



April 26, 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

Windward Federal 004H

**Incident Number NAPP2218850477** 

Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Windward Federal 004H (Site). The purpose of Site assessment, excavation, and soil sampling activities was to address impacted soil resulting from a crude oil and produced water release at the Site. Based on excavation activities and laboratory analytical results from the soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting no further action for Incident Number NAPP2218850477.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 30, Township 24 South, Range 32 East, in Lea County, New Mexico (32.194444°, -103.711667°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 2, 2022, internal corrosion on a flow line resulted in the release of approximately 9.33 barrels (bbls) of crude oil and 14 bbls of produced water into the adjacent pasture. No released fluids were recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a Release Notification Form C-141 (Form C-141) on July 7, 2022. The release was assigned Incident Number NAPP2218850477.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. 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. On September 15, 2022, borehole BH01 (New Mexico Office of the State Engineer (NMOSE) file number C-04665) was advanced to a depth of 120 feet bgs via air rotary drill rig. The borehole was located approximately 0.08 miles northwest of the Site and is

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 601 N. Marienfeld St., Suite 400 | Midland, TX 78209 | ensolum.com COG Operating, LLC Closure Request Windward Federal 004H



depicted on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix A. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period, groundwater was not observed and it was confirmed groundwater beneath the Site is greater than 120 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 1.60 miles east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

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

#### SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On July 11, 2022, Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven preliminary assessment soil samples (SS01 through SS07) were collected within and around the release extent at a depth of approximately 0.5 feet bgs. The preliminary 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 preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shipment and long-term storage, but are considered to have been received in acceptable condition.

Laboratory analytical results for preliminary soil samples SS01 through SS04, collected outside of the release extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for SS05

COG Operating, LLC Closure Request Windward Federal 004H



through SS07, collected within the release extent, indicated BTEX, TPH, and/or chloride concentrations exceeded the Site Closure Criteria and/or reclamation requirement and additional remediation activities were warranted.

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

On February 7, 2023, Ensolum personnel were at the Site to oversee excavation activities. Impacted soil was excavated as indicated by visible staining and laboratory analytical results for the preliminary soil samples SS05 through SS07. Excavation activities were performed using a backhoe and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride.

Following removal of impacted soil, 5-point composite excavation confirmation 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. Confirmation soil samples FS01 through FS07 were collected from the floor of the excavation at depths ranging from 6 feet to 7 feet bgs. Confirmation soil samples SW01 through SW09 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 7 feet bgs. The excavation confirmation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3. Photographic documentation of the excavation is included in Appendix B.

Laboratory analytical results for soil samples FS01 through FS07 and SW01 through SW09 indicated all COC concentrations were compliant with the Site Closure Criteria and were compliant with the reclamation requirement. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 1,308 square feet in areal extent. A total of approximately 340 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

#### **CLOSURE REQUEST**

Site assessment and excavation activities were conducted at the Site to address the July 2, 2022, release of crude oil and produced water into the adjacent pasture. Laboratory analytical results for the confirmation soil samples, collected from the final excavation extent, indicated concentrations of all COCs were compliant with the Site Closure Criteria and were compliant with the reclamation requirement. Based on the laboratory analytical results, no further remediation appears warranted. COG will backfill the excavation with material purchased locally, recontour the Site to match pre-existing site conditions and re-seed the disturbed area with appropriate BLM seed mixture during the next possible growing season for optimal vegetation growth.

Excavation of impacted soil has mitigated adverse conditions at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. COG believes these remedial actions are protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2218850477. The Form C-141 is included as Appendix D.

COG Operating, LLC Closure Request Windward Federal 004H



Senior Scientist

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

Sincerely, **Ensolum, LLC** 

Hadlie Green Project Geologist

cc: Jacob Laird, ConocoPhillips Company

Bureau of Land Management

#### Appendices:

Figure 1 Site Receptor Map

Figure 2 Preliminary Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Sample Analytical Results

Appendix A Well Records and Logs Appendix B Photographic Log

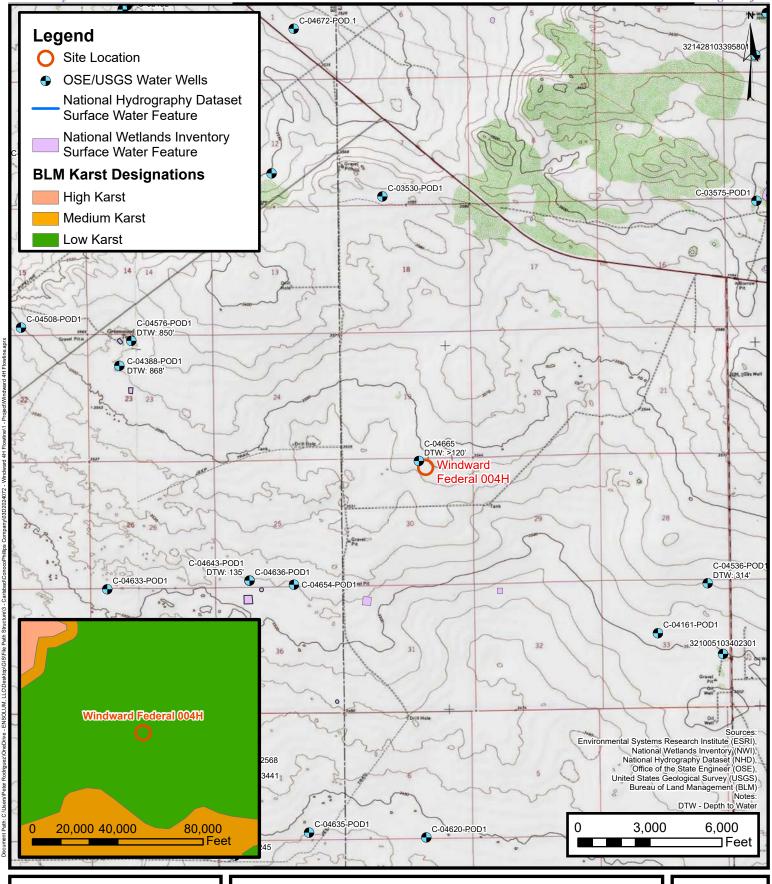
Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix D Final C-141

Appendix E NMOCD Notifications



**FIGURES** 





## **Site Receptor Map**

COG Operating, LLC Windward Federal 004H Incident Number: NAPP2218850477

Unit B, Sec 30, T24S, R32E Lea County, New Mexico FIGURE 1





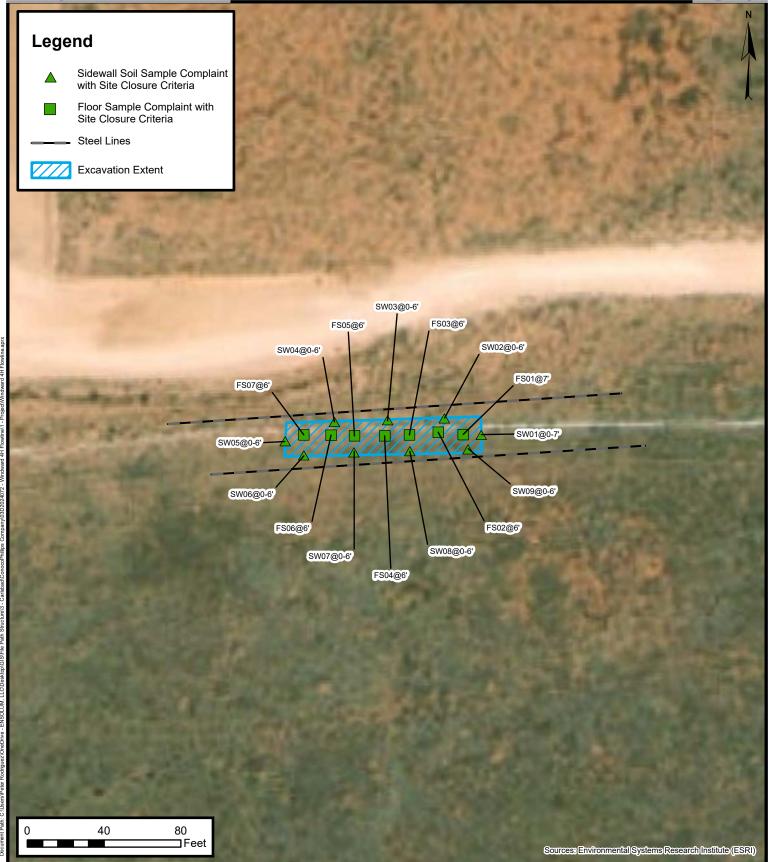
# **Preliminary Soil Sample Locations**

COG Operating, LLC
Windward Federal 004H

Incident Number: NAPP2218850477

Unit B, Sec 30, T24S, R32E Lea County, New Mexico FIGURE

2





# **Excavation Soil Sample Locations**

COG Operating, LLC
Windward Federal 004H

Incident Number: NAPP2218850477

Unit B, Sec 30, T24S, R32E Lea County, New Mexico FIGURE

3



**TABLES** 



### TABLE 1

#### **SOIL SAMPLE ANALYTICAL RESULTS**

Windward Federal 004H COG Operating, LLC Lea County, New Mexico

	Lea County, New Mexico												
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)			
NMOCD Table I	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000			
Preliminary Assessment Soil Samples													
SS01	07/11/2022	0.5	<0.00201	0.0641	<49.9	<49.9	<49.9	<49.9	<49.9	40.4*			
SS02	07/11/2022	0.5	<0.00202	0.0346	<49.8	<49.8	<49.8	<49.8	<49.8	5.47*			
SS03	07/11/2022	0.5	<0.00200	0.0116	<50.0	<50.0	<50.0	<50.0	<50.0	7.27*			
SS04	07/11/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	64.2*			
SS05	07/11/2022	0.5	<0.200	20.1	1,130	4,470	<250	5,600	5,600	3,400*			
SS06	07/11/2022	0.5	<0.200	39.7	1,450	3,270	<250	4,720	4,720	3,150*			
SS07	07/11/2022	0.5	<0.199	68.1	4,770	4,520	<250	9,290	9,290	3,930*			
				Excava	ation Floor Soil S	amples							
FS01	02/07/2023	7	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	12.0			
FS02	02/07/2023	6	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	30.1			
FS03	02/07/2023	6	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	25.4			
FS04	02/07/2023	6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	17.5			
FS05	02/07/2023	6	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	33.4			
FS06	02/07/2023	6	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	21.0			
FS07	02/07/2023	6	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	26.5			



#### **TABLE 1**

#### **SOIL SAMPLE ANALYTICAL RESULTS**

Windward Federal 004H COG Operating, LLC Lea County, New Mexico

				Lea	County, New Me	XICO					
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)	
NMOCD Table I	Closure Criteria (	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000	
Excavation Sidewall Soil Samples											
SW01	02/07/2023	0 - 7	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	63.8*	
SW02	02/07/2023	0 - 6	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	208*	
SW03	02/07/2023	0 - 6	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	132*	
SW04	02/07/2023	0 - 6	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	137*	
SW05	02/07/2023	0 - 6	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	80.8*	
SW06	02/07/2023	0 - 6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<5.00*	
SW07	02/07/2023	0 - 6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7.55*	
SW08	02/07/2023	0 - 6	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	14.3*	
SW09	02/07/2023	0 - 6	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	79.0*	

#### Notes:

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

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

TPH: Total Petroleum Hydrocarbon

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

Grey text represents samples that have been excavated

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



**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

X

20E37 C 04536 POD1

2 2 33 24S 32E

625019 3561244

1 🌑

**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:** 

Shallow

Log File Date:

06/21/2021

PCW Rcv Date:

Source:

Shanow

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

300

480 Sandstone/Gravel/Conglomerate

**Casing Perforations:** 

Top Bottom

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.

