F1	2500	8689	F1	mg/Kg		134	90 - 110	

**Eurofins Carlsbad** 

Released to Imaging: 5/15/2023 11:07:30 AM

**Prep Type: Soluble** 

**Prep Type: Soluble** 

## **QC Sample Results**

 Client: Ensolum
 Job ID: 890-3693-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3693-2 MSD

Matrix: Solid

Client Sample ID: SS02

Prep Type: Soluble

Analysis Batch: 42734

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	5340	F1	2500	8870	F1	mg/Kg		141	90 - 110	2	20

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## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3693-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

**GC VOA** 

Prep Batch: 42758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	5035	
890-3693-2	SS02	Total/NA	Solid	5035	
MB 880-42758/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8021B	42758
890-3693-2	SS02	Total/NA	Solid	8021B	42758
MB 880-42758/5-A	Method Blank	Total/NA	Solid	8021B	42758
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	8021B	42758
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42758
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42758
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42758

Analysis Batch: 42963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	Total BTEX	
890-3693-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 42463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015B NM	42468
890-3693-1	SS01	Total/NA	Solid	8015B NM	42468
MB 880-42468/1-A	Method Blank	Total/NA	Solid	8015B NM	42468
LCS 880-42468/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42468
LCSD 880-42468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42468
880-22965-A-21-E MS	Matrix Spike	Total/NA	Solid	8015B NM	42468
880-22965-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42468

Prep Batch: 42468

•					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015NM Prep	
890-3693-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-42468/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42468/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22965-A-21-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22965-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 42626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-42626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

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## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-3693-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

GC Semi VOA (Continued)

Prep Batch: 42626 (Continued)

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	880-23040-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
l	880-23040-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-2	SS02	Total/NA	Solid	8015B NM	42626
MB 880-42626/1-A	Method Blank	Total/NA	Solid	8015B NM	42626
LCS 880-42626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42626
LCSD 880-42626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42626
880-23040-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	42626
880-23040-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42626

Analysis Batch: 42670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015 NM	
890-3693-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 42637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Soluble	Solid	DI Leach	_
890-3693-2	SS02	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3693-2 MS	SS02	Soluble	Solid	DI Leach	
890-3693-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 42734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Soluble	Solid	300.0	42637
890-3693-2	SS02	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3693-2 MS	SS02	Soluble	Solid	300.0	42637
890-3693-2 MSD	SS02	Soluble	Solid	300.0	42637

## **Lab Chronicle**

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

**Client Sample ID: SS01** 

Lab Sample ID: 890-3693-1 Date Collected: 12/20/22 09:30

Matrix: Solid

Date Received: 12/20/22 14:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 20:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42963	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42670	12/27/22 10:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42468	12/22/22 08:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42463	12/22/22 16:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42468	12/22/22 08:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42463	12/22/22 17:16	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	42734	12/29/22 14:18	CH	EET MID

**Client Sample ID: SS02** Lab Sample ID: 890-3693-2

Date Collected: 12/20/22 09:35 Matrix: Solid

Date Received: 12/20/22 14:21

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 21:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42963	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42670	12/28/22 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	42626	12/27/22 08:39	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42660	12/27/22 21:50	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	42734	12/29/22 14:27	CH	EET MID

**Laboratory References:** 

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

## **Accreditation/Certification Summary**

 Client: Ensolum
 Job ID: 890-3693-1

 Project/Site: Gold Coast Federal 1H
 SDG: 32.181380,-103.638525

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report, bu	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for w
the agency does not of	fer certification.	,,	ou by the generaling duriently.	ay molado analytoo for w
the agency does not of Analysis Method	fer certification.  Prep Method	Matrix	Analyte	ay molade analytee for the
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## **Method Summary**

Client: Ensolum

Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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: Gold Coast Federal 1H

Job ID: 890-3693-1

SDG: 32.181380,-103.638525

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3693-1	SS01	Solid	12/20/22 09:30	12/20/22 14:21	2'
890-3693-2	SS02	Solid	12/20/22 09:35	12/20/22 14:21	2'

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13

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

Total 200.7 / 6010

200.8 / 6020:

8RCRA 13PPM Texas 11 Al

g

As Ba Be

œ

Cd Ca Cr Co

Cu Fe Pb

Mg Μ

Mo Ni K Se

Ag SiO<sub>2</sub>

TI Sn U V

Zn

1631 / 245.1 / 7470 / 7471 Na Sr

TCLP / SPLP 6010: 8RCRA

Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

QUEST Preservative Codes	ANALYSIS REQUEST	Turn Around	Gold Coast Federal 1H	Project Name:
Deliverables: EDD L J ADAPI L Omer:	Email: jadams@ensolum.com, kjennings@ensolum.com	Email: jadams@e	817-683-2503	Phone:
evel III PSI/USI	ZIP: Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:
State of Project: NM	3122 Nat'l Parks Highway	Address:	3122 Nat'l Parks Highway	Address:
Program: UST/PST PRP Brownfields RC Juperfund	lame: Ensolum, LLC	Company Name:	Ensolum, LLC	Company Name:
Work Order Comments	terent) Kalei Jennings	Bill to: (if different)	Josh Adams	Project Manager:
www.xenco.com Page of	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199		Xenco	
Work Order No:	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300	M.	fins Environment Testin	eurofins 🔅

Pho Ado Pro

SAMPLE RECEIPT

Temp Blank: Yes

Lives

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Wet ice:

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**Parameters** 

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

HCL: HC

HNO<sub>3</sub>: HN NaOH: Na MeOH: Me DI Water: H<sub>2</sub>O

Cool: Cool None: NO

H2SO4: H2

8

ZX N/A

> Correction Factor: Thermometer ID:

Cooler Custody Seals: Samples Received Intact:

Sample Custody Seals:

Yes No Yes No

Corrected Temperature:

Temperature Reading:

Sample Identification

Matrix

Sampled

Sampled

Time

Depth

Comp Grab/

Cont # of

BTEX

TPH

CHLORIDES

890-3693 Chain of Custody

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>: NaSO<sub>3</sub>

NaHSO<sub>4</sub>: NABIS H3PO4: HP

Zn Acetate+NaOH: Zn

NaOH+Ascorbic Acid: SAPC

Sample Comments

3

Sampler's Name

Project Location:

32.181380, -103.638525

Due Date:

Routine

Rush

03D2024127

Julianna Falcomata

Project Number:

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3693-1

SDG Number: 32.181380,-103.638525

List Source: Eurofins Carlsbad

Login Number: 3693 List Number: 1 Creator: Clifton, Cloe

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

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## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-3693-1

SDG Number: 32.181380,-103.638525

List Source: Eurofins Midland List Creation: 12/22/22 12:50 PM

Creator: Rodriguez, Leticia

Login Number: 3693

List Number: 2

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

Euronnis Carisbau

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<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings

**Ensolum** 

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 1/24/2023 9:01:42 AM Revision 1

# **JOB DESCRIPTION**

Gold Coast Federal 1H SDG NUMBER 32.181380,-103.638525

## **JOB NUMBER**

890-3693-1

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 1/24/2023 9:01:42 AM Revision 1

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

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Client: Ensolum Project/Site: Gold Coast Federal 1H Laboratory Job ID: 890-3693-1 SDG: 32.181380,-103.638525

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## **Definitions/Glossary**

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H

SDG: 32.181380,-103.638525

#### **Qualifiers**

#### **GC VOA** Qualifier

*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.

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

Qualifier Description

#### GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

U Indicates the analyte was analyzed for but not detected.

#### **HPLC/IC**

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)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE) MCL EPA recommended "Maximum Contaminant Level"

Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit 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)

Too Numerous To Count **TNTC** 

#### Case Narrative

Client: Ensolum

Project/Site: Gold Coast Federal 1H

Job ID: 890-3693-1

SDG: 32.181380,-103.638525

Job ID: 890-3693-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-3693-1

#### REVISION

The report being provided is a revision of the original report sent on 12/31/2022. The report (revision 1) is being revised due to Per client email, requesting sample depth change from 2' to 0.2'.

Report revision history

#### Receipt

The samples were received on 12/20/2022 2:21 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 3.2°C

#### Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3693-1) and SS02 (890-3693-2).

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-42758 and analytical batch 880-42900 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

#### GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-42468 and analytical batch 880-42463 was outside the upper control limits.

Method 8015MOD NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-42468 and analytical batch 880-42463 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-42626 and analytical batch 880-42660 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

#### HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-42637 and analytical batch 880-42734 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

**Matrix: Solid** 

Client: Ensolum

Job ID: 890-3693-1

Project/Site: Gold Coast Federal 1H

SDG: 32 181380, 103 638525

Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Client Sample ID: 890-3693-1

Date Collected: 12/20/22 09:30
Date Received: 12/20/22 14:21

Sample Depth: 0.2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Ethylbenzene	<0.00198	U *+	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
o-Xylene	<0.00198	U *+	0.00198	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Xylenes, Total	<0.00396	U *+	0.00396	mg/Kg		12/27/22 16:46	12/29/22 20:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	173	S1+	70 - 130			12/27/22 16:46	12/29/22 20:41	1
1,4-Difluorobenzene (Surr)	73		70 - 130			12/27/22 16:46	12/29/22 20:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result Qual	lifier RL	Unit	D	Prepared	Analyzed	Dil Fac		
Total BTEX	<0.00396 U	0.00396	mg/Kg			12/30/22 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			12/27/22 10:47	1

Method: SW846 8015B NM - D	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 *1	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1		
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1		
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/22 08:02	12/22/22 16:54	1		
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac		
1-Chlorooctane	86		70 - 130			12/22/22 08:02	12/22/22 16:54	1		
1-Chlorooctane	82		70 - 130			12/22/22 08:02	12/22/22 17:16	1		

o-Terphenyl	85		70 - 130			12/22/22 08:02	12/22/22 17:16	1
Method: MCAWW 300.0 - Anion	s, lon Chro	omatograp	hy - Soluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6980		50.0	mg/Kg	_		12/29/22 14:18	10

70 - 130

91

Client Sample ID: SS02

Date Collected: 12/20/22 09:35

Lab Sample ID: 890-3693-2

Matrix: Solid

Date Received: 12/20/22 14:21 Sample Depth: 0.2'

o-Terphenyl

Method: SW846 8021B - '	Volatile Organic	Compound	ds (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Ethylbenzene	<0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
o-Xylene	<0.00199	U *+	0.00199	mg/Kg		12/27/22 16:46	12/29/22 21:08	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		12/27/22 16:46	12/29/22 21:08	1

**Eurofins Carlsbad** 

12/22/22 08:02 12/22/22 16:54

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**Matrix: Solid** 

Lab Sample ID: 890-3693-2

## **Client Sample Results**

Client: Ensolum Job ID: 890-3693-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Client Sample ID: SS02

Date Collected: 12/20/22 09:35 Date Received: 12/20/22 14:21

Sample Depth: 0.2'

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	194	S1+	70 - 130	12/27/22 16:46	12/29/22 21:08	1
1,4-Difluorobenzene (Surr)	74		70 - 130	12/27/22 16:46	12/29/22 21:08	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/30/22 12:53	1
Method: SW846 8015 NM - D	)iesel Range (	Organics (E	ORO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/28/22 12:35	1
<u>-</u>								
Method: SW846 8015B NM -	<b>Diesel Range</b>	Organics	(DRO) (GC)					
		Organics Qualifier	(DRO) (GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte		Qualifier		Unit mg/Kg	<u>D</u>	Prepared 12/27/22 08:39	Analyzed 12/27/22 21:50	Dil Fac
Method: SW846 8015B NM - Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier	RL		<u>D</u>			Dil Fac

C10-C28)			3 3			
Oll Range Organics (Over C28-C36)	<50.0 U	50.0	mg/Kg	12/27/22 08:39	12/27/22 21:50	1
Surrogate	%Recovery Qua	alifier Limits		Prepared	Analyzed	Dil Fac
1-Chlorooctane	127	70 - 130		12/27/22 08:39	12/27/22 21:50	1
o-Terphenyl	120	70 - 130		12/27/22 08:39	12/27/22 21:50	1

Method: MCAWW 300.0 - Anior	ns, Ion Chr	matography - Soluble							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	5340	F1	50.0	mg/Kg			12/29/22 14:27	10	