7/7/22 1:08 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

								L OOF THE NOW	25				
NC	OSE POD NO. (V C-04665 POI		.)		WELL TAG ID NO	).		OSE FILE NO(S C-04665	5).				
CATIC	WELL OWNER							PHONE (OPTIO 575-988-204					
VELL LO	WELL OWNER 2208 W MAI		G ADDRESS					CITY ARTESIA		STATE NM	88210	ZIP	
GENERAL AND WELL LOCATION	WELL LOCATION	LA	DE	GREES 32	MINUTES 11	SECON 42.		25 CAR TO THE REST OF THE	REQUIRED: ONE TEN	TH OF A S	SECOND		
ER	(FROM GPS)	LO	NGITUDE	-103	42	45.	30 W	* DATUM REC	* DATUM REQUIRED: WGS 84				
1. GEN	DESCRIPTION KING TUT F		NG WELL LOCATION TO AL 001H	STREET ADD	RESS AND COMMO	N LANDM	ARKS – PLS	SS (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVA	ILABLE		
	LICENSE NO. WD-11	84	NAME OF LICENSED		ELL SOUTHER	RLAND			NAME OF WELL DR WEST TEXAS			RVICE	
	DRILLING STARTED DRILLING ENDED DEPTH OF COMPLETED WELL (FT) BORI 9/15/2022 09/15/2022 120								DEPTH WATER FIR	ST ENCO	UNTERED (FT)		
z	COMPLETED V	VELL IS:	_ ARTESIAN	DRY HO	DRY HOLE SHALLOW (UNCONFINED)			STATIC WATER LEV	/EL IN CO N/A		ELL (FT)		
TIO	DRILLING FLU	ID:	✓ AIR	☐ MUD	ADDITI	VES – SPE	CIFY:						
RMA	DRILLING MET	THOD:	<b>▼</b> ROTARY	П НАММЕ	R CABLE	TOOL	ОТНЕ	ER – SPECIFY:					
NFO	DEPTH (fe	eet bgl)	BORE HOLE	CASING	MATERIAL AN	D/OR	C	ASING	CASING	CASI	NG WALL	SLOT	
DRILLING & CASING INFORMATION	FROM	DOKE HOLL			(include each casing string, and			NECTION TYPE bling diameter)	INSIDE DIAM. (inches)	TH	CKNESS inches)	SIZE (inches)	
ING & C				NO	CASING IN HOL	.E							
RILL													
2. DI													
									OSE DIT SE	262	022 pnG:2	B	
	DEPTH (fe	eet bgl)	BORE HOLE	L	IST ANNULAR S	SEAL MA	TERIAL	AND	AMOUNT		метно	D OF	
IAL	FROM	то	DIAM. (inches)	GRA	AVEL PACK SIZI	E-RANGI	E BY INTI	ERVAL	(cubic feet)		PLACEN		
ANNULAR MATERIAL													
MA						N/A				-			
LAR.										+			
5NA				-						$\rightarrow$			
3. A.													
FOF	R OSE INTERN	AL USE						WR-2	0 WELL RECORD	& LOG	(Version 04/3	0/19)	
	ENO. C-	04	665		POD N	0.		TRN	NO. 7328	19			
LOC	CATION 2	45.	32E. 30	113	L			WELL TAG I	D NO.		PAGE	1 OF 2	

	DEPTH (	reet bgl)	THICKNESS (feet)	INCLUDE WA	AND TYPE OF MATER-BEARING	CAVITIES O	R FRAC	TURE ZONES	3	WAT BEARI (YES /	NG?	ESTIMATED YIELD FOR WATER- BEARING
				(attaca		· · · · · · · · · · · · · · · · · · ·						ZONES (gpm)
	0	1				ICHIE PAD				Y	✓ N	
	1	3				Y TOPSOIL			_	Y	N	
	3	25				ALICHIE			_	Y	N	
	25	27			10000	D SAND			_	Y	✓ N	
	27	120			RED SA	ANDY CLAY				Y	✓ N	
TT									_	Y	N	
4. HYDROGEOLOGIC LOG OF WELL										Y	N	
0 0									-	Y	N	
ro										Y	N	
CIC									-	Y	N	
OTO									_	Y	N	
GE									_	Y	N	
DRC										Y	N	
.HY									_	Y	N	
4									-	Y	N	
										Y	N	
										Y	N	
										Y	N	
										Y	N	
										Y	N	
										Y	N	
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OIS												
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5. T	RUSSELL	_0300		THOMO, THAT	NOTIFIED ONS							
SIGNATURE	RECORD O	F THE AB	OVE DESCRIBED	AT TO THE BES WELL. I ALSO C WITH THE PERM	ERTIFY THAT T	HE WELL TA	G, IF RE	QUIRED, HA	S BEEN	INSTA	LLED A	ND THAT THIS
e. SIGN				RUS	SELL SOUTHE	RLAND	_	ų <del>.</del>		09/15	5/2022	
7.5		SIGNA	TURE OF DRILLE	R / PRINT SIGN	IEE NAME						DATE	
FO	R OSE INTER	NAL USE			NI-			WR-20 WE	LL REC	ORD & I	LOG (Ve	ersion 04/30/2019
	E NO. ( -	0466	5		POD NO.	1		TRN NO.	73	7-	9	
10	CATION	245.	32E, 30	113			WELL	TAG ID NO.				PAGE 2 OF 2

Mike A. Hamman, P.E. State Engineer



Roswell Office 1900 WEST SECOND STREET ROSWELL, NM 88201

# STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER

Trn Nbr: 732879
File Nbr: C 04665
Well File Nbr: C 04665

Oct. 04, 2022

KALEI JENNINGS ENSOLUM 601 N MARIENFIELD ST SUITE 400 MIDLAND, TX 79701

Greetings:

The above numbered permit was issued in your name on 08/26/2022.

The Well Record was received in this office on 09/26/2022, stating that it had been completed on 09/15/2022, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 08/26/2023.

If you have any questions, please feel free to contact us.

Clement

Sincerely,

Vanessa Clements (575)622-6521

drywell



USGS Home Contact USGS Search USGS

### **National Water Information System: Web Interface**

**USGS Water Resources** 

Data Category:	Geographic Area:		
Groundwater ~	United States	<b>∨</b> G(	O

#### Click to hideNews Bulletins

- Explore the NEW <u>USGS National Water Dashboard</u> interactive map to access realtime water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

■ Important: Next Generation Monitoring Location Page

### Search Results -- 1 sites found

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

Available data for this site Groundwater: Field measurements GO

Lea County, New Mexico

Hydrologic Unit Code 13070001

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 aguifers (N9999OTHER) national aguifer.

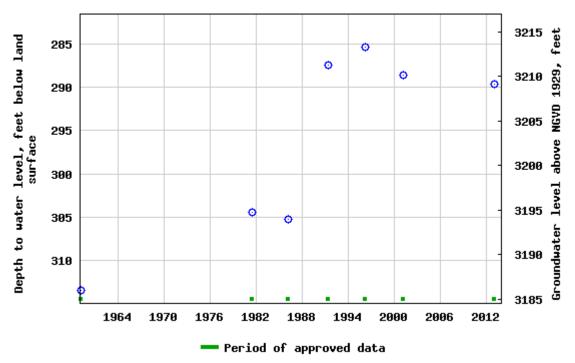
This well is completed in the Chinle Formation (231CHNL) local aquifer.

#### **Output formats**

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

Released to Imaging: 7/24/2023 9:54:19 AM

#### USGS 321005103402301 245.32E.33.42241



Breaks in the plot represent a gap of at least one year between field measurements. <u>Download a presentation-quality graph</u>

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
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News

Accessibility

FOIA

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Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

**Title: Groundwater for USA: Water Levels** 

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

Page Contact Information: <u>USGS Water Data Support Team</u>

Page Last Modified: 2022-07-07 14:49:49 EDT

0.69 0.48 nadww01





**USGS Home Contact USGS** Search USGS

**National Water Information System: Web Interface** 

**USGS** Water Resources

Data Category:		Geographic Area:		
Groundwater	~	United States	~	GO

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Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

Agency code = usqs

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

Table of data

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.

#### **Output formats**

ab-separat	<u>ed data</u>									
<u>Graph of da</u>	<u>ta</u>									
Reselect per	riod									
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	? Sourcemease
1959-02-18	8	D	62610		3185.60	NGVD29	1	Z		
1959-02-18	8	D	62611		3187.32	NAVD88	1	Z		
1959-02-18	8	D	72019	313.40			1	Z		
1981-06-12	2	D	62610		3194.60	NGVD29	1	Z		
1981-06-12	2	D	62611		3196.32	NAVD88	1	Z		
1981-06-12	2	D	72019	304.40			1	Z		
1986-03-1	1	D	62610		3193.79	NGVD29	1	Z		
1986-03-1	1	D	62611		3195.51	NAVD88	1	Z		
1986-03-1	1	D	72019	305.21			1	Z		
1991-05-29	9	D	62610		3211.55	NGVD29	1	Z		
1991-05-29	9	D	62611		3213.27	NAVD88	1	Z		
1991-05-29	9	D	72019	287.45			1	Z		
1996-03-14	4	D	62610		3213.60	NGVD29	1	S		
1996-03-14	4	D	62611		3215.32	NAVD88	1	S		
1996-03-14	4	D	72019	285.40			1	S		
2001-02-2	7	D	62610		3210.32	NGVD29	1	S		

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 measu
2001-02-27		D	62611		3212.04	NAVD88	1	S		
2001-02-27		D	72019	288.68			1	S		
2013-01-17	16:30 UTC	m	62610		3209.31	NGVD29	1	S	USGS	
2013-01-17	16:30 UTC	m	62611		3211.03	NAVD88	1	S	USGS	
2013-01-17	16:30 UTC	m	72019	289.69			1	S	USGS	

Exp	lanatioı
LAP	unucioi

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
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 Policies and Notices Privacy

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

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

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2022-07-07 15:00:15 EDT

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**APPENDIX B** 

Photographic Log

## **ENSOLUM**

### **Photographic Log**

COG Operating, LLC
Windward Federal 004H
Incident Number NAPP2218850477



Photograph: 1 Date: 7/2/2022

Description: Soil staining in release extent

View: West



Photograph: 2 Date: 7/2/2022

Description: Soil staining in release extent

View: Southwest



Photograph: 3 Date: 2/7/2023

Description: Excavation activities

View: East



Photograph: 4 Date: 2/7/2023

Description: Excavation activities

View: West



**APPENDIX C** 

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 3/16/2023 10:40:06 AM Revision 1

## **JOB DESCRIPTION**

Windward 4H Flowline SDG NUMBER 03D2024072

## **JOB NUMBER**

890-2538-1

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 3/16/2023 10:40:06 AM

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

Revision 1

Client: Ensolum
Project/Site: Windward 4H Flowline
Laboratory Job ID: 890-2538-1
SDG: 03D2024072

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## **Definitions/Glossary**

Client: Ensolum Job ID: 890-2538-1 Project/Site: Windward 4H Flowline

SDG: 03D2024072

**Qualifiers** 

**GC VOA** Qualifier **Qualifier Description** 

F1 MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description** 

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.

**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: 890-2538-1 SDG: 03D2024072 Project/Site: Windward 4H Flowline

Job ID: 890-2538-1

**Laboratory: Eurofins Carlsbad** 

**Narrative** 

Job Narrative 890-2538-1

#### REVISION

The report being provided is a revision of the original report sent on 7/21/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID changes.

Report revision history

#### Receipt

The samples were received on 7/11/2022 4:15 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 15.0°C

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29817 and analytical batch 880-30096 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample 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.

#### GC Semi VOA

Method 8015MOD NM: Surrogate recovery for the following sample was outside control limits: SS05 (890-2538-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-29672 and analytical batch 880-29692 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

**Eurofins Carlsbad** 3/16/2023 (Rev. 1)

**Matrix: Solid** 

Lab Sample ID: 890-2538-1

07/13/22 15:06 07/14/22 14:50

## **Client Sample Results**

Client: Ensolum Job ID: 890-2538-1
Project/Site: Windward 4H Flowline SDG: 03D2024072

Client Sample ID: SS05

Date Collected: 07/11/22 12:55 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.200	U	0.200	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
Toluene	0.273		0.200	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
Ethylbenzene	2.52		0.200	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
m-Xylene & p-Xylene	11.7		0.401	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
o-Xylene	5.58		0.200	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
Xylenes, Total	17.3		0.401	mg/Kg		07/15/22 09:11	07/20/22 20:55	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130			07/15/22 09:11	07/20/22 20:55	100
1,4-Difluorobenzene (Surr)	77		70 - 130			07/15/22 09:11	07/20/22 20:55	100
•								
Method: TAL SOP Total BT Analyte		X Calculat Qualifier	ion RL	Unit	D	Prepared	Analyzed	Dil Fac
				Unit mg/Kg	<u>D</u>	Prepared	Analyzed 07/21/22 08:55	Dil Fac
Analyte	20.1	Qualifier	<b>RL</b> 0.401		<u>D</u>	Prepared		Dil Fac
Analyte Total BTEX	Result 20.1  Diesel Range (	Qualifier	<b>RL</b> 0.401		<u>D</u> D	Prepared Prepared		Dil Fac
Analyte Total BTEX  Method: SW846 8015 NM -	Result 20.1  Diesel Range (	Qualifier Organics (	RL 0.401 DRO) (GC)	mg/Kg	_ =		07/21/22 08:55	1
Analyte Total BTEX Method: SW846 8015 NM - Analyte	Result 20.1  Diesel Range (Result 5600)	Qualifier Organics ( Qualifier	RL 0.401 DRO) (GC) RL 250	mg/Kg Unit	_ =		07/21/22 08:55  Analyzed	1 Dil Fac
Analyte Total BTEX  Method: SW846 8015 NM - Analyte Total TPH	Piesel Range Result  5600  - Diesel Range	Qualifier Organics ( Qualifier	RL 0.401 DRO) (GC) RL 250	mg/Kg Unit	_ =		07/21/22 08:55  Analyzed	1 Dil Fac

Oll Range Organics (Over C28-C36)	<250	U	250	mg/Kg	07/13/22 15:06	07/14/22 14:50	5
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
1-Chlorooctane	145	S1+	70 - 130		07/13/22 15:06	07/14/22 14:50	5
o-Terphenyl	226	S1+	70 - 130		07/13/22 15:06	07/14/22 14:50	5

250

4470

mg/Kg

Method: EPA 300.0 - Anions, Id	on Chromatography - S	oluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	24.8	mg/Kg			07/16/22 12:53	5

Client Sample ID: SS06

Date Collected: 07/11/22 13:00

Lab Sample ID: 890-2538-2

Matrix: Solid

Date Received: 07/11/22 16:15

**Diesel Range Organics (Over** 

Sample Depth: 0.5'

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.200 U	0.200	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
Toluene	0.472	0.200	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
Ethylbenzene	2.91	0.200	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
m-Xylene & p-Xylene	25.7	0.399	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
o-Xylene	10.6	0.200	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
Xylenes, Total	36.3	0.399	mg/Kg		07/15/22 09:11	07/20/22 21:15	100
Surrogate	%Recovery Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108	70 - 130			07/15/22 09:11	07/20/22 21:15	100

**Eurofins Carlsbad** 

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Client: Ensolum Job ID: 890-2538-1

Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SS06** Lab Sample ID: 890-2538-2 Date Collected: 07/11/22 13:00 Date Received: 07/11/22 16:15

**Matrix: Solid** 

Sample Depth: 0.5'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	87	70 - 130	07/15/22 09:11	07/20/22 21:15	100

Method: TAL	SOP Total BTEX	- Total BTEX	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	39.7		0.399	mg/Kg		_	07/21/22 08:55	1

Method: SW846 8015 NM - Diesel	Damas Assas	: (DDO) (CC)
i wernoo' Syykan ku 15 Nivi - Diesei	Range Urgan	ICS IDRUI (GU)
modification of the state of th	I tuligo ol gali	

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	4720	250	mg/Kg			07/14/22 15:52	1

Method: SW846 8015B N	IM - Diesel Range	<b>Organics</b>	(DRO)	(GC)

Ana	llyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	soline Range Organics (O)-C6-C10	1450		250	mg/Kg		07/13/22 15:06	07/14/22 15:57	5
	sel Range Organics (Over 0-C28)	3270		250	mg/Kg		07/13/22 15:06	07/14/22 15:57	5
OILE	Range Organics (Over C28-C36)	<250	U	250	mg/Kg		07/13/22 15:06	07/14/22 15:57	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	07/13/22 15:06	07/14/22 15:57	5
o-Terphenyl	83		70 - 130	07/13/22 15:06	07/14/22 15:57	5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3150		25.0	mg/Kg			07/16/22 13:02	5

Lab Sample ID: 890-2538-3 **Client Sample ID: SS07 Matrix: Solid** 

Date Collected: 07/11/22 13:05 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Mothod: CIMOAC 9021D	Volatila	Organic	Compounds	(CC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.199	U	0.199	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
Toluene	1.54		0.199	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
Ethylbenzene	3.49		0.199	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
m-Xylene & p-Xylene	43.6		0.398	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
o-Xylene	19.5		0.199	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
Xylenes, Total	63.1		0.398	mg/Kg		07/15/22 09:11	07/20/22 21:36	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			07/15/22 09:11	07/20/22 21:36	100
1,4-Difluorobenzene (Surr)	84		70 - 130			07/15/22 09:11	07/20/22 21:36	100

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	68.1	0.398	mg/Kg			07/21/22 08:55	1

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	9290	250	mg/Kg			07/14/22 15:52	1

## **Client Sample Results**

Client: Ensolum Job ID: 890-2538-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Client Sample ID: SS07

Date Collected: 07/11/22 13:05 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Lab Sample ID: 890-2538-3 **Matrix: Solid** 

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier Unit Dil Fac RL Prepared Analyzed **Gasoline Range Organics** 250 07/13/22 15:06 07/14/22 16:19 mg/Kg 4770 (GRO)-C6-C10 **Diesel Range Organics (Over** 250 mg/Kg 07/13/22 15:06 07/14/22 16:19 5 4520 C10-C28) Oll Range Organics (Over C28-C36) <250 U 250 07/13/22 15:06 07/14/22 16:19 5 mg/Kg %Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 1-Chlorooctane 247 S1+ 70 - 130 07/13/22 15:06 07/14/22 16:19 5 228 S1+ 70 - 130 07/13/22 15:06 07/14/22 16:19 o-Terphenyl 5 Method: EPA 300.0 - Anions, Ion Chromatography - Soluble Analyte Result Qualifier Unit RL D Prepared Analyzed Dil Fac 07/16/22 13:30 Chloride 3930 25.2 mg/Kg 5

## **Surrogate Summary**

Client: Ensolum Job ID: 890-2538-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 8021B - Volatile Organic Compounds (GC)

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

			Perc	ent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2538-1	SS05	97	77	
890-2538-2	SS06	108	87	
890-2538-3	SS07	112	84	
890-2539-A-1-E MS	Matrix Spike	90	95	
890-2539-A-1-F MSD	Matrix Spike Duplicate	106	89	
LCS 880-29817/1-A	Lab Control Sample	109	97	
LCSD 880-29817/2-A	Lab Control Sample Dup	101	95	
MB 880-29817/5-A	Method Blank	98	96	