**Eurofins Carlsbad** 

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## **Surrogate Summary**

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

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

			Pe
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3687-A-1-C MS	Matrix Spike	198 S1+	79
890-3687-A-1-D MSD	Matrix Spike Duplicate	182 S1+	74
890-3693-1	SS01	173 S1+	73
890-3693-2	SS02	194 S1+	74
LCS 880-42758/1-A	Lab Control Sample	189 S1+	86
LCSD 880-42758/2-A	Lab Control Sample Dup	197 S1+	80
MB 880-42758/5-A	Method Blank	124	72

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

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

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

			Perc	ent Surrogate Rec
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-22965-A-21-E MS	Matrix Spike	98	85	
880-22965-A-21-F MSD	Matrix Spike Duplicate	103	91	
880-23040-A-1-E MS	Matrix Spike	111	95	
880-23040-A-1-F MSD	Matrix Spike Duplicate	100	88	
890-3693-1	SS01	86	91	
890-3693-1	SS01	82	85	
890-3693-2	SS02	127	120	
LCS 880-42468/2-A	Lab Control Sample	99	100	
LCS 880-42626/2-A	Lab Control Sample	100	98	
LCSD 880-42468/3-A	Lab Control Sample Dup	117	117	
LCSD 880-42626/3-A	Lab Control Sample Dup	96	105	
MB 880-42468/1-A	Method Blank	128	132 S1+	
MB 880-42626/1-A	Method Blank	100	102	

Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

## **QC Sample Results**

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42758/5-A

Lab Sample ID: LCS 880-42758/1-A

**Matrix: Solid** 

**Analysis Batch: 42900** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 42758

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/27/22 16:46	12/29/22 17:39	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/27/22 16:46	12/29/22 17:39	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124	70 - 130	12/27/22 16:46	12/29/22 17:39	1
1,4-Difluorobenzene (Surr)	72	70 - 130	12/27/22 16:46	12/29/22 17:39	1

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 42758

**Matrix: Solid Prep Type: Total/NA Analysis Batch: 42900** Prep Batch: 42758 Spike LCS LCS %Rec Added Result Qualifier Unit %Rec Limits

Analyte Benzene 0.100 0.1142 mg/Kg 114 70 - 130 Toluene 0.100 0.1112 mg/Kg 70 - 130 111 Ethylbenzene 0.100 0.1288 mg/Kg 129 70 - 130 0.200 132 m-Xylene & p-Xylene 0.2632 \*+ mg/Kg 70 - 130 o-Xylene 0.100 0.1327 \*+ mg/Kg 133 70 - 130

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	189	S1+	70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-42758/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Analysis Batch: 42900** 

-	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1196		mg/Kg		120	70 - 130	5	35
Toluene	0.100	0.1153		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1402	*+	mg/Kg		140	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2850	*+	mg/Kg		142	70 - 130	8	35
o-Xvlene	0 100	0 1412	*+	ma/Ka		141	70 - 130	6	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-3687-A-1-C MS

Matrix: Solid Analysis Batch: 42900									Prep Type Prep Bat	: Total/NA ch: 42758
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.100	0.1138		mg/Kg		113	70 - 130	
Toluene	<0.00202	U	0.100	0.1086		mg/Kg		108	70 - 130	

**Eurofins Carlsbad** 

**Client Sample ID: Matrix Spike** 

Prep Batch: 42758

Prep Type: Total/NA

## **QC Sample Results**

Client: Ensolum Job ID: 890-3693-1 SDG: 32.181380,-103.638525 Project/Site: Gold Coast Federal 1H

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

Lab Sample ID: 890-3687-A-1-C MS **Client Sample ID: Matrix Spike** Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 42900** 

Sample	Sample	Spike	MS	MS				%Rec	
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
<0.00202	U *+	0.100	0.1300		mg/Kg		129	70 - 130	
<0.00403	U *+ F1	0.201	0.2635	F1	mg/Kg		131	70 - 130	
< 0.00202	U *+	0.100	0.1281		mg/Kg		128	70 - 130	
	Result <0.00202 <0.00403	Sample Sample Result Qualifier <0.00202 U *+ <0.00202 U *+	Result   Qualifier   Added	Result         Qualifier         Added         Result           <0.00202	Result         Qualifier         Added         Result         Qualifier           <0.00202	Result         Qualifier         Added         Result         Qualifier         Unit           <0.00202	Result         Qualifier         Added         Result         Qualifier         Unit         D           <0.00202	Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec           <0.00202	Result Qualifier         Added Added Added         Result Qualifier         Unit Unit Unit Unit Unit Unit Unit Unit

MS MS Surrogate %Recovery Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 198 1,4-Difluorobenzene (Surr) 70 - 130 79

Lab Sample ID: 890-3687-A-1-D MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

Amelicaia Detale, 40000

Analysis Batch: 42900	900							Prep E	satcn: 42/58		
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0990	0.1047		mg/Kg		106	70 - 130	8	35
Toluene	<0.00202	U	0.0990	0.1008		mg/Kg		102	70 - 130	8	35
Ethylbenzene	<0.00202	U *+	0.0990	0.1192		mg/Kg		120	70 - 130	9	35
m-Xylene & p-Xylene	< 0.00403	U *+ F1	0.198	0.2400		mg/Kg		121	70 - 130	9	35
o-Xylene	< 0.00202	U *+	0.0990	0.1186		mg/Kg		120	70 - 130	8	35

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 182 S1+ 70 - 130 1,4-Difluorobenzene (Surr) 74 70 - 130

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

Lab Sample ID: MB 880-42468/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA Prep Batch: 42468 **Analysis Batch: 42463** 

	IVID	IVID							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/22 08:02	12/22/22 08:27	1	

MB MB Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 12/22/22 08:02 12/22/22 08:27 1-Chlorooctane 70 - 130 128 70 - 130 12/22/22 08:02 12/22/22 08:27 o-Terphenyl 132 S1+

Lab Sample ID: LCS 880-42468/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** 

**Analysis Batch: 42463** 

Prep Batch: 42468 Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 1000 790.5 79 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 837.0 mg/Kg 84 70 - 130

C10-C28)

**Eurofins Carlsbad** 

Prep Type: Total/NA

## QC Sample Results

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

Lab Sample ID: LCS 880-42468/2-A

Lab Sample ID: LCSD 880-42468/3-A

**Matrix: Solid** 

**Analysis Batch: 42463** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 42468

LCS LCS

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 99 70 - 130 o-Terphenyl 100 70 - 130

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

**Prep Type: Total/NA** 

**Matrix: Solid Analysis Batch: 42463** 

Prep Batch: 42468

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 977.6 \*1 mg/Kg 98 70 - 130 21 20 (GRO)-C6-C10 Diesel Range Organics (Over 1000 1006 mg/Kg 101 70 - 130 18 20

C10-C28)

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

Lab Sample ID: 880-22965-A-21-E MS **Client Sample ID: Matrix Spike** 

MS MS

**Matrix: Solid** 

**Analysis Batch: 42463** 

**Prep Type: Total/NA** 

Prep Batch: 42468

%Rec

Result Qualifier Added Result Qualifier Limits **Analyte** Unit D %Rec <50.0 U \*1 Gasoline Range Organics 999 889.9 mg/Kg 86 70 - 130 (GRO)-C6-C10 999 Diesel Range Organics (Over 259 1028 mg/Kg 77 70 - 130 C10-C28)

Spike

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 98 o-Terphenyl 85 70 - 130

Lab Sample ID: 880-22965-A-21-F MSD

**Matrix: Solid** 

**Analysis Batch: 42463** 

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

Prep Batch: 42468

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit **Analyte** Unit %Rec Gasoline Range Organics <50.0 U \*1 997 1025 99 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 259 997 1084 mg/Kg 83 70 - 130 5 20

C10-C28)

MSD MSD

Sample Sample

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 103 70 - 130 o-Terphenyl 91 70 - 130

Client: Ensolum Project/Site: Gold Coast Federal 1H

Job ID: 890-3693-1

SDG: 32.181380,-103.638525

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

Lab Sample ID: MB 880-42626/1-A

**Matrix: Solid** 

**Analysis Batch: 42660** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42626

MB MB Result Qualifier RL Unit D Analyzed Dil Fac Analyte Prepared 12/27/22 08:39 Gasoline Range Organics <50.0 U 50.0 mg/Kg 12/27/22 13:30 (GRO)-C6-C10 Diesel Range Organics (Over 50.0 12/27/22 08:39 12/27/22 13:30 <50.0 U mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 mg/Kg 12/27/22 08:39 12/27/22 13:30

MB MB

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 100 o-Terphenyl 102 70 - 130

Prepared Analyzed Dil Fac 12/27/22 08:39 12/27/22 13:30 12/27/22 08:39 12/27/22 13:30

Lab Sample ID: LCS 880-42626/2-A

**Matrix: Solid** 

**Analysis Batch: 42660** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 42626

Spike LCS LCS %Rec Added Result Qualifier Limits Analyte Unit D %Rec 1000 616.6 62 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 mg/Kg Diesel Range Organics (Over 1000 862.0 86 70 - 130C10-C28)

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 100 70 - 130 o-Terphenyl 98 70 - 130

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Lab Sample ID: LCSD 880-42626/3-A

Lab Sample ID: 880-23040-A-1-E MS

**Analysis Batch: 42660** 

Prep Type: Total/NA Prep Batch: 42626

Spike LCSD LCSD %Rec **RPD** Added Result Qualifier %Rec Limits RPD Analyte Unit D Gasoline Range Organics 681.6 \*-1000 mg/Kg 68 70 - 130 10 (GRO)-C6-C10 Diesel Range Organics (Over 1000 951.2 mg/Kg 95 70 - 130 10 20 C10-C28)

Limit 20

Surrogate

1-Chlorooctane

**Matrix: Solid** 

o-Terphenyl

%Recovery Qualifier Limits 70 - 130 96 105 70 - 130

LCSD LCSD

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

Prep Batch: 42626

**Analysis Batch: 42660** MS MS %Rec Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit Limits <49.9 U \*mg/Kg Gasoline Range Organics 999 1195 120 70 - 130 (GRO)-C6-C10 110 999 1100 99 70 - 130 Diesel Range Organics (Over mg/Kg C10-C28)

## QC Sample Results

Client: Ensolum Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

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

MS MS

Lab Sample ID: 880-23040-A-1-E MS

**Matrix: Solid** 

**Analysis Batch: 42660** 

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

Prep Batch: 42626

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 111 70 - 130 o-Terphenyl 95 70 - 130

Client Sample ID: Matrix Spike Duplicate Lab Sample ID: 880-23040-A-1-F MSD

**Analysis Batch: 42660** 

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

Prep Batch: 42626

MSD MSD %Rec **RPD** Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics <49.9 U\*-999 1089 mg/Kg 109 70 - 130 9 20 (GRO)-C6-C10 Diesel Range Organics (Over 110 999 1011 mg/Kg 90 70 - 130 8 20 C10-C28)

MSD MSD

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 100 70 - 130 70 - 130 o-Terphenyl 88

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42637/1-A **Client Sample ID: Method Blank Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 42734** 

MB MB

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac 5.00 Chloride <5.00 U 12/29/22 11:59 mg/Kg

Lab Sample ID: LCS 880-42637/2-A

**Matrix: Solid** 

**Analysis Batch: 42734** 

Spike LCS LCS %Rec Analyte Added Result Qualifier %Rec Limits Unit 250 103 Chloride 257.9 mg/Kg 90 - 110

Lab Sample ID: LCSD 880-42637/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** 

**Analysis Batch: 42734** 

Spike LCSD LCSD %Rec **RPD** Added Result Qualifier Limits Analyte Unit D %Rec RPD Limit Chloride 250 258.4 mg/Kg 103 90 - 110 0

Lab Sample ID: 890-3693-2 MS

**Matrix: Solid** 

**Analysis Batch: 42734** 

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 5340 F1 2500 F1 90 - 110 8689 mg/Kg 134

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

Client Sample ID: Lab Control Sample

**Prep Type: Soluble** 

Client Sample ID: SS02

**Prep Type: Soluble** 

## **QC Sample Results**

Client: Ensolum Job ID: 890-3693-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3693-2 MSD

Matrix: Solid

Client Sample ID: SS02

Prep Type: Soluble

Analysis Batch: 42734

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Unit Limits RPD Analyte D %Rec Limit 2500 Chloride 5340 F1 8870 F1 2 20 mg/Kg 141 90 - 110

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# **QC Association Summary**