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

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

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

			Per
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2538-1	SS05	145 S1+	226 S1+
890-2538-2	SS06	78	83
890-2538-3	SS07	247 S1+	228 S1+
890-2547-A-50-D MS	Matrix Spike	86	89
890-2547-A-50-E MSD	Matrix Spike Duplicate	72	76
LCS 880-29672/2-A	Lab Control Sample	97	110
LCSD 880-29672/3-A	Lab Control Sample Dup	113	126
MB 880-29672/1-A	Method Blank	88	102

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## **QC Sample Results**

Client: Ensolum Job ID: 890-2538-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29817/5-A

**Matrix: Solid** 

**Analysis Batch: 30096** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 29817

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/15/22 09:11	07/20/22 12:46	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98	70 - 130	07/15/22 09:11	07/20/22 12:46	1
1,4-Difluorobenzene (Surr)	96	70 - 130	07/15/22 09:11	07/20/22 12:46	1

Lab Sample ID: LCS 880-29817/1-A

**Matrix: Solid** 

**Analysis Batch: 30096** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 29817

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Benzene 70 - 130 0.100 0.1048 mg/Kg 105 Toluene 0.100 0.1037 mg/Kg 70 - 130 104 Ethylbenzene 0.100 0.1069 mg/Kg 107 70 - 130 0.200 m-Xylene & p-Xylene 0.2278 mg/Kg 114 70 - 130 o-Xylene 0.100 0.1203 mg/Kg 120 70 - 130

LCS LCS

Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	109		70 - 130		
1,4-Difluorobenzene (Surr)	97		70 - 130		

Lab Sample ID: LCSD 880-29817/2-A

**Matrix: Solid** 

**Analysis Batch: 30096** 

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

Prep Batch: 29817

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09444		mg/Kg		94	70 - 130	10	35
Toluene	0.100	0.09316		mg/Kg		93	70 - 130	11	35
Ethylbenzene	0.100	0.09138		mg/Kg		91	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1945		mg/Kg		97	70 - 130	16	35
o-Xylene	0.100	0.1025		mg/Kg		103	70 - 130	16	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	101		70 - 130		
1.4-Difluorobenzene (Surr)	95		70 - 130		

Lab Sample ID: 890-2539-A-1-E MS

**Matrix: Solid** 

**Analysis Batch: 30096** 

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

Prep Batch: 29817

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U F1	0.0998	0.02974	F1	mg/Kg		29	70 - 130	
Toluene	0.0164	F1	0.0998	0.03203	F1	mg/Kg		16	70 - 130	

## QC Sample Results

Client: Ensolum Job ID: 890-2538-1 SDG: 03D2024072 Project/Site: Windward 4H Flowline

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

Lab Sample ID: 890-2539-A-1-E MS **Client Sample ID: Matrix Spike Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 30096** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ethylbenzene 0.0194 F1 0.0998 0.03403 F1 mg/Kg 15 70 - 130 m-Xylene & p-Xylene 0.0239 F1 0.200 0.06705 F1 mg/Kg 22 70 - 130 0.0998 0.03828 F1 34 o-Xylene 0.00435 F1 mg/Kg 70 \_ 130

MS MS

Lab Sample ID: 890-2539-A-1-F MSD

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 90 1,4-Difluorobenzene (Surr) 95 70 - 130

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

Prep Batch: 29817

Prep Batch: 29817 **RPD** 

**Analysis Batch: 30096** Sample Sample Spike MSD MSD %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 0.100 0.02922 F1 70 - 130 2 35 Benzene <0.00201 UF1 mg/Kg 29 Toluene 0.03409 F1 18 70 - 130 35 0.0164 F1 0.100 mg/Kg 6 Ethylbenzene 0.0194 F1 0.100 0.03490 F1 mg/Kg 15 70 - 130 3 35 m-Xylene & p-Xylene 0.0239 F1 0.201 0.07730 F1 27 70 - 130 35 mq/Kq 14 0.00435 F1 0.100 0.04542 F1 41 35 o-Xylene mg/Kg 70 - 13017

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

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

Lab Sample ID: MB 880-29672/1-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 29692** 

**Client Sample ID: Method Blank** Prep Type: Total/NA Prep Batch: 29672

**Client Sample ID: Lab Control Sample** 

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <50.0 U 50.0 07/13/22 15:06 07/14/22 09:52 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg 07/13/22 15:06 07/14/22 09:52 C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 mg/Kg 07/13/22 15:06 07/14/22 09:52

MB MB

Qualifier Surrogate %Recovery Limits Prepared Analyzed Dil Fac 1-Chlorooctane 70 - 130 07/13/22 15:06 07/14/22 09:52 88 102 70 - 130 07/13/22 15:06 07/14/22 09:52 o-Terphenyl

Lab Sample ID: LCS 880-29672/2-A

**Matrix: Solid** 

**Analysis Batch: 29692** 

Prep Type: Total/NA Prep Batch: 29672 LCS LCS Spike %Rec Added Result Qualifier Unit %Rec Limits

Analyte 1000 989.6 99 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 865.7 mg/Kg 87 70 - 130 C10-C28)

Project/Site: Windward 4H Flowline

Client: Ensolum

Job ID: 890-2538-1

SDG: 03D2024072

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

LCS LCS

Lab Sample ID: LCS 880-29672/2-A

**Matrix: Solid** 

**Analysis Batch: 29692** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 29672

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 97 70 - 130 o-Terphenyl 110 70 - 130

**Client Sample ID: Lab Control Sample Dup** Lab Sample ID: LCSD 880-29672/3-A

**Matrix: Solid** 

**Analysis Batch: 29692** 

**Prep Type: Total/NA** 

Prep Batch: 29672

LCSD LCSD RPD %Rec Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 1004 mg/Kg 100 70 - 130 1 20 (GRO)-C6-C10 Diesel Range Organics (Over 1000 1051 mg/Kg 105 70 - 130 19 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 113 70 - 130 70 - 130 o-Terphenyl 126

Lab Sample ID: 890-2547-A-50-D MS **Client Sample ID: Matrix Spike** 

**Matrix: Solid** 

**Prep Type: Total/NA Analysis Batch: 29692** Prep Batch: 29672 MS MS

%Rec

Sample Sample Spike Result Qualifier Added Result Qualifier Limits **Analyte** Unit D %Rec Ū Gasoline Range Organics <50.0 1000 1081 mg/Kg 104 70 - 130 (GRO)-C6-C10 1000 Diesel Range Organics (Over <50.0 U F1 749.4 mg/Kg 75 70 - 130 C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 86 o-Terphenyl 89 70 - 130

Lab Sample ID: 890-2547-A-50-E MSD Client Sample ID: Matrix Spike Duplicate

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**Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 29692** Prep Batch: 29672

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit **Analyte** Unit %Rec Gasoline Range Organics <50.0 U 999 1289 125 70 - 130 18 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 UF1 999 641.8 F1 mg/Kg 64 70 - 130 15 20

C10-C28)

MSD MSD

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 72 70 - 130 76 o-Terphenyl 70 - 130

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Matrix Spike Duplicate** 

**Prep Type: Soluble** 

**Client Sample ID: Matrix Spike** 

## **QC Sample Results**

Client: Ensolum Job ID: 890-2538-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29659/1-A

**Matrix: Solid** 

**Analysis Batch: 29860** 

MB MB

Analyte Result Qualifier RL Unit Analyzed Dil Fac D Prepared 5.00 07/16/22 09:49 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-29659/2-A

**Matrix: Solid** 

**Analysis Batch: 29860** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 263.5 90 - 110 mg/Kg 105

Lab Sample ID: LCSD 880-29659/3-A

**Matrix: Solid** 

**Analysis Batch: 29860** 

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

Lab Sample ID: 890-2537-A-4-B MS

**Matrix: Solid** 

**Analysis Batch: 29860** 

Spike MS MS %Rec Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 250 294.6 21.2 mg/Kg 109 90 - 110

Lab Sample ID: 890-2537-A-4-C MSD

**Matrix: Solid** 

**Analysis Batch: 29860** 

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Unit Limits RPD Result Qualifier %Rec Limit Chloride 21.2 250 295.1 110 20 mg/Kg 90 - 110 0

# **QC Association Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2538-1 SDG: 03D2024072

## **GC VOA**

#### Prep Batch: 29817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Total/NA	Solid	5035	
890-2538-2	SS06	Total/NA	Solid	5035	
890-2538-3	SS07	Total/NA	Solid	5035	
MB 880-29817/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### **Analysis Batch: 30096**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Total/NA	Solid	8021B	29817
890-2538-2	SS06	Total/NA	Solid	8021B	29817
890-2538-3	SS07	Total/NA	Solid	8021B	29817
MB 880-29817/5-A	Method Blank	Total/NA	Solid	8021B	29817
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	8021B	29817
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29817
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	29817
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29817

#### **Analysis Batch: 30199**

<b>Lab Sample ID</b> 890-2538-1	Client Sample ID SS05	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-2538-2	SS06	Total/NA	Solid	Total BTEX	
890-2538-3	SS07	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 29672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Total/NA	Solid	8015NM Prep	
890-2538-2	SS06	Total/NA	Solid	8015NM Prep	
890-2538-3	SS07	Total/NA	Solid	8015NM Prep	
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 29692**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Total/NA	Solid	8015B NM	29672
890-2538-2	SS06	Total/NA	Solid	8015B NM	29672
890-2538-3	SS07	Total/NA	Solid	8015B NM	29672
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015B NM	29672
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29672
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29672
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015B NM	29672
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29672

**Eurofins Carlsbad** 

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# **QC Association Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2538-1

# SDG: 03D2024072

# GC Semi VOA

#### **Analysis Batch: 29766**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Total/NA	Solid	8015 NM	
890-2538-2	SS06	Total/NA	Solid	8015 NM	
890-2538-3	SS07	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 29659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Soluble	Solid	DI Leach	_
890-2538-2	SS06	Soluble	Solid	DI Leach	
890-2538-3	SS07	Soluble	Solid	DI Leach	
MB 880-29659/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29659/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29659/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2537-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2537-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 29860**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2538-1	SS05	Soluble	Solid	300.0	29659
890-2538-2	SS06	Soluble	Solid	300.0	29659
890-2538-3	SS07	Soluble	Solid	300.0	29659
MB 880-29659/1-A	Method Blank	Soluble	Solid	300.0	29659
LCS 880-29659/2-A	Lab Control Sample	Soluble	Solid	300.0	29659
LCSD 880-29659/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29659
890-2537-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	29659
890-2537-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29659

Client: Ensolum

Client Sample ID: SS05

Lab Sample ID: 890-2538-1

Matrix: Solid

Date Collected: 07/11/22 12:55 Date Received: 07/11/22 16:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	29817	07/15/22 09:11	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	30096	07/20/22 20:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			30199	07/21/22 08:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			29766	07/14/22 15:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	29672	07/13/22 15:06	DM	EET MID
Total/NA	Analysis	8015B NM		5			29692	07/14/22 14:50	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	29659	07/13/22 12:36	SMC	EET MID
Soluble	Analysis	300.0		5			29860	07/16/22 12:53	CH	EET MID

Client Sample ID: SS06 Lab Sample ID: 890-2538-2

Date Collected: 07/11/22 13:00 Matrix: Solid
Date Received: 07/11/22 16:15

Batch Batch Dil Initial Final Batch Prepared Method **Prep Type** Type Run **Factor Amount** Amount Number or Analyzed **Analyst** Lab Total/NA 5035 29817 07/15/22 09:11 **EET MID** Prep 5.01 g 5 mL MNR EET MID Total/NA 8021B 5 mL 30096 07/20/22 21:15 MNR Analysis 100 5 mL Total/NA Analysis **Total BTEX** 1 30199 07/21/22 08:55 SM **EET MID** Total/NA 8015 NM **EET MID** Analysis 1 29766 07/14/22 15:52 SM Total/NA Prep 8015NM Prep 10.02 g 10 mL 29672 07/13/22 15:06 DM **EET MID** Total/NA 8015B NM Analysis 5 29692 07/14/22 15:57 SM **EET MID** Soluble 29659 DI Leach 5.01 g 50 mL 07/13/22 12:36 SMC **EET MID** Leach 5 07/16/22 13:02 CH Soluble Analysis 300.0 29860 **EET MID** 

Client Sample ID: SS07 Lab Sample ID: 890-2538-3

Date Collected: 07/11/22 13:05

Date Received: 07/11/22 16:15

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29817	07/15/22 09:11	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	30096	07/20/22 21:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			30199	07/21/22 08:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			29766	07/14/22 15:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29672	07/13/22 15:06	DM	EET MID
Total/NA	Analysis	8015B NM		5			29692	07/14/22 16:19	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	29659	07/13/22 12:36	SMC	EET MID
Soluble	Analysis	300.0		5			29860	07/16/22 13:30	CH	EET MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2538-1
Project/Site: Windward 4H Flowline SDG: 03D2024072

## **Laboratory: Eurofins Midland**

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

Authority	Pro	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-25	12-19-22
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	ior certained by the governing authority.	This list may include analytes for w
,	•	Matrix	Analyte	This list may include allarytes 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: Windward 4H Flowline

Job ID: 890-2538-1

SDG: 03D2024072

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

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

# **Sample Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2538-1

SDG: 03D2024072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	De
890-2538-1	SS05	Solid	07/11/22 12:55	07/11/22 16:15	0.5'
890-2538-2	SS06	Solid	07/11/22 13:00	07/11/22 16:15	0.5'
890-2538-3	SS07	Solid	07/11/22 13:05	07/11/22 16:15	0.5'

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C	Chain of Custody
eurofins	Houston TV (201) 240,4200, Dallas TV (214) 90

Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296

Work Order No: \_

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Sampler's Name:		11 11 11 11			e day received by		T											1	HCL: HC HNO 3: HN		IO 3: HN			
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SAMPLE RECEIPT	Intact: Ye No Thermometer ID:		(Yes) No		eter													H <sub>3</sub> PO <sub>4</sub> : I						
Samples Received Int			er ID:	Trm-007		Parameters														NaHSO 4: NABIS				
Cooler Custody Seals:		Yes No	MA )	Correction F	actor:	-0	.2	۵			V					of Custody			Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn					
Sample Custody Seals	5:	Yes No	N/A	Temperatur		15					3		890	-2538 (	Chain d					zn Acetate- NaOH+Asco				
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Sample Ident	ification		Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	8	+	5											Samp	le Comm	ents
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Notice: Signature of this doc of service. Eurofins Xenco v of Eurofins Xenco. A minim	viil be liable o	only for the co	ost of same	les and shall not	assume any respo	ensibility for a	ny losses o	or expens	es incum	ed by the	client if s	uch losses	are due to c	ircumstan	ces beyor	nd the cor	ntrol	ted.						
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#### **Eurofins Carlsbad**

1089 N Canal St.

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

# **Chain of Custody Record**



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Environment Testing America 3/16/2023 (Rev. 1)

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Released to Imaging: 7/24/2023 9:54:19 AM

	Sampler -			Lab	PM							Ca	mer Tra	cking	No(e)			COC No	
Client Information (Sub Contract Lab)				Kra	mer	Jessic	a							zoning	110(3)			890-837 1	
Client Contact: Shipping/Receiving	Phone:			E-Ma		Krame	r@ot	ourof					te of O					Page:	
Company.	1			1000		reditatio					<u> </u>	INC	w Me	XICO				Page 1 of 1	
Eurofins Environment Testing South Centr Address					NE	LAP -	Texas	s `	-									890-2538-1	
1211 W Florida Ave	Due Date Reques 7/15/2022	ted				Analysis Ro						Panua	etoc					Preservation Cod	-
City .	TAT Requested (d	lays)				Allalysis					veque	75160	T			-com	A HCL B NaOH	M Hexane N None	
Midland State Zip																l		C Zn Acetate	O AsNaO2 P Na2O4S
TX 79701						H											Î	D Nitric Acid E NaHSO4	Q Na2SO3
Phone:	PO#				11	] 5												F MeOH	R Na2S2O3 S H2SO4
432-704-5440(Tel) Email	No. I						•	g	-									G Amchlor H Ascorbic Acid	T TSP Dodecahydrate U Acetone
Etitali	WO #:	WO #:					.	호	ä								100	l Ice J DI Water	V MCAA
Project Name	Project#							동	H (								containers	K EDTA	W pH 4-5 Y Trizma
Eindward 4H Flawline Site	89000094					res or		E	ğ							2	L EDA	Z other (specify)	
	SSOW#				Sample (Yes			ē	0 0								S	Other <sup>.</sup>	
		1		Matrix		Perform MS/MSD (Yes or No) 8015MOD NM/8015NM S Prep (MOD) Full	200	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV							Total Number of	3	
			1 Campie	W=water	Itered	<u>ة</u>   عَ	8015MOD_Calc	OF.	035F	Ĕ							Į g		
		Sample	1,0,00	S=solid D=waste/oil,	5	<b>E</b> S	1 2	ď	18/6	- B							2		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) BT=		) <u>E</u>	Perfor	8	30	802	Tota				1		1			structions/Note:
		$\geq \leq$	Preservatio	n Code:	X	$X_{-}$											$\supset$	(	
FS01 (890-2538-1)	7/11/22	12 55 Mountain		Solid	П	x	. X	Х	х	Х							4		
FS02 (890-2538-2)	7/11/22	13 00 Mountain		Solid	$\Pi$	X	X	x	х	х		1	$\top$			7	1		
FS03 (890-2538-3)	7/11/22	13 05		Solid	$\dagger \dagger$	x	X	X	x	х	$\neg \dagger$	_	+	<del>                                     </del>			1		
		Mountain			++	-	-	+	<del>  ``</del>				┪	<del> </del>			1000	*	<del></del>
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Note Since laboratory generalitations are achieved to the street for	<u></u>					!_			<u> </u>	<u> </u>		l			Щ			i .	
Note Since laboratory accreditations are subject to change, Eurofins Environme laboratory does not currently maintain accreditation in the State of Origin listed accreditation status should be howeld to Eurofine Environment Testing South Comment of the Comment																			
accreditation status should be brought to Eurofins Environment Testing South Co	entral LLC attention in	nmediately If a	all requested accre	editations ar	re cum	ent to d	ate ret	um the	signe	ed Cha	in of C	ustody a	ttesting	to sai	d com	plicance	to Eur	rofins Environment Test	ng South Central LLC.
Possible Hazard Identification				·····	1	Samp	le Dis	posa	l (A	fee i	nay b	e ass	essea	if sa	mple	s are	retair	ned longer than 1	month)
Unconfirmed							Retur				Ĺ		osal i				7	chive For	Months
Deliverable Requested I II, III IV Other (specify)	Primary Delive	rable Rank.	2		1						quire	ments.							
Empty Kit Relinquished by		Date			Tim	ne			,		-		Met	nod of	Shipm	ent:			
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Relinquished by	Date/Time <sup>-</sup>		Col	mpany		Red	eived	**************************************		<u>, , , , , , , , , , , , , , , , , , , </u>	1 [	, _	~1 <u>(</u>		Date/	1 60		- 11-90	Company
Relinquished by	Date/Time		Cor	mpany		Re	ceived	by <sup>.</sup>							Date/	Time <sup>.</sup>			Company
Custody Seals Intact: Custody Seal No				······································		1				\ 0c									
Δ Yes Δ No						Co	HET I E	mpera	ture(s)	) °C an	a Othe	r Remai	KS:						

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2538-1 SDG Number: 03D2024072

Login Number: 2538 **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	
s 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 <a href="mailto:smaller">&lt;6mm (1/4").</a>	N/A	

Released to Imaging: 7/24/2023 9:54:19 AM

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2538-1 SDG Number: 03D2024072

Login Number: 2538 **List Source: Eurofins Midland** List Creation: 07/13/22 11:52 AM List Number: 2

Creator: Kramer, Jessica

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2539-1

Laboratory Sample Delivery Group: 03102024072

Client Project/Site: Windward 4H Flowline

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings

RAMER

7/21/2022 8:03:00 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

**Review your project** results through EOL **Have a Question?** 

····· Links ······

Visit us at:

www.eurofinsus.com/Env Released to Imaging: 7/24/2023 9:54:19 AM This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten

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

Project/Site: Windward 4H Flowline

Client: Ensolum

Laboratory Job ID: 890-2539-1 SDG: 03102024072

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#### **Definitions/Glossary**

Job ID: 890-2539-1 Client: Ensolum Project/Site: Windward 4H Flowline

SDG: 03102024072

#### **Qualifiers**

**GC VOA** 

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

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**Glossary** 

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

DFR Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

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

Decision Level Concentration (Radiochemistry) DLC

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

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

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

NC Not Calculated

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

NEG Negative / Absent POS Positive / Present PQL Practical Quantitation Limit

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

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2539-1

SDG: 03102024072

Job ID: 890-2539-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2539-1

#### Receipt

The samples were received on 7/11/2022 4:15 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 15.0°C

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29817 and analytical batch 880-30096 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample 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.