Client: Ensolum Project/Site: Gold Coast Federal 1H

Job ID: 890-3693-1 SDG: 32.181380,-103.638525

## **GC VOA**

## Prep Batch: 42758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	5035	
890-3693-2	SS02	Total/NA	Solid	5035	
MB 880-42758/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## **Analysis Batch: 42900**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8021B	42758
890-3693-2	SS02	Total/NA	Solid	8021B	42758
MB 880-42758/5-A	Method Blank	Total/NA	Solid	8021B	42758
LCS 880-42758/1-A	Lab Control Sample	Total/NA	Solid	8021B	42758
LCSD 880-42758/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42758
890-3687-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	42758
890-3687-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42758

#### **Analysis Batch: 42963**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	Total BTEX	
890-3693-2	SS02	Total/NA	Solid	Total BTEX	

## **GC Semi VOA**

## **Analysis Batch: 42463**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015B NM	42468
890-3693-1	SS01	Total/NA	Solid	8015B NM	42468
MB 880-42468/1-A	Method Blank	Total/NA	Solid	8015B NM	42468
LCS 880-42468/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42468
LCSD 880-42468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42468
880-22965-A-21-E MS	Matrix Spike	Total/NA	Solid	8015B NM	42468
880-22965-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42468

#### Prep Batch: 42468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015NM Prep	
890-3693-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-42468/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42468/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42468/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22965-A-21-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22965-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Prep Batch: 42626

Released to Imaging: 5/15/2023 11:07:30 AM

<b>Lab Sample ID</b> 890-3693-2	Client Sample ID SS02	Prep Type Total/NA	Matrix Solid	Method P 8015NM Prep	rep Batch
MB 880-42626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

# **QC Association Summary**

Client: Ensolum
Project/Site: Gold Coast Federal 1H

Job ID: 890-3693-1 SDG: 32.181380,-103.638525

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## GC Semi VOA (Continued)

## Prep Batch: 42626 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23040-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23040-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 42660**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-2	SS02	Total/NA	Solid	8015B NM	42626
MB 880-42626/1-A	Method Blank	Total/NA	Solid	8015B NM	42626
LCS 880-42626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42626
LCSD 880-42626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42626
880-23040-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	42626
880-23040-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42626

## **Analysis Batch: 42670**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Total/NA	Solid	8015 NM	
890-3693-2	SS02	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 42637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Soluble	Solid	DI Leach	
890-3693-2	SS02	Soluble	Solid	DI Leach	
MB 880-42637/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3693-2 MS	SS02	Soluble	Solid	DI Leach	
890-3693-2 MSD	SS02	Soluble	Solid	DI Leach	

#### **Analysis Batch: 42734**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3693-1	SS01	Soluble	Solid	300.0	42637
890-3693-2	SS02	Soluble	Solid	300.0	42637
MB 880-42637/1-A	Method Blank	Soluble	Solid	300.0	42637
LCS 880-42637/2-A	Lab Control Sample	Soluble	Solid	300.0	42637
LCSD 880-42637/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42637
890-3693-2 MS	SS02	Soluble	Solid	300.0	42637
890-3693-2 MSD	SS02	Soluble	Solid	300.0	42637

Client: Ensolum

Job ID: 890-3693-1 Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

Lab Sample ID: 890-3693-1

Date Collected: 12/20/22 09:30 Date Received: 12/20/22 14:21

**Client Sample ID: SS01** 

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	42758	12/27/22 16:46	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42900	12/29/22 20:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42963	12/30/22 12:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42670	12/27/22 10:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42468	12/22/22 08:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42463	12/22/22 16:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42468	12/22/22 08:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42463	12/22/22 17:16	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42637	12/27/22 09:17	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	42734	12/29/22 14:18	CH	EET MID

**Client Sample ID: SS02** Lab Sample ID: 890-3693-2 Date Collected: 12/20/22 09:35

Date Received: 12/20/22 14:21

**Matrix: Solid** 

Batch Batch Dil Initial Final **Batch** Prepared **Prep Type** Type Method Run **Factor Amount Amount** Number or Analyzed Analyst Lab Total/NA 5035 12/27/22 16:46 MNR Prep 5.03 g 5 mL 42758 **EET MID** Total/NA 8021B 12/29/22 21:08 MNR **EET MID** Analysis 1 5 mL 5 mL 42900 Total/NA Total BTEX 12/30/22 12:53 AJ Analysis 1 42963 **EET MID** 12/28/22 12:35 SM Total/NA 8015 NM 42670 **EET MID** Analysis 1 Total/NA 8015NM Prep 10.01 g 42626 Prep 10 mL 12/27/22 08:39 DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 42660 12/27/22 21:50 SM EET MID Soluble 50 mL 42637 12/27/22 09:17 KS **EET MID** Leach DI Leach 5 g 12/29/22 14:27 CH 300.0 50 mL 42734 **EET MID** Soluble Analysis 10 50 mL

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-3693-1
Project/Site: Gold Coast Federal 1H SDG: 32.181380,-103.638525

## **Laboratory: Eurofins Midland**

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

uthority Program		ogram	Identification Number	Expiration Date	
Texas	NE	ELAP	T104704400-22-25	06-30-23	
The following analyte:	s are included in this reno	ort but the laboratory is r	not certified by the governing authority.	This list may include analytes for which	
The felletting analyte	s are moladed in this repe	ort, but the laboratory is i	ior certified by the governing authority.	This list may include analytes for while	
the agency does not	•	ort, but the laboratory is i	to certified by the governing authority.	This list may include analytes for while	
• ,	•	Matrix	Analyte	This list may morade analytes for while	
the agency does not o	offer certification.	•	, , ,	This list may include analytes for while	

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## **Method Summary**

Client: Ensolum

Project/Site: Gold Coast Federal 1H

Job ID: 890-3693-1

SDG: 32.181380,-103.638525

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: Gold Coast Federal 1H

Job ID: 890-3693-1

SDG: 32.181380,-103.638525

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3693-1	SS01	Solid	12/20/22 09:30	12/20/22 14:21	0.2'
890-3693-2	SS02	Solid	12/20/22 09:35	12/20/22 14:21	0.2'

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Relinquished by: (Signature)

Received by: (Signature)

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Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

# Chain of Custody

eurofins Environment Testing		Houston, TX (281) 240-4200. Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Work Order No:	2023
Xenco	EL Paso	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296		/24/
	Повоз	NHI (JEJ) USE-FOUR, CHIBDRE, NHI (JEJ) COCCIO	www.xenco.com Page of	1
Project Manager: Josh Adams	Bill to: (if different)	Kalei Jennings	Work Order Comments	
	Company Name:	Ensolum, LLC	Program: UST/PST	
	Address:	3122 Nat'l Parks Highway	State of Project: NM	
e ZIP:	City, State ZIP:	Carlsbad, NM 88220	Reporting: Level III Level III PST/UST TRRP Level IV	
	Email: jadams@ensolu	jadams@ensolum.com, kjennings@ensolum.com	Deliverables: EDD	
Project Name: Gold Coast Federal 1H	Turn Around	ANALYSIS RE	REQUEST Preservative Codes	
er: 03D2024127		Pres. Code	None: NO DI Water: H <sub>2</sub> O	
Project Location: 32.181380, -103.638525	Due Date:		<u>o</u>	
Julianna Falcomata	TAT starts the day received by			
PO#	the lab, if received by 4:30pm	ers	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na	
SAMPLE RECEIPT Temp Blank: Lifes No	Wet ice: Yes No	mete	H <sub>3</sub> PO <sub>4</sub> : HP	
Samples Received Intact: Yes No Thermometer ID:	DEW W.	Para	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ; NaSO <sub>3</sub>	3
NO N/A	Reading:	890-3693 Chain	of Custody Zn Acetate+NaOH: Zn	of 2
	perature: 3.3	RIDES	NaOH+Ascorbic Acid: SAPC	21
Sample Identification Matrix Sampled	th Grab/	Cont BTEX TPH CHLOF	Sample Comments	Page
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5502 5 12-70-72	D 12° 554			
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				0 A)
				07:3
				11:
Total 200.7 / 6010 200.8 / 6020: 8	8RCRA 13PPM Texas 11	o.	Vi K Se Ag SiO <sub>2</sub> Na Sr Tl Sn	023
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 / /4/0 / /4/1	5/2
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontral 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 los	utes a valid purchase order from cl	ent company to Eurofins Xenco, its affiliates and subcontracto for any losses or expenses incurred by the client if such losses	ctors. It assigns standard terms and conditions uses are due to circumstances beyond the control	5/1.
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 an array are the seminated for the control 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 already service and a charge of \$30 for each project and a charge of \$30 fo	oject and a charge of \$5 for each sa	mple submitted to Eurolins Xenco, but not alialyzed	BELLIA MILL DE CLICACA MILAGO PLATICACA) 1.08	]][

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-3693-1

SDG Number: 32.181380,-103.638525

**List Source: Eurofins Carlsbad** 

Login Number: 3693 List Number: 1 Creator: Clifton, Cloe

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: 890-3693-1 SDG Number: 32.181380,-103.638525

List Source: Eurofins Midland

List Number: 2 Creator: Rodriguez, Leticia

Login Number: 3693

List Source: Eurofins Midland List Creation: 12/22/22 12:50 PM

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	

Euronnis Carisbau

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**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

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

Generated 2/13/2023 6:44:11 PM

# **JOB DESCRIPTION**

Gold Coast 26 Fed 1H SDG NUMBER 03D20240732

# **JOB NUMBER**

890-4017-1

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 2/13/2023 6:44:11 PM

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

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

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Laboratory Job ID: 890-4017-1

SDG: 03D20240732

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#### **Definitions/Glossary**

Job ID: 890-4017-1 Client: Ensolum Project/Site: Gold Coast 26 Fed 1H

SDG: 03D20240732

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

LCS and/or LCSD is outside acceptance limits, low biased.

F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

U Indicates the analyte was analyzed for but not detected.

**Glossary** 

%R

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

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

Percent Recovery

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

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

Decision Level Concentration (Radiochemistry) DLC

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

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

Minimum Detectable Concentration (Radiochemistry) MDC

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

NC Not Calculated

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

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit** 

Presumptive **PRES** QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry)

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

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

**TNTC** Too Numerous To Count

#### Case Narrative

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Job ID: 890-4017-1 SDG: 03D20240732

Job ID: 890-4017-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-4017-1

#### Receipt

The samples were received on 2/3/2023 8:32 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 3.4°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-4017-1) and FS01 (890-4017-2).

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-45763 and analytical batch 880-45729 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-45800 and analytical batch 880-46050 was outside the control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: FS01 (890-4017-2), (890-4017-A-2-C MS) and (890-4017-A-2-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-45800 and analytical batch 880-46050 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-4017-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-4017-1
Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

Client Sample ID: SW01

Date Collected: 02/02/23 12:35 Date Received: 02/03/23 08:32

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/09/23 10:23	02/10/23 22:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			02/09/23 10:23	02/10/23 22:08	1
1,4-Difluorobenzene (Surr)	109		70 - 130			02/09/23 10:23	02/10/23 22:08	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/23 18:42	1
		· (DDO)	(00)					

Welliou. 30040 0013 NW - Diesel N	ange Organics (	DRO) (GC)					
Analyte	Result Qua	lifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg			02/09/23 09:45	1
_							

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/09/23 05:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/09/23 05:17	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/09/23 05:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	 02/08/23 10:22	02/09/23 05:17	1
o-Terphenyl	84		70 - 130	02/08/23 10:22	02/09/23 05:17	1

Method: EPA 300.0 - Anions, Ion Cl	nromatograp	ny - Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95	mg/Kg			02/07/23 16:49	1

Client Sample ID: FS01

Date Collected: 02/02/23 13:20

Lab Sample ID: 890-4017-2

Matrix: Solid

Date Received: 02/03/23 08:32

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/10/23 15:23	02/11/23 22:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130			02/10/23 15:23	02/11/23 22:58	

**Eurofins Carlsbad** 

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Matrix: Solid

Lab Sample ID: 890-4017-2

02/07/23 16:54

# **Client Sample Results**

Client: Ensolum Job ID: 890-4017-1
Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