#### GC Semi VOA

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-2539-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2539-1
Project/Site: Windward 4H Flowline SDG: 03102024072

Client Sample ID: SS01

Date Collected: 07/11/22 13:25 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F1	0.00201	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
Toluene	0.0164	F1	0.00201	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
Ethylbenzene	0.0194	F1	0.00201	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
m-Xylene & p-Xylene	0.0239	F1	0.00402	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
o-Xylene	0.00435	F1	0.00201	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
Xylenes, Total	0.0283	F1	0.00402	mg/Kg		07/15/22 09:11	07/20/22 13:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130			07/15/22 09:11	07/20/22 13:15	1
1,4-Difluorobenzene (Surr)	100		70 - 130			07/15/22 09:11	07/20/22 13:15	1
Method: Total BTEX - Total BTE	<b>Calculation</b>							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0641		0.00402	mg/Kg			07/21/22 08:55	1
Method: 8015 NM - Diesel Range								
_								
Analyte Total TPH		Qualifier	RL 49.9	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 07/15/22 10:13	
Analyte Total TPH	<b>Result</b> <49.9	Qualifier U			D	Prepared		
Analyte Total TPH	<b>Result</b> <49.9	Qualifier U			<u>D</u>	Prepared		
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte	Result <49.9  ge Organics (Di Result	Qualifier U RO) (GC) Qualifier	49.9	mg/Kg	<u>D</u>	Prepared	07/15/22 10:13  Analyzed	1
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	Result <49.9  ge Organics (Di	Qualifier U RO) (GC) Qualifier	49.9	mg/Kg			07/15/22 10:13	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang	Result <49.9  ge Organics (Di Result	Qualifier U  RO) (GC) Qualifier U	49.9	mg/Kg		Prepared	07/15/22 10:13  Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  ge Organics (Di Result <49.9	Qualifier U  RO) (GC) Qualifier U	49.9  RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 07/13/22 15:06	07/15/22 10:13  Analyzed  07/14/22 16:40	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	Qualifier U  RO) (GC) Qualifier U  U	49.9  RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06	07/15/22 10:13  Analyzed  07/14/22 16:40  07/14/22 16:40	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9	Qualifier U  RO) (GC) Qualifier U  U	49.9  RL 49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06 07/13/22 15:06	07/15/22 10:13  Analyzed 07/14/22 16:40 07/14/22 16:40	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <49.9	Qualifier U  RO) (GC) Qualifier U  U	49.9  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06 07/13/22 15:06 Prepared	07/15/22 10:13  Analyzed  07/14/22 16:40  07/14/22 16:40  Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.9	Qualifier U  RO) (GC) Qualifier U  U  Qualifier	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06 07/13/22 15:06  Prepared 07/13/22 15:06	07/15/22 10:13  Analyzed 07/14/22 16:40  07/14/22 16:40  Analyzed  07/14/22 16:40	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result <49.9  ge Organics (D) Result <49.9 <49.9 <49.9  %Recovery 71 81  comatography -	Qualifier U  RO) (GC) Qualifier U  U  Qualifier	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06 07/13/22 15:06  Prepared 07/13/22 15:06	07/15/22 10:13  Analyzed 07/14/22 16:40  07/14/22 16:40  Analyzed  07/14/22 16:40	Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac

Client Sample ID: SS02

Date Collected: 07/11/22 13:30

Lab Sample ID: 890-2539-2

Matrix: Solid

Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
Toluene	0.00674		0.00202	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
Ethylbenzene	0.00296		0.00202	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
m-Xylene & p-Xylene	0.0186		0.00404	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
o-Xylene	0.00634		0.00202	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
Xylenes, Total	0.0249		0.00404	mg/Kg		07/15/22 09:11	07/20/22 13:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			07/15/22 09:11	07/20/22 13:35	1

**Eurofins Carlsbad** 

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# **Client Sample Results**

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline SDG: 03102024072

**Client Sample ID: SS02** Lab Sample ID: 890-2539-2 Date Collected: 07/11/22 13:30 Matrix: Solid Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Surrogato	% Posovory Qualifier	Limi
Method: 8021B - Volatile Organic	c Compounds (GC) (Contin	ued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	96		70 - 130	07/15/22 09:11	07/20/22 13:35	1

Method: Total	BTFX - Total	BTFX	Calculation
Mictiliou. Total	DIEX - Iotal	DILA	Gaicalation

Analyte	Result Qualifi	er RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0346	0.00404	mg/Kg			07/21/22 08:55	1

Mothod: 8015 NM - Diosal Pango	Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			07/15/22 10:13	1

Method: 8015B	NM - Diesel	Range Or	ganics (	DRO)	(GC)
Method. 0013D	IAIM - DIESEI	Kange Or	yanıcə (	DICO)	(GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		07/13/22 15:06	07/14/22 17:01	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		07/13/22 15:06	07/14/22 17:01	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/13/22 15:06	07/14/22 17:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepare	d Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130	07/13/22 1	5:06 07/14/22 17:0	1 1
o-Terphenyl	80		70 - 130	07/13/22 1	5:06 07/14/22 17:0	1 1

Method: 300.0 - Anions, Ion	Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.47	4.95	mg/Kg		_	07/16/22 13:48	1

**Client Sample ID: SS03** Lab Sample ID: 890-2539-3 Matrix: Solid

Date Collected: 07/11/22 13:35 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Mathadi 0004D	Valatile Overen	ic Compounds (GC)
Memoo: Auzib	- voianie Urdan	ic Compounds (GC)

		()						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
Toluene	0.00439		0.00200	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
m-Xylene & p-Xylene	0.00721		0.00399	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
Xylenes, Total	0.00721		0.00399	mg/Kg		07/15/22 09:11	07/20/22 13:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			07/15/22 09:11	07/20/22 13:56	1
1,4-Difluorobenzene (Surr)	95		70 - 130			07/15/22 09:11	07/20/22 13:56	1

Mathad:	Total P	TEY - T	atal RTI	EX Calcul	lation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0116		0.00399	mg/Kg			07/21/22 08:55	1

	Method: 8015 NM - Diesel	Range Organics (DRO	D) (GC)	١
ı	Michiga. 00 to Min - Diese	i italige Organics (Ditt		,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			07/15/22 10:13	1

Matrix: Solid

Lab Sample ID: 890-2539-3

# **Client Sample Results**

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline SDG: 03102024072

**Client Sample ID: SS03** 

Date Collected: 07/11/22 13:35 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Method: 8015B NM - Diesel Rang	e Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 17:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 17:22	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/13/22 15:06	07/14/22 17:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	69	S1-	70 - 130			07/13/22 15:06	07/14/22 17:22	1
o-Terphenyl	78		70 - 130			07/13/22 15:06	07/14/22 17:22	1

Method: 300.0 - Anions, Ion Chron	natography - Soluble						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.27	4.95	mg/Kg			07/16/22 13:58	1

Lab Sample ID: 890-2539-4 Client Sample ID: SS04 Matrix: Solid

Date Collected: 07/11/22 13:40 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/15/22 09:11	07/20/22 14:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			07/15/22 09:11	07/20/22 14:16	1
1,4-Difluorobenzene (Surr)	92		70 - 130			07/15/22 09:11	07/20/22 14:16	1
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			07/21/22 08:55	1
: Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
: Method: 8015 NM - Diesel Range Analyte	•	O) (GC) Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
_	•	Qualifier	RL	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared	Analyzed 07/15/22 10:13	Dil Fac
Analyte	Result <49.9	Qualifier U			<u>D</u>	Prepared		
Analyte Total TPH  Method: 8015B NM - Diesel Rang	Result <49.9  ge Organics (Di	Qualifier U			<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	Result <49.9  ge Organics (Di	Qualifier U RO) (GC) Qualifier	49.9	mg/Kg			07/15/22 10:13	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  ge Organics (D	Qualifier U  RO) (GC) Qualifier U	49.9	mg/Kg		Prepared	07/15/22 10:13  Analyzed	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.9  ge Organics (Di Result <49.9	Qualifier U  RO) (GC) Qualifier U	49.9  RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 07/13/22 15:06	07/15/22 10:13  Analyzed  07/14/22 17:43	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U  RO) (GC) Qualifier U  U	49.9  RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06	07/15/22 10:13  Analyzed  07/14/22 17:43  07/14/22 17:43	1 Dil Fac
Analyte Total TPH	Result   <49.9	Qualifier U  RO) (GC) Qualifier U  U	49.9  RL 49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 07/13/22 15:06 07/13/22 15:06 07/13/22 15:06	07/15/22 10:13  Analyzed  07/14/22 17:43  07/14/22 17:43	1 Dil Fac 1 1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline SDG: 03102024072

**Client Sample ID: SS04** Lab Sample ID: 890-2539-4 Matrix: Solid

Date Collected: 07/11/22 13:40 Date Received: 07/11/22 16:15

Sample Depth: 0.5'

Method: 300.0 - Anions, Ion Chrom	natography - S	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.2		5.01	mg/Kg			07/16/22 14:07	1

DFBZ = 1,4-Difluorobenzene (Surr)

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2539-1
Project/Site: Windward 4H Flowline SDG: 03102024072

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2539-1	SS01	78	100	
890-2539-1 MS	SS01	90	95	
890-2539-1 MSD	SS01	106	89	
890-2539-2	SS02	90	96	
890-2539-3	SS03	108	95	
890-2539-4	SS04	106	92	
LCS 880-29817/1-A	Lab Control Sample	109	97	
LCSD 880-29817/2-A	Lab Control Sample Dup	101	95	
MB 880-29817/5-A	Method Blank	98	96	
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)	
890-2539-1	SS01	71	81	
890-2539-2	SS02	68 S1-	80	
890-2539-3	SS03	69 S1-	78	
890-2539-4	SS04	86	93	
890-2547-A-50-D MS	Matrix Spike	86	89	
890-2547-A-50-E MSD	Matrix Spike Duplicate	72	76	
LCS 880-29672/2-A	Lab Control Sample	97	110	
LCSD 880-29672/3-A	Lab Control Sample Dup	113	126	
MB 880-29672/1-A	Method Blank	88	102	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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#### **QC Sample Results**

Client: Ensolum Job ID: 890-2539-1
Project/Site: Windward 4H Flowline SDG: 03102024072

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29817/5-A

Matrix: Solid Analysis Batch: 30096 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 29817

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/15/22 09:11	07/20/22 12:46	
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/15/22 09:11	07/20/22 12:46	
Xvlenes Total	<0.00400	П	0.00400	ma/Ka		07/15/22 09:11	07/20/22 12:46	1

MB MB

Surrogate	%Recovery Qua	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98	70 - 130	07/15/22 09:11	07/20/22 12:46	1
1,4-Difluorobenzene (Surr)	96	70 - 130	07/15/22 09:11	07/20/22 12:46	1

Lab Sample ID: LCS 880-29817/1-A

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29817

	<b>Spike</b>	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1048		mg/Kg		105	70 - 130	
Toluene	0.100	0.1037		mg/Kg		104	70 - 130	
Ethylbenzene	0.100	0.1069		mg/Kg		107	70 - 130	
m-Xylene & p-Xylene	0.200	0.2278		mg/Kg		114	70 - 130	
o-Xylene	0.100	0.1203		mg/Kg		120	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	109	70 - 130
1,4-Difluorobenzene (Surr)	97	70 - 130

Lab Sample ID: LCSD 880-29817/2-A

Matrix: Solid

Analysis Batch: 30096

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

Prep Type: Total/NA Prep Batch: 29817

Prep Batch: 29817

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09444		mg/Kg		94	70 - 130	10	35
Toluene	0.100	0.09316		mg/Kg		93	70 - 130	11	35
Ethylbenzene	0.100	0.09138		mg/Kg		91	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1945		mg/Kg		97	70 - 130	16	35
o-Xylene	0.100	0.1025		mg/Kg		103	70 - 130	16	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1.4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-2539-1 MS

**Matrix: Solid** 

Analysis Batch: 30096

Client Sample ID: SS01
Prep Type: Total/NA

Prep Batch: 29817

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U F1	0.0998	0.02974	F1	mg/Kg	_	29	70 - 130	
Toluene	0.0164	F1	0.0998	0.03203	F1	mg/Kg		16	70 - 130	

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#### QC Sample Results

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline SDG: 03102024072

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

Lab Sample ID:	890-2539-1 MS
Matrix: Solid	

**Analysis Batch: 30096** 

**Client Sample ID: SS01** Prep Type: Total/NA Prep Batch: 29817

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	0.0194	F1	0.0998	0.03403	F1	mg/Kg		15	70 - 130	
m-Xylene & p-Xylene	0.0239	F1	0.200	0.06705	F1	mg/Kg		22	70 - 130	
o-Xylene	0.00435	F1	0.0998	0.03828	F1	mg/Kg		34	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	90	70 - 130
1,4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: 890-2539-1 MSD

**Matrix: Solid** 

Analysis Batch: 30096

**Client Sample ID: SS01** Prep Type: Total/NA Prep Batch: 29817

Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier %Rec RPD Limit Analyte Limits Unit 0.100 Benzene <0.00201 UF1 0.02922 F1 mg/Kg 29 70 - 130 2 35 Toluene 0.0164 F1 0.100 0.03409 F1 mg/Kg 18 70 - 130 6 35 Ethylbenzene 0.100 0.03490 F1 15 70 - 130 35 0.0194 F1 mg/Kg 3 0.201 0.07730 F1 27 m-Xylene & p-Xylene 0.0239 F1 mg/Kg 70 - 130 14 35 0.00435 F1 0.100 0.04542 F1 41 70 - 130 o-Xylene mg/Kg 17

MSD MSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	106	70 - 130
1,4-Difluorobenzene (Surr)	89	70 - 130

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

Lab Sample ID: MB 880-29672/1-A

**Matrix: Solid** 

Analysis Batch: 29692

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 29672

MB MB Result Qualifier RL Unit Prepared Analyzed Dil Fac Analyte Gasoline Range Organics 50.0 07/13/22 15:06 07/14/22 09:52 <50.0 U mg/Kg (GRO)-C6-C10 07/13/22 15:06 07/14/22 09:52 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 07/13/22 15:06 07/14/22 09:52 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepare	ed	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	07/13/22 1	5:06	07/14/22 09:52	1
o-Terphenyl	102		70 - 130	07/13/22 1	5:06	07/14/22 09:52	1

Lab Sample ID: LCS 880-29672/2-A

**Matrix: Solid** 

Analysis Batch: 29692

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

Prep Batch: 29672

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	989.6		mg/Kg		99	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	865.7		mg/Kg		87	70 - 130
C10-C28)							

Job ID: 890-2539-1

Client: Ensolum Project/Site: Windward 4H Flowline SDG: 03102024072

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

Lab Sample ID: LCS 880-29672/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

Analysis Batch: 29692

Prep Type: Total/NA

Prep Batch: 29672

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 97 70 - 130 o-Terphenyl 110 70 - 130

Lab Sample ID: LCSD 880-29672/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 29692

Prep Type: Total/NA

Prep Batch: 29672

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 1004 100 70 - 13020 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1051 105 mg/Kg 70 - 13019 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 113 126 70 - 130 o-Terphenyl

Lab Sample ID: 890-2547-A-50-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 29692** 

Prep Type: Total/NA

Prep Batch: 29672

Sample Sample MS MS Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Gasoline Range Organics <50.0 U 1000 1081 mg/Kg 104 70 - 130 (GRO)-C6-C10 <50.0 U F1 Diesel Range Organics (Over 1000 749.4 mg/Kg 75 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 86 o-Terphenyl 89 70 - 130

Lab Sample ID: 890-2547-A-50-E MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** 

Analysis Batch: 29692

Prep Type: Total/NA Prep Batch: 29672

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <50.0 U 999 1289 125 Gasoline Range Organics 70 - 130 18 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U F1 999 641.8 F1 mg/Kg 64 70 - 130 15 20

C10-C28)

MSD MSD

%Recovery Qualifier Surrogate Limits 1-Chlorooctane 72 70 - 130 76 70 - 130 o-Terphenyl

### QC Sample Results

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline

SDG: 03102024072

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29659/1-A Client Sample ID: Method Blank **Matrix: Solid** 

MD MD

**Prep Type: Soluble** 

Analysis Batch: 29860

	INID	IAID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			07/16/22 09:49	1

Lab Sample ID: LCS 880-29659/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 29860

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 263.5 mg/Kg 105 90 - 110

Lab Sample ID: LCSD 880-29659/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 29860

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

Lab Sample ID: 890-2537-A-4-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 29860

_	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	21.2		250	294.6		mg/Kg		109	90 - 110	

Lab Sample ID: 890-2537-A-4-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 29860

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	21.2		250	295.1		mg/Kg		110	90 - 110	0	20

# **QC Association Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2539-1 SDG: 03102024072

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#### **GC VOA**

#### Prep Batch: 29817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Total/NA	Solid	5035	
890-2539-2	SS02	Total/NA	Solid	5035	
890-2539-3	SS03	Total/NA	Solid	5035	
890-2539-4	SS04	Total/NA	Solid	5035	
MB 880-29817/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2539-1 MS	SS01	Total/NA	Solid	5035	
890-2539-1 MSD	SS01	Total/NA	Solid	5035	

#### Analysis Batch: 30096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Total/NA	Solid	8021B	29817
890-2539-2	SS02	Total/NA	Solid	8021B	29817
890-2539-3	SS03	Total/NA	Solid	8021B	29817
890-2539-4	SS04	Total/NA	Solid	8021B	29817
MB 880-29817/5-A	Method Blank	Total/NA	Solid	8021B	29817
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	8021B	29817
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29817
890-2539-1 MS	SS01	Total/NA	Solid	8021B	29817
890-2539-1 MSD	SS01	Total/NA	Solid	8021B	29817

#### Analysis Batch: 30195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-2539-1	SS01	Total/NA	Solid	Total BTEX
890-2539-2	SS02	Total/NA	Solid	Total BTEX
890-2539-3	SS03	Total/NA	Solid	Total BTEX
890-2539-4	SS04	Total/NA	Solid	Total BTEX

#### **GC Semi VOA**

#### Prep Batch: 29672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Total/NA	Solid	8015NM Prep	
890-2539-2	SS02	Total/NA	Solid	8015NM Prep	
890-2539-3	SS03	Total/NA	Solid	8015NM Prep	
890-2539-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 29692

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Total/NA	Solid	8015B NM	29672
890-2539-2	SS02	Total/NA	Solid	8015B NM	29672
890-2539-3	SS03	Total/NA	Solid	8015B NM	29672
890-2539-4	SS04	Total/NA	Solid	8015B NM	29672
MB 880-29672/1-A	Method Blank	Total/NA	Solid	8015B NM	29672
LCS 880-29672/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29672

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# **QC Association Summary**

Client: Ensolum Job ID: 890-2539-1
Project/Site: Windward 4H Flowline SDG: 03102024072

GC Semi VOA (Continued)

#### **Analysis Batch: 29692 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-29672/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29672
890-2547-A-50-D MS	Matrix Spike	Total/NA	Solid	8015B NM	29672
890-2547-A-50-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29672

#### Analysis Batch: 29830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-2539-1	SS01	Total/NA	Solid	8015 NM
890-2539-2	SS02	Total/NA	Solid	8015 NM
890-2539-3	SS03	Total/NA	Solid	8015 NM
890-2539-4	SS04	Total/NA	Solid	8015 NM

#### HPLC/IC

#### Leach Batch: 29659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Soluble	Solid	DI Leach	
890-2539-2	SS02	Soluble	Solid	DI Leach	
890-2539-3	SS03	Soluble	Solid	DI Leach	
890-2539-4	SS04	Soluble	Solid	DI Leach	
MB 880-29659/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29659/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29659/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2537-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2537-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 29860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2539-1	SS01	Soluble	Solid	300.0	29659
890-2539-2	SS02	Soluble	Solid	300.0	29659
890-2539-3	SS03	Soluble	Solid	300.0	29659
890-2539-4	SS04	Soluble	Solid	300.0	29659
MB 880-29659/1-A	Method Blank	Soluble	Solid	300.0	29659
LCS 880-29659/2-A	Lab Control Sample	Soluble	Solid	300.0	29659
LCSD 880-29659/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29659
890-2537-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	29659
890-2537-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29659

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2539-1 SDG: 03102024072

Client Sample ID: SS01

Date Collected: 07/11/22 13:25 Date Received: 07/11/22 16:15

Lab Sample ID: 890-2539-1

**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			4.97 g	5 mL	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 13:15	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30195	07/21/22 08:55	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29830	07/15/22 10:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29672	07/13/22 15:06	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29692	07/14/22 16:40	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	29659	07/13/22 12:36	SMC	XEN MID
Soluble	Analysis	300.0		1			29860	07/16/22 13:39	CH	XEN MID