**Client Sample ID: FS01** 

Date Collected: 02/02/23 13:20 Date Received: 02/03/23 08:32

Sample Depth: 4

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	85		70 - 130			02/10/23 15:23	02/11/23 22:58	
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/13/23 19:01	
Method: SW846 8015 NM - Dies	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/13/23 14:26	
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Method: SW846 8015B NM - Die	esel Range Orga	nics (DRO)	(GC)					
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		02/08/23 13:01	02/11/23 11:45	,
(GRO)-C6-C10 Diesel Range Organics (Over	<50.0	11*	50.0	mg/Kg		02/08/23 13:01	02/11/23 11:45	,
C10-C28)	٧٥٥.٥	0 -	30.0	mg/itg		02/00/23 13:01	02/11/25 11.45	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/08/23 13:01	02/11/23 11:45	
	0/ 5	Qualifier	Limits			Prepared	Analyzed	Dil Fa
Surrogate	%Recovery					00/00/00 10 01	00/44/02 44:45	
Surrogate 1-Chlorooctane		S1-	70 - 130			02/08/23 13:01	02/11/23 11:45	

5.05

mg/Kg

691

# **Surrogate Summary**

Job ID: 890-4017-1 Client: Ensolum Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-24301-A-1-E MS	Matrix Spike	118	109	
880-24301-A-1-F MSD	Matrix Spike Duplicate	118	105	
390-4017-1	SW01	119	109	
890-4017-2	FS01	98	85	
390-4068-A-1-D MS	Matrix Spike	107	97	
390-4068-A-1-E MSD	Matrix Spike Duplicate	122	103	
_CS 880-45890/1-A	Lab Control Sample	106	104	
_CS 880-46022/1-A	Lab Control Sample	123	106	
CSD 880-45890/2-A	Lab Control Sample Dup	107	106	
CSD 880-46022/2-A	Lab Control Sample Dup	110	100	
MB 880-45890/5-A	Method Blank	106	105	
MB 880-46022/5-A	Method Blank	79	92	
Surrogate Legend				

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-24450-A-14-D MS	Matrix Spike	100	88	
880-24450-A-14-E MSD	Matrix Spike Duplicate	113	102	
390-4017-1	SW01	85	84	
890-4017-2	FS01	60 S1-	63 S1-	
890-4017-2 MS	FS01	58 S1-	54 S1-	
890-4017-2 MSD	FS01	54 S1-	47 S1-	
LCS 880-45763/2-A	Lab Control Sample	120	113	
LCS 880-45800/2-A	Lab Control Sample	78	79	
LCSD 880-45763/3-A	Lab Control Sample Dup	121	110	
LCSD 880-45800/3-A	Lab Control Sample Dup	93	96	
MB 880-45763/1-A	Method Blank	136 S1+	139 S1+	
MB 880-45800/1-A	Method Blank	67 S1-	72	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-4017-1 Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45890/5-A

Lab Sample ID: LCS 880-45890/1-A

**Matrix: Solid** 

Analysis Batch: 45955

**Matrix: Solid** Analysis Batch: 45955 Client Sample ID: Method Blank

I/NA

5890

	Prep Type: Total
	Prep Batch: 4
MP MP	

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/09/23 10:23	02/10/23 13:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/09/23 10:23	02/10/23 13:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/09/23 10:23	02/10/23 13:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/09/23 10:23	02/10/23 13:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/09/23 10:23	02/10/23 13:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/09/23 10:23	02/10/23 13:42	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	02	2/09/23 10:23	02/10/23 13:42	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02	2/09/23 10:23	02/10/23 13:42	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 45890

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.09992 mg/Kg 100 70 - 130 Toluene 0.100 0.1029 mg/Kg 103 70 - 130 0.100 103 Ethylbenzene 0.1033 mg/Kg 70 - 130 0.200 0.2205 110 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.1045 104 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1,4-Difluorobenzene (Surr)	104	70 - 130

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

**Matrix: Solid** Analysis Batch: 45955

Lab Sample ID: LCSD 880-45890/2-A

Prep Type: Total/NA Prep Batch: 45890

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09865		mg/Kg		99	70 - 130	1	35
Toluene	0.100	0.1003		mg/Kg		100	70 - 130	3	35
Ethylbenzene	0.100	0.1014		mg/Kg		101	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2169		mg/Kg		108	70 - 130	2	35
o-Xylene	0.100	0.1035		mg/Kg		104	70 - 130	1	35

LCSD LCSD

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

Lab Sample ID: 880-24301-A-1-E MS

**Matrix: Solid** 

Analysis Batch: 45955

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

Prep Batch: 45890

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.0998	0.1069		mg/Kg		107	70 - 130	
Toluene	<0.00199	U	0.0998	0.1075		mg/Kg		108	70 - 130	

Client: Ensolum Job ID: 890-4017-1 Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

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

Lab Sample ID: 880-24301-A-1-E MS

Lab Sample ID: 880-24301-A-1-F MSD

**Matrix: Solid** 

**Matrix: Solid** 

Analysis Batch: 45955

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45890

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ethylbenzene <0.00199 U 0.0998 0.1083 108 70 - 130 mg/Kg m-Xylene & p-Xylene <0.00398 U 0.200 0.2317 mg/Kg 116 70 - 130 <0.00199 U 0.0998 o-Xylene 0.1102 mg/Kg 70 - 130 110

MS MS

Surrogate	%Recovery Qu	ıalifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45890

RPD

Analysis Batch: 45955 Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits 0.100 Benzene <0.00199 U 0.09775 mg/Kg 97 70 - 130 9 35 Toluene <0.00199 0.09791 0.100 mg/Kg 98 70 - 130 35 Ethylbenzene <0.00199 U 0.100 0.09845 mg/Kg 98 70 - 130 10 35 0.201 0.2108 105 70 - 130 35 m-Xylene & p-Xylene <0.00398 U mg/Kg 9 <0.00199 U 0.100 0.1005 70 - 130 o-Xylene mg/Kg 100

MSD MSD

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

Lab Sample ID: MB 880-46022/5-A

**Matrix: Solid** 

Analysis Batch: 46060

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46022

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:23	02/11/23 15:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:23	02/11/23 15:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:23	02/11/23 15:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/23 15:23	02/11/23 15:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:23	02/11/23 15:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/23 15:23	02/11/23 15:47	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	02/10/23 15:23	02/11/23 15:47	1
1,4-Difluorobenzene (Surr)	92		70 - 130	02/10/23 15:23	02/11/23 15:47	1

Lab Sample ID: LCS 880-46022/1-A

**Matrix: Solid** 

Analysis Batch: 46060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46022

	Spike	LCS	LCS			%Rec	
Analyte	Added	Result	Qualifier L	Jnit D	%Rec	Limits	
Benzene	0.100	0.09910	n	mg/Kg	99	70 - 130	
Toluene	0.100	0.09313	n	mg/Kg	93	70 - 130	
Ethylbenzene	0.100	0.1011	n	mg/Kg	101	70 - 130	
m-Xylene & p-Xylene	0.200	0.2210	ņ	mg/Kg	110	70 - 130	

Client: Ensolum Job ID: 890-4017-1 SDG: 03D20240732 Project/Site: Gold Coast 26 Fed 1H

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

Lab Sample ID: LCS 880-46022/1-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA Analysis Batch: 46060 Prep Batch: 46022

	<b>Spike</b>	LCS LC	CS			%Rec	
Analyte	Added	Result Q	ualifier Unit	D	%Rec	Limits	
o-Xylene	0.100	0.1107	mg/Kg		111	70 - 130	 

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-46022/2-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 46060 Prep Batch: 46022

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1111		mg/Kg		111	70 - 130	11	35
Toluene	0.100	0.1077		mg/Kg		108	70 - 130	14	35
Ethylbenzene	0.100	0.1076		mg/Kg		108	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2306		mg/Kg		115	70 - 130	4	35
o-Xylene	0.100	0.1143		mg/Kg		114	70 - 130	3	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-4068-A-1-D MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 46060 Prep Batch: 46022 MS MS Sample Sample Spike %Rec

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00202	U F2 F1	0.101	0.1077		mg/Kg		107	70 - 130
Toluene	<0.00202	U F2 F1	0.101	0.1040		mg/Kg		103	70 - 130
Ethylbenzene	<0.00202	U F2 F1	0.101	0.1030		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.202	0.2182		mg/Kg		108	70 - 130
o-Xylene	<0.00202	U F2 F1	0.101	0.1077		mg/Kg		107	70 - 130
	***	440							

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-4068-A-1-E MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 46060									Prep Batch: 46022					
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit			
Benzene	<0.00202	U F2 F1	0.0996	0.1041		mg/Kg		105	70 - 130	3	35			
Toluene	<0.00202	U F2 F1	0.0996	0.1037		mg/Kg		104	70 - 130	0	35			
Ethylbenzene	<0.00202	U F2 F1	0.0996	0.1126		mg/Kg		113	70 - 130	9	35			
m-Xylene & p-Xylene	<0.00403	U F2 F1	0.199	0.2436		mg/Kg		122	70 - 130	11	35			
o-Xylene	<0.00202	U F2 F1	0.0996	0.1207		mg/Kg		121	70 - 130	11	35			

Project/Site: Gold Coast 26 Fed 1H

Client: Ensolum

Job ID: 890-4017-1 SDG: 03D20240732

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

Lab Sample ID: 890-4068-A-1-E MSD **Matrix: Solid** 

Analysis Batch: 46060

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

Prep Batch: 46022

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-45763/1-A

**Matrix: Solid** 

**Analysis Batch: 45729** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45763

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/08/23 21:23	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/08/23 21:23	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/08/23 10:22	02/08/23 21:23	1

MB MB

	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	1-Chlorooctane	136	S1+	70 - 130	02/08/23 10:22	02/08/23 21:23	1
Į	o-Terphenyl	139	S1+	70 - 130	02/08/23 10:22	02/08/23 21:23	1

Lab Sample ID: LCS 880-45763/2-A

**Matrix: Solid** 

**Analysis Batch: 45729** 

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

Prep Batch: 45763

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	852.5		mg/Kg		85	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	939.4		mg/Kg		94	70 - 130	
C10-C28)								

LCS LCS

Surrogate	%Recovery Qualifier	Limits
1-Chlorooctane	120	70 - 130
o-Terphenyl	113	70 - 130

Lab Sample ID: LCSD 880-45763/3-A

**Matrix: Solid** Analysis Batch: 45729 **Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 45763

-	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	859.7		mg/Kg		86	70 - 130	1	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	922.4		mg/Kg		92	70 - 130	2	20
C10-C28)									

LCSD LCSD

Surrogate	%Recovery Q	ualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	110		70 - 130

Client: Ensolum Job ID: 890-4017-1 Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

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

Lab Sample ID: 880-24450-A-14-D MS

Analysis Batch: 45729

**Matrix: Solid** 

Client Sample ID: Matrix Spike

Prep Type: Total/NA Prep Batch: 45763

Sample Sample Spike MS MS Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Gasoline Range Organics <49.9 U F1 F2 999 684.7 F1 mg/Kg 67 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 999 693.6 F1 67 70 - 130 mg/Kg

C10-C28)

MS MS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	88		70 - 130

Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Lab Sample ID: 880-24450-A-14-E MSD

**Analysis Batch: 45729** 

Prep Type: Total/NA Prep Batch: 45763

Spike MSD MSD %Rec RPD Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits **RPD** Limit <49.9 U F1 F2 999 Gasoline Range Organics 1045 F2 mg/Kg 103 70 - 130 42 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 999 806.9 mg/Kg 78 70 - 130 15 20 C10-C28)

MSD MSD

Surrogate	%Recovery Q	ualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: MB 880-45800/1-A

**Matrix: Solid** 

Analysis Batch: 46050

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 45800

mg/Kg

Result Qualifier Analyte RL Unit Prepared Analyzed Dil Fac <49.9 U 49.9 02/08/23 13:01 02/11/23 09:08 Gasoline Range Organics mg/Kg (GRO)-C6-C10 02/08/23 13:01 02/11/23 09:08 Diesel Range Organics (Over <49.9 U 49 9 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <49.9 U 49.9 mg/Kg 02/08/23 13:01 02/11/23 09:08

MB MB

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130	02/08/23 13:01	02/11/23 09:08	1
o-Terphenyl	72		70 - 130	02/08/23 13:01	02/11/23 09:08	1

Lab Sample ID: LCS 880-45800/2-A **Client Sample ID: Lab Control Sample** 

Diesel Range Organics (Over

Matrix: Solid							Prep Type: Total/NA
Analysis Batch: 46050							Prep Batch: 45800
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	998	881.9		mg/Kg		88	70 - 130

670.6 \*-

C10-C28)

(GRO)-C6-C10

**Eurofins Carlsbad** 

70 - 130

Job ID: 890-4017-1 Client: Ensolum Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

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

Lab Sample ID: LCS 880-45800/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 46050 Prep Batch: 45800

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 78 70 - 130 o-Terphenyl 79 70 - 130

Lab Sample ID: LCSD 880-45800/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 46050 Prep Batch: 45800

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 840.2 84 70 - 1305 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 817.7 82 mg/Kg 70 - 13020 20

LCSD LCSD Surrogate %Recovery Qualifier Limits 93 70 - 130 1-Chlorooctane 96 70 - 130 o-Terphenyl

Lab Sample ID: 890-4017-2 MS **Client Sample ID: FS01 Matrix: Solid** 

Prep Type: Total/NA **Analysis Batch: 46050** Prep Batch: 45800

Sample Sample MS MS Spike Analyte Added Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 999 969.9 mg/Kg 94 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U \*-999 948.8 mg/Kg 92 70 - 130

C10-C28)

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits S1-70 - 130 1-Chlorooctane 58 o-Terphenyl 54 S1-70 - 130

Lab Sample ID: 890-4017-2 MSD **Client Sample ID: FS01** 

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 46050 Prep Batch: 45800

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <50.0 U 998 808.5 78 Gasoline Range Organics mg/Kg 70 - 130 18 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U \*-998 816.6 mg/Kg 79 70 - 130 15 20 C10-C28)

MSD MSD %Recovery Qualifier Surrogate Limits 1-Chlorooctane 54 S1-70 - 130 47 S1-70 - 130 o-Terphenyl

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

#### **QC Sample Results**

Client: Ensolum Job ID: 890-4017-1
Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45663/1-A

Matrix: Solid

Analysis Batch: 45708

MB MB

 Analyte
 Result Chloride
 Qualifier
 RL Unit
 Unit
 D mg/Kg
 Prepared
 Analyzed Analyzed
 Dil Fac Dil F

Lab Sample ID: LCS 880-45663/2-A

Matrix: Solid

**Analysis Batch: 45708** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 258.1 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-45663/3-A

Matrix: Solid

**Analysis Batch: 45708** 

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 255.5 mg/Kg 102 90 - 110

Lab Sample ID: 890-4013-A-11-B MS

**Matrix: Solid** 

Analysis Batch: 45708

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Qualifier %Rec Result Unit Limits Chloride 64.8 249 311.1 90 - 110 mg/Kg

Lab Sample ID: 890-4013-A-11-C MSD

Matrix: Solid

Analysis Batch: 45708

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 249 64.8 309.4 mg/Kg 98 90 - 110 20

# **QC Association Summary**

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Job ID: 890-4017-1 SDG: 03D20240732

#### **GC VOA**

#### Prep Batch: 45890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	5035	
MB 880-45890/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45890/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45890/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24301-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-24301-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 45955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	8021B	45890
MB 880-45890/5-A	Method Blank	Total/NA	Solid	8021B	45890
LCS 880-45890/1-A	Lab Control Sample	Total/NA	Solid	8021B	45890
LCSD 880-45890/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45890
880-24301-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	45890
880-24301-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45890

#### Prep Batch: 46022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-2	FS01	Total/NA	Solid	5035	
MB 880-46022/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46022/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46022/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4068-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4068-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 46060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-2	FS01	Total/NA	Solid	8021B	46022
MB 880-46022/5-A	Method Blank	Total/NA	Solid	8021B	46022
LCS 880-46022/1-A	Lab Control Sample	Total/NA	Solid	8021B	46022
LCSD 880-46022/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46022
890-4068-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	46022
890-4068-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46022

#### Analysis Batch: 46223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	Total BTEX	
890-4017-2	FS01	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Analysis Batch: 45729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	8015B NM	45763
MB 880-45763/1-A	Method Blank	Total/NA	Solid	8015B NM	45763
LCS 880-45763/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45763
LCSD 880-45763/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45763
880-24450-A-14-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45763
880-24450-A-14-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45763

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# **QC Association Summary**

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Job ID: 890-4017-1

SDG: 03D20240732

#### **GC Semi VOA**

#### Prep Batch: 45763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	8015NM Prep	
MB 880-45763/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45763/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45763/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24450-A-14-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24450-A-14-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Prep Batch: 45800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-2	FS01	Total/NA	Solid	8015NM Prep	
MB 880-45800/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45800/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45800/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4017-2 MS	FS01	Total/NA	Solid	8015NM Prep	
890-4017-2 MSD	FS01	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 45866**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Total/NA	Solid	8015 NM	
890-4017-2	FS01	Total/NA	Solid	8015 NM	

#### Analysis Batch: 46050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-2	FS01	Total/NA	Solid	8015B NM	45800
MB 880-45800/1-A	Method Blank	Total/NA	Solid	8015B NM	45800
LCS 880-45800/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45800
LCSD 880-45800/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45800
890-4017-2 MS	FS01	Total/NA	Solid	8015B NM	45800
890-4017-2 MSD	FS01	Total/NA	Solid	8015B NM	45800

#### HPLC/IC

#### Leach Batch: 45663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Soluble	Solid	DI Leach	_
890-4017-2	FS01	Soluble	Solid	DI Leach	
MB 880-45663/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45663/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45663/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4013-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4013-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 45708**

Released to Imaging: 5/15/2023 11:07:30 AM

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4017-1	SW01	Soluble	Solid	300.0	45663
890-4017-2	FS01	Soluble	Solid	300.0	45663
MB 880-45663/1-A	Method Blank	Soluble	Solid	300.0	45663
LCS 880-45663/2-A	Lab Control Sample	Soluble	Solid	300.0	45663
LCSD 880-45663/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45663
890-4013-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	45663
890-4013-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45663

Client: Ensolum Job ID: 890-4017-1 Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

**Client Sample ID: SW01** Lab Sample ID: 890-4017-1

Date Collected: 02/02/23 12:35 Matrix: Solid Date Received: 02/03/23 08:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	45890	02/09/23 10:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45955	02/10/23 22:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46223	02/13/23 18:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			45866	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 05:17	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45663	02/07/23 09:26	KS	EET MID
Soluble	Analysis	300.0		1			45708	02/07/23 16:49	CH	EET MID

**Client Sample ID: FS01** Lab Sample ID: 890-4017-2

Date Collected: 02/02/23 13:20 Matrix: Solid

Date Received: 02/03/23 08:32

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	46022	02/10/23 15:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46060	02/11/23 22:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46223	02/13/23 19:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			45866	02/13/23 14:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	45800	02/08/23 13:01	AJ	EET MIC
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46050	02/11/23 11:45	SM	EET MIC
Soluble	Leach	DI Leach			4.95 g	50 mL	45663	02/07/23 09:26	KS	EET MID
Soluble	Analysis	300.0		1			45708	02/07/23 16:54	CH	EET MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-4017-1 Project/Site: Gold Coast 26 Fed 1H SDG: 03D20240732

**Laboratory: Eurofins Midland** 

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report, bu	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for w
the agency does not of	fer certification.	,,	ou by the generaling duriently.	ay molado analytoo for w
the agency does not of Analysis Method	fer certification.  Prep Method	Matrix	Analyte	ay molade analytee for the
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# **Method Summary**

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Job ID: 890-4017-1

SDG: 03D20240732

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

Released to Imaging: 5/15/2023 11:07:30 AM

# **Sample Summary**

Client: Ensolum

Project/Site: Gold Coast 26 Fed 1H

Job ID: 890-4017-1

SDG: 03D20240732

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4017-1	SW01	Solid	02/02/23 12:35	02/03/23 08:32	0 - 4
890-4017-2	FS01	Solid	02/02/23 13:20	02/03/23 08:32	4

13 14



# **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

Revised Date 08/25/2020 Rev. 2020 2		G				5
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a contract of (biginamic)	Namidusien by (biguame)	Later Time	inte)	Received by Agnature	y: (Signature)	Relinquished by: (Signature)
eceived hv: (Signature) Date/Time	Balinguished by: (Signature)   Be	Pata/Timo		, in .		
ces beyond the control ess previously negotiated.	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 control 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 service. 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.	company to Eurofins Xen any losses or expenses in e submitted to Eurofins X	ourchase order from client ume any responsibility for harge of \$5 for each sampl	of samples constitutes a valid   t of samples and shall not ass applied to each project and a c	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurolins Xenco, its affiliates and subcon 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 of service. 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. The	Notice: Signature of this of service. Eurofins Xenco. A mi
Learner and conditions	CO CT CO CU PB WITH WID NI SE AG II O	Sb As Ba Be Co	TCLP / SPLP 6010: BRCRA	red TCLP / S	Circle Method(s) and Metal(s) to be analyzed	Circle Method(s) a
Se Ag SIU <sub>2</sub> Na Sr II Sn U	a Cr Co-Cu Fe Pb Mg Mn M	Sb As Ba Be B	13PPM Texas 11 Al	8RCRA 13F	010 200.8 / 6020:	Total 200.7 / 6010
P P P P						
				-		
114 12/12 10 NOT 10			2	02/02/23 13:20	S	750
			0-4, ()	02/02/23 17:55	(S	10015
Sample Comments		CHLO TPH (I	Depth Grab/ # of Comp Cont	Date Time Sampled Sampled	ntification Matrix	Sample Identification
NaOn+Ascoldic Acid. GAFC		3015	2	Corrected Temperature:		Total Containers:
	890-4017 Chain of Custody	)	9	Temperature Reading:	Yes No N/A	Sample Custody Seals:
		PA	<u> </u>	Correction Factor:	Yes No MA	Cooler Custody Seals:
NaHWC4: NABIV		: 300	arai	Thermometer ID:	Yes) No	Samples Received Intact:
H <sub>3</sub> PO <sub>4</sub> : HP		0.0)	No	(Ye) No Wet Ice:	Temp Blank:	SAMPLE RECEIPT
H <sub>2</sub> SU <sub>4</sub> : H <sub>2</sub> NaOH: Na			the lab, if received by 4:30pm	the lab, if rec		PO#:
			TAT starts the day received by		Julianna Falcomata	Sampler's Name:
<u>u</u>				38502 Due Date:	32.181321, -103.638502	Project Location:
None: NO DI Water: H <sub>2</sub> O			Rush Code	2	03D20240732	Project Number:
Preservative Codes	ANALYSIS REQUEST		Turn Around		Gold Coast 26 Fed 1H	Project Name:
DD ADAPI Omer:	solum.com Deliverables: EDD	n.com, jadams@ens	Email: kiennings@ensolum.com, jadams@ensolum.com	Email:	303-517-8438	Phone:
☐Level III ☐ PST/UST ☐	Reporting: Level	Midland, TX 79701	City, State ZIP:		Midland, TX 79701	City, State ZIP:
		601 N Marienfeld St Suite 400	Address:		601 N Marienfeld St Suite 400	Address:
PST  PRP  Brownfields  RRC  Superfund	Program: UST/PST [	Ensolum, LLC	Company Name:		Ensolum, LLC	Company Name:
Work Order Comments		Kalei Jennings	Bill to: (if different)		Josh Adams	Project Manager:

www.xenco.com

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## **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-4017-1

 SDG Number: 03D20240732

List Source: Eurofins Carlsbad

Login Number: 4017 List Number: 1 Creator: Clifton, Cloe

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: 890-4017-1

SDG Number: 03D20240732

Login Number: 4017 **List Source: Eurofins Midland** List Number: 2 List Creation: 02/06/23 08:40 AM

Creator: Rodriguez, Leticia

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

**Eurofins Carlsbad** 

<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 3/8/2023 10:58:49 AM Revision 1

# **JOB DESCRIPTION**

Gold Coast SDG NUMBER 03D2024127

# **JOB NUMBER**

890-4135-1

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

3/8/2023 10:58:49 AM Revision 1

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

Generated

Client: Ensolum

Project/Site: Gold Coast

Laboratory Job ID: 890-4135-1 SDG: 03D2024127

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# **Definitions/Glossary**

Client: Ensolum Job ID: 890-4135-1 Project/Site: Gold Coast

SDG: 03D2024127

#### **Qualifiers**

**GC VOA** 

Qualifier **Qualifier Description** Surrogate recovery exceeds control limits, low biased. S1-

U Indicates the analyte was analyzed for but not detected.

#### GC Semi VOA

Qualifier **Qualifier Description** 

\*1 LCS/LCSD RPD exceeds control limits.

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

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 Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

Job ID: 890-4135-1

**Laboratory: Eurofins Carlsbad** 

Narrative

**Job Narrative** 890-4135-1

#### **REVISION**

The report being provided is a revision of the original report sent on 2/28/2023. The report (revision 1) is being revised due to Per client email, requesting sample name correction and sampl depths.

Report revision history

#### Receipt

The samples were received on 2/17/2023 1:40 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 0.8°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01A (890-4135-1), SW02 (890-4135-2) and SW03 (890-4135-3).

#### **GC VOA**

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-47310 and analytical batch 880-47287 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

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-47003 and analytical batch 880-46994 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28).

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 3/8/2023 (Rev. 1)

**Matrix: Solid** 

Lab Sample ID: 890-4135-1

02/23/23 09:12 02/23/23 17:12

# **Client Sample Results**

Client: Ensolum Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

Client Sample ID: FS01A

Date Collected: 02/17/23 11:10 Date Received: 02/17/23 13:40

Sample Depth: 4.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/27/23 12:05	02/27/23 14:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130			02/27/23 12:05	02/27/23 14:47	1
1,4-Difluorobenzene (Surr)	102		70 - 130			02/27/23 12:05	02/27/23 14:47	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/28/23 12:13	1
Method: SW846 8015 NM - Die	sel Range	Organics (	DRO) (GC)					

Welliou. 344040 0013 NW - Dies	ei Kaliye v	Range Organics (DRO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/24/23 13:21	1
_								

Method: SW846 8015B NM - D	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Resuit	Qualifier	KL	Unit		Frepareu	Analyzeu	DII Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:12	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			02/23/23 09:12	02/23/23 17:12	1

Method: EPA 300.0 - Anions, I	on Chromat							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.02	U	5.02	mg/Kg			02/22/23 22:40	1

70 - 130

102

Client Sample ID: SW02

Date Collected: 02/17/23 11:15

Date Received: 02/17/23 13:40

Lab Sample ID: 890-4135-2

Matrix: Solid

Sample Depth: 0 - 4.5'

o-Terphenyl

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/27/23 12:05	02/27/23 15:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			02/27/23 12:05	02/27/23 15:13	1

**Eurofins Carlsbad** 

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**Matrix: Solid** 

Lab Sample ID: 890-4135-2

# **Client Sample Results**

Client: Ensolum Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

Client Sample ID: SW02

Date Collected: 02/17/23 11:15 Date Received: 02/17/23 13:40

Sample Depth: 0 - 4.5'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	107	70 - 130	02/27/23 12:05	02/27/23 15:13	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			02/28/23 12:13	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			02/24/23 13:21	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 *1	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:34	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/23/23 09:12	02/23/23 17:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Q	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	O2	2/23/23 09:12	02/23/23 17:34	1
o-Terphenyl	106		70 - 130	0.	2/23/23 09:12	02/23/23 17:34	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			02/22/23 22:58	1

Client Sample ID: SW03

Date Collected: 02/17/23 11:20

Lab Sample ID: 890-4135-3

Matrix: Solid

Date Collected: 02/17/23 11:20 Date Received: 02/17/23 13:40

Sample Depth: 0 - 4.5'

#### 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		02/27/23 12:05		1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:39	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/27/23 12:05	02/27/23 15:39	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/27/23 12:05	02/27/23 15:39	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/27/23 12:05	02/27/23 15:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			02/27/23 12:05	02/27/23 15:39	1
1,4-Difluorobenzene (Surr)	96		70 - 130			02/27/23 12:05	02/27/23 15:39	1

l Method: TΔI	SOP Total BTFX	- Total RTFX	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/28/23 12:13	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			02/24/23 13:21	1

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# **Client Sample Results**

Client: Ensolum Job ID: 890-4135-1 Project/Site: Gold Coast SDG: 03D2024127

**Client Sample ID: SW03** 

Date Collected: 02/17/23 11:20 Date Received: 02/17/23 13:40

Sample Depth: 0 - 4.5'

Lab Sample ID: 890-4135-3 **Matrix: Solid** 

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier Unit Prepared Dil Fac RL Analyzed <49.9 U \*1 49.9 02/23/23 09:12 02/23/23 17:56 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U \*1 49.9 mg/Kg 02/23/23 09:12 02/23/23 17:56 C10-C28) Oll Range Organics (Over C28-C36) <49.9 U 49.9 mg/Kg 02/23/23 09:12 02/23/23 17:56 %Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 1-Chlorooctane 70 - 130 02/23/23 09:12 02/23/23 17:56 89 97 70 - 130 02/23/23 09:12 02/23/23 17:56 o-Terphenyl

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<4.99	U	4.99	mg/Kg			02/22/23 23:04	1		

# **Surrogate Summary**

Client: Ensolum Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

			Percent	Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4135-1	FS01A	94	102	
890-4135-1 MS	FS01A	94	104	
890-4135-1 MSD	FS01A	94	112	
890-4135-2	SW02	108	107	
890-4135-3	SW03	96	96	
LCS 880-47310/1-A	Lab Control Sample	112	116	
LCSD 880-47310/2-A	Lab Control Sample Dup	107	115	
MB 880-47310/5-A	Method Blank	67 S1-	93	

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

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

Matrix: Solid Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
		1CO1	OTPH1					
Lab Sample ID	Client Sample ID	(70-130)	(70-130)					
890-4123-A-1-F MS	Matrix Spike	107	102					
890-4123-A-1-G MSD	Matrix Spike Duplicate	95	89					
890-4135-1	FS01A	88	102					
890-4135-2	SW02	91	106					
890-4135-3	SW03	89	97					
LCS 880-47003/2-A	Lab Control Sample	107	116					
LCSD 880-47003/3-A	Lab Control Sample Dup	75	85					
MB 880-47003/1-A	Method Blank	110	131 S1+					

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 890-4135-1 Client: Ensolum Project/Site: Gold Coast SDG: 03D2024127

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47310/5-A

**Matrix: Solid** 

**Analysis Batch: 47287** 

Prep Type: Total/NA

Prep Batch: 47310

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/27/23 12:05	02/27/23 14:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/27/23 12:05	02/27/23 14:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/27/23 12:05	02/27/23 14:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/27/23 12:05	02/27/23 14:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/27/23 12:05	02/27/23 14:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/27/23 12:05	02/27/23 14:21	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	67	S1-	70 - 130	02/27/23 12:05	02/27/23 14:21	1
1,4-Difluorobenzene (Surr)	93		70 - 130	02/27/23 12:05	02/27/23 14:21	1

Lab Sample ID: LCS 880-47310/1-A

**Matrix: Solid** 

**Analysis Batch: 47287** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 47310

١		Spike	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Benzene	0.100	0.1116		mg/Kg		112	70 - 130	
	Toluene	0.100	0.1199		mg/Kg		120	70 - 130	
	Ethylbenzene	0.100	0.1156		mg/Kg		116	70 - 130	
İ	m-Xylene & p-Xylene	0.200	0.2342		mg/Kg		117	70 - 130	
	o-Xylene	0.100	0.1224		mg/Kg		122	70 - 130	
1									

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	116		70 - 130

Lab Sample ID: LCSD 880-47310/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Analysis Batch: 47287** 

Prep Type: Total/NA Prep Batch: 47310

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1297		mg/Kg		130	70 - 130	15	35
Toluene	0.100	0.1198		mg/Kg		120	70 - 130	0	35
Ethylbenzene	0.100	0.1198		mg/Kg		120	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2430		mg/Kg		122	70 - 130	4	35
o-Xylene	0.100	0.1212		mg/Kg		121	70 - 130	1	35

LCSD LCSD

Sample Sample

<0.00198 U

<0.00198 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: 890-4135-1 MS

**Matrix: Solid** 

Analyte

Benzene

Toluene

**Analysis Batch: 47287** 

Client Sample ID: FS01A Prep Type: Total/NA Prep Batch: 47310

%Rec Result Qualifier Unit %Rec Limits mg/Kg 84 70 - 130 mg/Kg 79 70 - 130

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Spike

Added

0.0998

0.0998

MS MS

0.08363

0.07891

Job ID: 890-4135-1 Client: Ensolum Project/Site: Gold Coast SDG: 03D2024127

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

Lab Sample ID: 890-4135-1 MS Client Sample ID: FS01A **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 47287** Prep Batch: 47310

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00198	U	0.0998	0.07883		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	< 0.00396	U	0.200	0.1596		mg/Kg		80	70 - 130	
o-Xylene	<0.00198	U	0.0998	0.08053		mg/Kg		81	70 - 130	
	Ethylbenzene m-Xylene & p-Xylene	Analyte Result Ethylbenzene <0.00198 m-Xylene & p-Xylene <0.00396	Analyte         Result         Qualifier           Ethylbenzene         <0.00198	Analyte         Result         Qualifier         Added           Ethylbenzene         <0.00198	Analyte         Result 200198         Qualifier Union	Analyte         Result         Qualifier         Added         Result         Qualifier           Ethylbenzene         <0.00198	Analyte         Result         Qualifier         Added         Result         Qualifier         Unit           Ethylbenzene         <0.00198	Analyte         Result         Qualifier         Added         Result         Qualifier         D           Ethylbenzene         <0.00198	Analyte         Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec           Ethylbenzene         <0.00198	Analyte         Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec         Limits           Ethylbenzene         <0.00198

		MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-4135-1 MSD **Client Sample ID: FS01A Matrix: Solid** Prep Type: Total/NA Prep Batch: 47310 **Analysis Batch: 47287** 

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U	0.100	0.09210		mg/Kg		92	70 - 130	10	35
Toluene	<0.00198	U	0.100	0.08926		mg/Kg		89	70 - 130	12	35
Ethylbenzene	<0.00198	U	0.100	0.08939		mg/Kg		89	70 - 130	13	35
m-Xylene & p-Xylene	<0.00396	U	0.201	0.1793		mg/Kg		89	70 - 130	12	35
o-Xylene	<0.00198	U	0.100	0.09125		mg/Kg		91	70 - 130	12	35

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

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

Lab Sample ID: MB 880-47003/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA Analysis Batch: 46994 Prep Batch: 47003 MR MR

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/23/23 09:12	02/23/23 08:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/23/23 09:12	02/23/23 08:36	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/23/23 09:12	02/23/23 08:36	1

	MB MB	3			
Surrogate	%Recovery Qu	ıalifier Limits	Prepared Prepared	Analyzed	Dil Fac
1-Chlorooctane	110	70 - 13	02/23/23 09:12	02/23/23 08:36	1
o-Terphenyl	131 S1-	+ 70 - 13	30 02/23/23 09:12	02/23/23 08:36	1

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1-Chlorooctane	110	70 - 130	02/23/23 09:12 02/23/23 08:3	36 1
o-Terphenyl	131 S1+	70 - 130	02/23/23 09:12 02/23/23 08:	36 1
– - Lab Sample ID: LCS 880-47003	8/2-A		Client Sample ID: Lab Contro	ol Sample

Analysis Batch: 46994							Prep Type Prep Bat	: 10tal/NA ch: 47003
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	1174		mg/Kg	<u> </u>	117	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1103		mg/Kg		110	70 - 130	

Client: Ensolum Job ID: 890-4135-1 SDG: 03D2024127 Project/Site: Gold Coast

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

Lab Sample ID: LCS 880-47003/2-A

Lab Sample ID: LCSD 880-47003/3-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 46994** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 47003

LCS LCS

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 107 70 - 130 o-Terphenyl 116 70 - 130

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

81

70 - 130

**Client Sample ID: Matrix Spike** 

**Prep Type: Total/NA** 

31

Analysis Batch: 46994

Prep Batch: 47003 LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 908.0 \*1 mg/Kg 91 70 - 130 26 20 (GRO)-C6-C10

806.6 \*1

mg/Kg

1000

Diesel Range Organics (Over C10-C28)

LCSD LCSD %Recovery Qualifier Surrogate Limits 1-Chlorooctane 70 - 130 75 70 - 130 o-Terphenyl 85

Lab Sample ID: 890-4123-A-1-F MS

**Matrix: Solid** 

**Analysis Batch: 46994** 

**Prep Type: Total/NA** 

Prep Batch: 47003

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Limits **Analyte** Unit D %Rec <49.9 U \*1 Gasoline Range Organics 999 1211 mg/Kg 119 70 - 130 (GRO)-C6-C10 999 Diesel Range Organics (Over 76.8 \*1 1121 mg/Kg 105 70 - 130

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 107 o-Terphenyl 102 70 - 130

Lab Sample ID: 890-4123-A-1-G MSD

Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 46994** Prep Batch: 47003

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit **Analyte** Unit %Rec Gasoline Range Organics <49.9 U \*1 998 986.4 97 70 - 130 20 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 76.8 \*1 998 993.4 mg/Kg 92 70 - 130 12 20

C10-C28)

MSD MSD

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 95 70 - 130 o-Terphenyl 89 70 - 130

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# **QC Sample Results**

Client: Ensolum Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46848/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 46984

MB MB

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/22/23 22:21	1

Lab Sample ID: LCS 880-46848/2-A

Client Sample ID: Lab Control Sample

**Prep Type: Soluble** 

Matrix: Solid

Analysis Batch: 46984

	<b>Бріке</b>	LC2	LC2				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	250	232 9		ma/Ka		93	90 - 110

Lab Sample ID: LCSD 880-46848/3-A

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

Prep Type: Soluble

Matrix: Solid

**Analysis Batch: 46984** 

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	232.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 890-4135-1 MS

Client Sample ID: FS01A Prep Type: Soluble

Matrix: Solid

**Analysis Batch: 46984** 

•	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	<5.02	U	251	240.6		mg/Kg		95	90 - 110

Lab Sample ID: 890-4135-1 MSD

Client Sample ID: FS01A Prep Type: Soluble

Matrix: Solid

**Analysis Batch: 46984** 

•	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	<5.02	U	251	240.8		mg/Kg		95	90 - 110	0	20

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# **QC Association Summary**

Job ID: 890-4135-1 Client: Ensolum Project/Site: Gold Coast SDG: 03D2024127

### **GC VOA**

### **Analysis Batch: 47287**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Total/NA	Solid	8021B	47310
890-4135-2	SW02	Total/NA	Solid	8021B	47310
890-4135-3	SW03	Total/NA	Solid	8021B	47310
MB 880-47310/5-A	Method Blank	Total/NA	Solid	8021B	47310
LCS 880-47310/1-A	Lab Control Sample	Total/NA	Solid	8021B	47310
LCSD 880-47310/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47310
890-4135-1 MS	FS01A	Total/NA	Solid	8021B	47310
890-4135-1 MSD	FS01A	Total/NA	Solid	8021B	47310

### Prep Batch: 47310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Total/NA	Solid	5035	<del></del>
890-4135-2	SW02	Total/NA	Solid	5035	
890-4135-3	SW03	Total/NA	Solid	5035	
MB 880-47310/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47310/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47310/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4135-1 MS	FS01A	Total/NA	Solid	5035	
890-4135-1 MSD	FS01A	Total/NA	Solid	5035	

### **Analysis Batch: 47452**

<b>Lab Sample ID</b> 890-4135-1	Client Sample ID FS01A	Prep Type  Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-4135-2	SW02	Total/NA	Solid	Total BTEX	
890-4135-3	SW03	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Analysis Batch: 46994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Total/NA	Solid	8015B NM	47003
890-4135-2	SW02	Total/NA	Solid	8015B NM	47003
890-4135-3	SW03	Total/NA	Solid	8015B NM	47003
MB 880-47003/1-A	Method Blank	Total/NA	Solid	8015B NM	47003
LCS 880-47003/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47003
LCSD 880-47003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47003
890-4123-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	47003
890-4123-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47003

### Prep Batch: 47003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Total/NA	Solid	8015NM Prep	
890-4135-2	SW02	Total/NA	Solid	8015NM Prep	
890-4135-3	SW03	Total/NA	Solid	8015NM Prep	
MB 880-47003/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47003/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4123-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4123-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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# **QC Association Summary**

Client: Ensolum Job ID: 890-4135-1 Project/Site: Gold Coast SDG: 03D2024127

### **GC Semi VOA**

### **Analysis Batch: 47166**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Total/NA	Solid	8015 NM	
890-4135-2	SW02	Total/NA	Solid	8015 NM	
890-4135-3	SW03	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 46848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Soluble	Solid	DI Leach	
890-4135-2	SW02	Soluble	Solid	DI Leach	
890-4135-3	SW03	Soluble	Solid	DI Leach	
MB 880-46848/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4135-1 MS	FS01A	Soluble	Solid	DI Leach	
890-4135-1 MSD	FS01A	Soluble	Solid	DI Leach	

#### **Analysis Batch: 46984**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4135-1	FS01A	Soluble	Solid	300.0	46848
890-4135-2	SW02	Soluble	Solid	300.0	46848
890-4135-3	SW03	Soluble	Solid	300.0	46848
MB 880-46848/1-A	Method Blank	Soluble	Solid	300.0	46848
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	300.0	46848
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46848
890-4135-1 MS	FS01A	Soluble	Solid	300.0	46848
890-4135-1 MSD	FS01A	Soluble	Solid	300.0	46848

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Client Sample ID: FS01A

Client: Ensolum

Project/Site: Gold Coast

Date Collected: 02/17/23 11:10 Date Received: 02/17/23 13:40 Lab Sample ID: 890-4135-1

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	47310	02/27/23 12:05	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47287	02/27/23 14:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47452	02/28/23 12:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			47166	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47003	02/23/23 09:12	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/23/23 17:12	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 22:40	CH	EET MID

**Client Sample ID: SW02** Lab Sample ID: 890-4135-2 Date Collected: 02/17/23 11:15 **Matrix: Solid** 

Date Received: 02/17/23 13:40

Batch Batch Dil Initial Final Batch Prepared Method **Prep Type** Type Run **Factor Amount** Amount Number or Analyzed **Analyst** Lab Total/NA 5035 47310 02/27/23 12:05 MNR **EET MID** Prep 5.03 g 5 mL Total/NA 8021B 5 mL **EET MID** Analysis 5 mL 47287 02/27/23 15:13 MNR 1 Total/NA Analysis Total BTEX 47452 02/28/23 12:13 SM **EET MID** 1 Total/NA 8015 NM **EET MID** Analysis 1 47166 02/24/23 13:21 AJ Total/NA Prep 8015NM Prep 10.02 g 10 mL 47003 02/23/23 09:12 AJ **EET MID** Total/NA 8015B NM 46994 Analysis 1 uL 1 uL 02/23/23 17:34 AJ **EET MID** Soluble 50 mL Leach DI Leach 4.98 g 46848 02/21/23 13:16 KS **EET MID** 300.0 02/22/23 22:58 CH Soluble Analysis 1 46984 **EET MID** 

Client Sample ID: SW03 Lab Sample ID: 890-4135-3 Date Collected: 02/17/23 11:20 **Matrix: Solid** 

Date Received: 02/17/23 13:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	47310	02/27/23 12:05	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47287	02/27/23 15:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47452	02/28/23 12:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			47166	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47003	02/23/23 09:12	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/23/23 17:56	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/22/23 23:04	CH	EET MID

**Laboratory References:** 

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

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# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-4135-1
Project/Site: Gold Coast SDG: 03D2024127

### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date		
Texas	NE	ELAP	T104704400-22-25	06-30-23		
The following analyte:	s are included in this rend	ort but the laboratory is r	not certified by the governing authority.	This list may include analytes for w		
the agency does not	•	ore, but the laboratory is i	lot certified by the governing authority.	This list may include analytes for w		
	•	Matrix	Analyte	This list may include analytes for w		
the agency does not o	offer certification.	•	, , ,	This list may include analytes for w		

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# **Method Summary**

Client: Ensolum

Project/Site: Gold Coast

Job ID: 890-4135-1

SDG: 03D2024127

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

# **Sample Summary**

Client: Ensolum

Project/Site: Gold Coast

Job ID: 890-4135-1

SDG: 03D2024127

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	D
890-4135-1	FS01A	Solid	02/17/23 11:10	02/17/23 13:40	4.5
890-4135-2	SW02	Solid	02/17/23 11:15	02/17/23 13:40	0 - 4
890-4135-3	SW03	Solid	02/17/23 11:20	02/17/23 13:40	0 - 4.5

Ralinguished by: (Signature)

Johnson

2-17-23 Date/Time

1340

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Revised Date: 08/25/2020 Rev. 2020.2

Received by: (Signature)

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

Total 200.7 / 6010

200.8 / 6020:

8RCRA

13PPM Texas 11 Al Sb As Ba

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. Aminimum 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 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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Tl Sn

Hg: 1631 / 245.1 / 7470

17471 \_ <

Zn

eurofins

Xellco Environ

1120	SIII	2-17-23 1110	Date Time Sampled Sampled	Temperature Reading: Corrected Temperature:	Correction Factor:	Thermometer ID:	Tes No Wet Ice:		nata TAT starts t	小なイソ Due Date:	Routine	/ Tur	Email		vay						ment Testing	
6,	10° C	45 0	Depth Comp	0.8	6.0-	TIMED7	(Yes) No	the lab, if received by 4:30pm	TAT starts the day received by		☐ Rush	Turn Around	Email: hgreen@ensolum.com, kjennings@ensolum.com	City, State ZIP:	Address:	Company Name:		Bill to: (if different)	Hobb	EL Pa	Hous Midland	
-	-	1	# of Cont		Pa	aran	nete	rs			Code		um.co						s, NM (S	so, TX	ton, TX	C
	7	1/.	BTEX TPH										m, kjennin	Carlsbad, NM 88220	3122 Nat'l Parks Highway	Ensolum, LLC		Kalei Jennings	575) 392-755	(915) 585-34	(281) 240-42 32) 704-5440	Chain of Custody
	_		CHLOF	RIDES			-			T			gs@er	M 882	Parks H	[	5	ngs	0, Carlsb	43, Lubb	200, Dall San An	† CI
													nsolun	ŏ	ghway				ad, NM	ock, TX	as, TX tonio, T	ISL
				890-4135 Chain of Custody				-				ANALYSIS REQUEST	1.com						Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	ody
				tody				-				UEST	Deliverables: EUU [_	Reporting. Level II Level	Omic of Figure 1	riogram. Control Law Librariana	B-CONTROL   BBE	Wo	www.xe		Work Order No:	
	Charles Charles	1000 - 21101 -	Sample Comments	NaOH+Ascorbic Acid: SAPC	Na <sub>2</sub> S <sub>2</sub> C <sub>3</sub> : Na <sub>2</sub> C <sub>3</sub>	NaHSO4: NABIS	H <sub>3</sub> PO <sub>4</sub> : HP	H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na		_	None: NO DI Water: H <sub>2</sub> O	Preservative Codes	ADAPT Comer		TOBB TO LOVE IV		Brownfields   PRC   Bunerfund	Work Order Comments	www.xenco.com Page of		rder No:	
		Ρ	age 2	20 of 2	22														3/	8/2	2023	(R

SAMPLE RECEIPT

Samples Received Intact:

CYES No Temp Blank:

Yes

No A NO (NIA

Yes

Sample Custody Seals: Cooler Custody Seals:

otal Containers:

Sample Identification

Matrix 0

500

Sampler's Name:

Project Location:

51321

Julianna Falcor

Project Number:

Project Name: Phone: Address:

City, State ZIP

432-557-8895 Carlsbad, NM 88220 3122 Nat'l Parks Highv Ensolum, LLC Hadlie Green

Project Manager:

Company Name:

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-4135-1 SDG Number: 03D2024127

Login Number: 4135 **List Source: Eurofins Carlsbad** 

List Number: 1

Creator: Stutzman, Amanda

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

Released to Imaging: 5/15/2023 11:07:30 AM

### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-4135-1 SDG Number: 03D2024127

Login Number: 4135 **List Source: Eurofins Midland** List Creation: 02/21/23 08:18 AM List Number: 2

Creator: Teel, Brianna

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

**Eurofins Carlsbad** 



APPENDIX D

**NMOCD Notifications** 

From: <u>Kalei Jennings</u>
To: <u>Josh Adams</u>

Subject: FW: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)

**Date:** Thursday, January 19, 2023 10:23:05 AM

Attachments: image005.jpg

image006.png image007.png image008.png image009.png

Please file in appropriate project folders.



#### Kalei Jennings Senior Scientist

817-683-2503 **Ensolum, LLC** 

From: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Sent:** Thursday, January 19, 2023 8:14 AM **To:** Kalei Jennings <a href="mailto:kjennings@ensolum.com">kjennings@ensolum.com</a>

**Cc:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD

<Jennifer.Nobui@emnrd.nm.gov>

**Subject:** RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)

#### [ \*\*EXTERNAL EMAIL\*\*]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JΗ

#### Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



**From:** Kalei Jennings < <u>kiennings@ensolum.com</u>>

Sent: Wednesday, January 18, 2023 9:20 PM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Subject:** [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 23, 2023.

- Redtail State Com 1H/NAPP2233239048
- Wild Cobra/ NAPP2233946889
- Gold Coast/ NAPP2234636400

Thank you,



From: Beauvais, Charles R

To: Hadlie Green; Kalei Jennings

Subject: FW: COG COPC - Extension Request - Gold Coast 26 Federal 001H (Incident Number NAPP2234636400)

**Date:** Monday, February 27, 2023 4:31:30 PM

Attachments: <u>image001.png</u>

#### [ \*\*EXTERNAL EMAIL\*\*]

FYI

From: Beauvais, Charles R

Sent: Monday, February 27, 2023 8:16 AM

**To:** Enviro, OCD, EMNRD < OCD.Enviro@state.nm.us>; EMNRD-OCD-District1spills < EMNRD-OCD-District1spills@state.nm.us>; Hamlet, Robert, EMNRD < Robert.Hamlet@state.nm.us>; CFO\_Spill, BLM\_NM < BLM\_NM\_CFO\_Spill@blm.gov>

**Cc:** Esparza, Brittany <Brittany.Esparza@conocophillips.com>; Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>

**Subject:** COG COPC - Extension Request - Gold Coast 26 Federal 001H (Incident Number NAPP2234636400)

To Whom It May Concern,

#### Gold Coast 26 Federal 001H (Incident Number NAPP2234636400)

COG Operating, LLC (COG) is requesting an extension for the current deadline of March 2, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for Gold Coast 26 Federal 001H (Incident Number NAPP2234636400). The release was discovered on December 2, 2022. Initial site assessment activities and excavation of impacted soil has been completed. Based on the most recent field screening results, COG believes all impacted soil has been removed; however, laboratory analytical results are pending. In order to complete additional remediation activities and submit a remediation work plan or closure report, COG requests a 90-day extension of this deadline until May 31, 2023.

Respectfully,

#### Charles R. Beauvais II

Senior Environmental Engineer | GHG Reporting & Systems | ConocoPhillips
Permian Business Unit | L48 Environmental & SD
(M) 575-988-2043

Charles.R.Beauvais@conocophillips.com

Our work is never so urgent or important that we cannot take the time to do it safely and in an environmentally responsible manner.



From: Enviro, OCD, EMNRD

To: Kalei Jennings

Cc: <u>Bratcher, Michael, EMNRD</u>; <u>Nobui, Jennifer, EMNRD</u>

Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/02/2023)

**Date:** Friday, December 30, 2022 11:43:06 AM

Attachments: image005.jpg

image006.png image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Good Morning Kalei,

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion in the project file.

Thank you, Jocelyn

Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



**From:** Kalei Jennings <kjennings@ensolum.com>

Sent: Friday, December 30, 2022 10:39 AM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Cc: Hadlie Green <a href="mailto:hgreen@ensolum.com">hgreen@ensolum.com</a>; Josh Adams <a href="mailto:jadams@ensolum.com">jadams@ensolum.com</a>>

**Subject:** [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/02/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 2, 2023.

Gold Coast 26 Federal 1 H/ NAPP2234636400

- Wild Cobra 1 State 002H/ NAPP2233946889
- Triste Draw 5 Federal 001H / NAPP2229033410

Thank you,



### Kalei Jennings Senior Scientist

817-683-2503 **Ensolum, LLC**  From: Enviro, OCD, EMNRD

To: Kalei Jennings

Cc: Nobui, Jennifer, EMNRD; Bratcher, Michael, EMNRD

Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/16/2023)

**Date:** Thursday, January 12, 2023 9:32:55 AM

Attachments: <u>image005.jpg</u>

image006.png image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

#### Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Kalei Jennings < kjennings@ensolum.com> Sent: Wednesday, January 11, 2023 5:27 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/16/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 16, 2023.

- Gold Coast 26 Federal 1 H/ NAPP2234636400
- Redtail State Com 1H/ NAPP222233239048

Thank you,



### Kalei Jennings Senior Scientist

817-683-2503 Ensolum, LLC From: Enviro, OCD, EMNRD

To: Kalei Jennings

Cc: Nobui, Jennifer, EMNRD; Bratcher, Michael, EMNRD

Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/30/2023)

**Date:** Monday, January 30, 2023 9:22:17 AM

Attachments: <u>image005.jpg</u>

image006.png image007.png image008.png image009.png

### [ \*\*EXTERNAL EMAIL\*\*]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

#### Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



From: Kalei Jennings <kjennings@ensolum.com>

Sent: Thursday, January 26, 2023 8:11 AM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Cc: Josh Adams < jadams@ensolum.com>

Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/30/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 30, 2023.

- Wild Cobra/ NAPP2233946889
- Gold Coast/ NAPP2234636400
- Zia Hills 19-1/ NAPP2216037138

- Windward Flowline/ NAPP2218850477
- Battle Axe CTB / NAPP2300341479

Thank you,



### **Kalei Jennings** Senior Scientist

817-683-2503 **Ensolum, LLC** 

From: Enviro, OCD, EMNRD

To: Kalei Jennings

Cc: Nobui, Jennifer, EMNRD; Bratcher, Michael, EMNRD

Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 02/13/2023)

Date: Wednesday, February 8, 2023 4:30:13 PM

Attachments: <u>image005.jpg</u>

image006.png image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

#### Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



**From:** Kalei Jennings < kjennings@ensolum.com> **Sent:** Wednesday, February 8, 2023 2:54 PM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Cc: Hadlie Green <hgreen@ensolum.com>

Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 02/13/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of February 13, 2023.

- Gold Coast 26 Fed 1H/ NAPP2234636400
- Wilder CTB/ NAPP2300343271
- White Falcon 16 State 001H/ NAPP2301735698

Thank you,



From: Enviro, OCD, EMNRD

To: Kalei Jennings

Cc: <u>Bratcher, Michael, EMNRD</u>; <u>Nobui, Jennifer, EMNRD</u>

Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 12/19/2022)

Date: Wednesday, December 14, 2022 4:43:42 PM

Attachments: <u>image005.jpg</u>

image006.png image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Good afternoon Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

#### Jocelyn Harimon • Environmental Specialist

Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov

http://www.emnrd.nm.gov



**From:** Kalei Jennings < kjennings@ensolum.com> **Sent:** Wednesday, December 14, 2022 3:21 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 12/19/2022)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of December 19, 2022.

- Gold Coast 26 Federal 1 H/ NAPP2234636400
- Wild Cobra 1 State 002H/ NAPP2233946889
- Zia Hills 19-1/ NAPP2216037138

Thank you,



### Kalei Jennings Senior Scientist 817-683-2503 Ensolum, LLC



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	NAPP2234636400
District RP	
Facility ID	fAPP2203844103
Application ID	

## **Release Notification**

### **Responsible Party**

Responsible Party	COG Operating, LLC	OGRID	229137				
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043				
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # (assigned by OCD)	NAPP2234636400				
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701						
L		·					

Location of Release Source								
Latitude	32.181	3			03.6385			
			(NAD 83 in decimal de	grees to 5 decimal place	25)			
Site Name		Gold Coast	26 Federal 001H	Site Type	Flowline			
Date Release	Discovered	December	2, 2022	API# (if applicable)				
	, ,							
Unit Letter	Section	Township	Range	County				
Α	35	24S	32E	Lea				
Surface Owner: State Federal Tribal Private (Name:)								
	Nature and Volume of Release							

	(s) Released (Select all that apply and attach calculations or specific	
Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls) 2.43	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the	■ Yes □ No
	produced water >10,000 mg/l?	
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

The release was caused by a leak on the water transfer line due to corrosion.

The release was off the pad. A Evaluation will be made at the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

Page 1208 of 215

Incident ID	NAPP2234636400
District RP	
Facility ID	fAPP2203844103
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respo	nsible party consider this a major release?
☐ Yes ■ No		
If YES, was immediate n	otice given to the OCD? By whom? To w	nom? When and by what means (phone, email, etc)?
	Initial R	esponse
The responsible	party must undertake the following actions immediate	ly unless they could create a safety hazard that would result in injury
■ The source of the rele	ease has been stopped.	
■ The impacted area ha	as been secured to protect human health and	the environment.
Released materials ha	ave been contained via the use of berms or	dikes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed an	d managed appropriately.
has begun, please attach	a narrative of actions to date. If remedial	remediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred blease attach all information needed for closure evaluation.
regulations all operators are public health or the environi failed to adequately investig	required to report and/or file certain release not ment. The acceptance of a C-141 report by the Gate and remediate contamination that pose a through	best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name. Brittar	ny N. Esparza	Title: Environmental Technician
Signature:	ny N. Esparza	Date: 12/12/2022
Brittany.Espar	za@ConocoPhillips.com	Date: 12/12/2022 Telephone: (432) 221-0398
Cinaii.		Telephone
OCD Only		
Received by:Jocelyi	n Harimon	Date:12/12/2022

NAPP2234636400 <sub>2/12</sub>	<del>2/2022 11</del>	;05:38 A	<i>M</i> ——		Spill Ca	alculation - Subsurface Spill	- Rectangle
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	On/Off Pad (dropdown)	Soil Spilled-Fluid Saturation (%.)	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	12.0	22.0	2.0	Off-Pad >	15.05%	7.83	1.18
Rectangle B	25.0	12.0	0.3	Off-Pad >	15.05%	1.11	0.17
Rectangle C	22.0	22.0	1.0	Off-Pad >	15.05%	7.18	1.08
Rectangle D				~		0.00	ACONO, C.
Rectangle E	S.F			~		0.00	
Rectangle F	137	0		~		0.00	
Rectangle G				~		0.00	
Rectangle H	92			~		0.00	
Rectangle I	6			~		0.00	
Released to Imaging: 12	2/12/2022	1:50:29	PM	~	C-20 200	0.00	45 1100
8 8				20	Total S	Subsurface Volume Released:	2.43

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 166065

#### CONDITIONS

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	166065
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
jharimor	None	12/12/2022

New Mexico

Incident ID	NAPP2234636400
District RP	
Facility ID	fAPP2203844103
Application ID	

# Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</u> (ft bgs)			
Did this release impact groundwater or surface water?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No			
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No			
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No			
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No			
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No			
Are the lateral extents of the release within 300 feet of a wetland?	⊠ Yes □ No			
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No			
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No			
Are the lateral extents of the release within a 100-year floodplain?				
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	⊠ Yes □ No			
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.				
Characterization Report Checklist: Each of the following items must be included in the report.				
<ul> <li>         \infty Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring well Field data     </li> </ul>	ls.			
Data table of soil contaminant concentration data				
Depth to water determination				
<ul> <li>✓ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> <li>✓ Boring or excavation logs</li> </ul>				
☐ Borning of excavation logs  ☐ Photographs including date and GIS information				
☐ Topographic/Aerial maps				
☐ Laboratory data including chain of custody				

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

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regulations all operators are required to report and/or file certain relea public health or the environment. The acceptance of a C-141 report b failed to adequately investigate and remediate contamination that pose	to the best of my knowledge and understand that pursuant to OCD rules and se notifications and perform corrective actions for releases which may endanger y the OCD does not relieve the operator of liability should their operations have e a threat to groundwater, surface water, human health or the environment. In ator of responsibility for compliance with any other federal, state, or local laws
Printed Name:Jacob Laird	Title: _Environmental Engineer
Signature: <u>Jacob Laird</u>	Date:4/28/2023
email: Jacob.Laird@conocophillips.com	Telephone:575-703-5482
OCD Only	
Received by: Jocelyn Harimon	Date: <u>05/01/2023</u>

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# Closure

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

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.					
A scaled site and sampling diagram as described in 19.1.	A scaled site and sampling diagram as described in 19.15.29.11 NMAC				
Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)					
☐ Laboratory analyses of final sampling (Note: appropriate	e ODC District office must be notified 2 days prior to final sampling)				
Description of remediation activities					
and regulations all operators are required to report and/or file may endanger public health or the environment. The acceptar should their operations have failed to adequately investigate a human health or the environment. In addition, OCD acceptan compliance with any other federal, state, or local laws and/or and the state of th					
Signature: <u>Jacob Laird</u>	Date:4/28/2023				
email:Jacob.Laird@conocophillips.com					
OCD Only					
Received by:	Date:05/01/2023				
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.					
Closure Approved by: <u>Michael Buchanan</u>	Date: _05/15/2023				
Printed Name: Mike Buchanan	Title: _ Environmental Specialist				

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 212296

#### **COMMENTS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	212296
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### COMMENTS

Created By	Comment	Comment Date
michael.buchanan	Closure is approved	5/15/2023

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CONDITIONS

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#### CONDITIONS

Created By		Condition Date
michael.buchanar	None	5/15/2023