**Client Sample ID: SS02** Lab Sample ID: 890-2539-2

Date Collected: 07/11/22 13:30

Date Received: 07/11/22 16:15

Matrix: Solid

**Matrix: Solid** 

Dil Final Batch Batch Initial Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Lab **Analyst** Total/NA Prep 5035 4.95 g 5 mL 29817 07/15/22 09:11 MR XEN MID 8021B Total/NA Analysis 1 5 mL 5 mL 30096 07/20/22 13:35 MR XEN MID Total/NA Total BTEX 30195 07/21/22 08:55 Analysis SM XEN MID 1 Total/NA Analysis 8015 NM 29830 07/15/22 10:13 AJ XEN MID 29672 Total/NA 8015NM Prep 10.04 g 07/13/22 15:06 DM XEN MID Prep 10 mL Total/NA Analysis 8015B NM 29692 07/14/22 17:01 SM XEN MID Soluble 29659 DI Leach 5.05 g 50 mL 07/13/22 12:36 SMC **XEN MID** Leach Soluble Analysis 300.0 29860 07/16/22 13:48 СН XEN MID

**Client Sample ID: SS03** Lab Sample ID: 890-2539-3

Date Collected: 07/11/22 13:35 Date Received: 07/11/22 16:15

Dil Batch Batch Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 5.01 g 5 mL 29817 07/15/22 09:11 MR XEN MID Total/NA Analysis 8021B 5 mL 5 mL 30096 07/20/22 13:56 MR XEN MID Total/NA Total BTEX 30195 07/21/22 08:55 SM XEN MID Analysis 1 Total/NA Analysis 8015 NM 29830 07/15/22 10:13 ΑJ XEN MID Total/NA Prep 8015NM Prep 10.01 g 10 mL 29672 07/13/22 15:06 DM XEN MID Total/NA 8015B NM 29692 07/14/22 17:22 XEN MID Analysis 1 SM Soluble DI Leach 5.05 g 50 mL 29659 07/13/22 12:36 SMC XEN MID Leach Soluble Analysis 300.0 29860 07/16/22 13:58 СН XEN MID

Lab Sample ID: 890-2539-4 Client Sample ID: SS04

Date Collected: 07/11/22 13:40

Date Received: 07/11/22 16:15

	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	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 14:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30195	07/21/22 08:55	SM	XEN MID

**Eurofins Carlsbad** 

**Matrix: Solid** 

Page 16 of 24

#### **Lab Chronicle**

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline SDG: 03102024072

**Client Sample ID: SS04** Lab Sample ID: 890-2539-4

Date Collected: 07/11/22 13:40 Matrix: Solid Date Received: 07/11/22 16:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29830	07/15/22 10:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29672	07/13/22 15:06	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29692	07/14/22 17:43	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	29659	07/13/22 12:36	SMC	XEN MID
Soluble	Analysis	300.0		1			29860	07/16/22 14:07	CH	XEN MID

#### Laboratory References:

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2539-1 Project/Site: Windward 4H Flowline

SDG: 03102024072

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

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

Authority Texas		ogram	Identification Number	Expiration Date		
		ELAP	T104704400-22-24	06-30-23		
The following analytes the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes f		
Analysis Method	Prep Method	Matrix	Analyte			
8015 NM		Solid	Total TPH			

## **Method Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2539-1

SDG: 03102024072

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

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

**Eurofins Carlsbad** 

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# **Sample Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-2539-1

SDG: 03102024072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2539-1	SS01	Solid	07/11/22 13:25	07/11/22 16:15	0.5'
890-2539-2	SS02	Solid	07/11/22 13:30	07/11/22 16:15	0.5'
890-2539-3	SS03	Solid	07/11/22 13:35	07/11/22 16:15	0.5'
890-2539-4	SS04	Solid	07/11/22 13:40	07/11/22 16:15	0.5'

# Page 67 of 136

Received by OCD: 5/1/2023 3:11:15 PM

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Environment Testing Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296

Work Order No: \_

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**Environment Testing** America

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SS02 (890-2539-2)	7/11/22	13 30 Mountain		Solid			x	х	x .	х	х							1		_	
SS03 (890-2539-3)	7/11/22	13 35 Mountain		Solid			х	х	X .	х	х							1			
SS04 (890-2539-4)	7/11/22	13 40 Mountain		Solid			х	х	X	х	x							1			
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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2539-1 SDG Number: 03102024072

Login Number: 2539 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.	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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## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2539-1

SDG Number: 03102024072

Login Number: 2539 **List Source: Eurofins Midland** List Number: 2

List Creation: 07/13/22 11:52 AM

Creator: Kramer, Jessica

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	N/A	

**Eurofins Carlsbad** 

<6mm (1/4").

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 3/16/2023 10:36:20 AM Revision 1

# **JOB DESCRIPTION**

Windward 4H Flowline SDG NUMBER 03D2024072

# **JOB NUMBER**

890-4067-1

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 3/16/2023 10:36:20 AM Revision 1

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

Page 2 of 40

Project/Site: Windward 4H Flowline

Client: Ensolum

Laboratory Job ID: 890-4067-1 SDG: 03D2024072

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### **Definitions/Glossary**

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline

SDG: 03D2024072

#### **Qualifiers**

**GC VOA** Qualifier

F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

**Qualifier Description** 

S1+ Surrogate recovery exceeds control limits, high biased.

U Indicates the analyte was analyzed for but not detected.

#### GC Semi VOA

Qualifier **Qualifier Description** F1

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

**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 Contains Free Liquid **CFL** 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) Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

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

MDI Method Detection Limit ML Minimum Level (Dioxin) Most Probable Number MPN 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

**Practical Quantitation Limit** PQL

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

**RER** Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

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

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

**TNTC** Too Numerous To Count

#### Case Narrative

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-4067-1

SDG: 03D2024072

Job ID: 890-4067-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-4067-1

#### REVISION

The report being provided is a revision of the original report sent on 2/15/2023. The report (revision 1) is being revised due to Per client email, requesting sample ID changes.

Report revision history

#### Receipt

The samples were received on 2/8/2023 2:56 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS07 (890-4067-1), SW01 (890-4067-2), SW02 (890-4067-3), SW03 (890-4067-4), SW04 (890-4067-5), SW05 (890-4067-6), SW06 (890-4067-7), SW07 (890-4067-8), SW08 (890-4067-10), FS01 (890-4067-11), FS02 (890-4067-12), FS03 (890-4067-13), FS04 (890-4067-14), FS05 (890-4067-15) and FS06 (890-4067-16).

#### **GC VOA**

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW02 (890-4067-3), SW04 (890-4067-5), SW06 (890-4067-7) and SW07 (890-4067-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-46021 and analytical batch 880-46072 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.

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-46199 and analytical batch 880-46269 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: Surrogate recovery for the following samples were outside control limits: FS05 (890-4067-15) and FS06 (890-4067-16). Evidence of matrix interferences is not obvious.

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

#### HPLC/IC

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

Eurofins Carlsbad 3/16/2023 (Rev. 1)

**Matrix: Solid** 

Lab Sample ID: 890-4067-1

02/13/23 16:56 02/14/23 11:42

Client: Ensolum Job ID: 890-4067-1

Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: FS07** Date Collected: 02/07/23 10:40 Date Received: 02/08/23 14:56

Sample Depth: 0-7'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
Toluene	<0.00201	U F1 F2	0.00201	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 15:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			02/10/23 15:07	02/12/23 15:38	1
1,4-Difluorobenzene (Surr)	83		70 - 130			02/10/23 15:07	02/12/23 15:38	1

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg	- — ·		02/13/23 19:57	1

Method: SW846 8015 NM - Die	sel Range (	Organics (D	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/15/23 09:48	1

Method: SW846 8015B NM - I	Diesel Range	<b>Organics</b>	(DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	49.9	mg/Kg		02/13/23 16:56	02/14/23 11:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9	mg/Kg		02/13/23 16:56	02/14/23 11:42	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 11:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130			02/13/23 16:56	02/14/23 11:42	1

Method: EPA 300.0 - Anions, I	on Chromatography -	Soluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.5	4.99	ma/Ka			02/14/23 02:09	1

70 - 130

Lab Sample ID: 890-4067-2 **Client Sample ID: SW01** Date Collected: 02/07/23 10:50

Date Received: 02/08/23 14:56

Sample Depth: 0-7'

o-Terphenyl

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 16:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130			02/10/23 15:07	02/12/23 16:04	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

**Matrix: Solid** 

Lab Sample ID: 890-4067-2

## **Client Sample Results**

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW01** 

Date Collected: 02/07/23 10:50 Date Received: 02/08/23 14:56

Sample Depth: 0-7'

sample Depth. 0-7		

Surrogate	%Recovery Qualifier	Limits	Prepared Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	78	70 - 130	02/10/23 15:07 02/12/23 16:04	1 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			02/13/23 19:57	1

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

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

Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	J	50.0	mg/Kg			02/15/23 09:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 12:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 12:48	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 12:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	02/13/23 16:56	02/14/23 12:48	1
o-Terphenyl	76		70 - 130	02/13/23 16:56	02/14/23 12:48	1

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

Analyte	Result Qual	lifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.8	5.01	mg/Kg			02/14/23 02:23	1

Lab Sample ID: 890-4067-3 Client Sample ID: SW02 **Matrix: Solid** 

Date Collected: 02/07/23 11:00 Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Method: SW846 8021B - Volatile Organic Compounds (	Method:	: SW846 8021B	- Volatile Organic	Compounds (GC)
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Michiga. Citoro coz 15 - to	nathe Organie	Compoun	us ( <b>cc</b> )					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 16:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130			02/10/23 15:07	02/12/23 16:30	1
1,4-Difluorobenzene (Surr)	91		70 - 130			02/10/23 15:07	02/12/23 16:30	1

Method: TAL SOP Total BTFX - Total BTFX Calcu	lotion

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/13/23 19:57	1

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

Analyte	Result Qu	ualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9 U	49.9	mg/Kg			02/15/23 09:48	1

Job ID: 890-4067-1

Client: Ensolum SDG: 03D2024072 Project/Site: Windward 4H Flowline

Sample Depth: 0-6'

Client Sample ID: SW02	Lab Sample ID: 890-4067-3
Date Collected: 02/07/23 11:00	Matrix: Solid
Date Received: 02/08/23 14:56	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:10	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130			02/13/23 16:56	02/14/23 13:10	1
o-Terphenyl	72		70 - 130			02/13/23 16:56	02/14/23 13:10	1
_		_	Oalakia					
Method: EPA 300.0 - Anions,	Ion Chroma	tography -	Soluble					
Method: EPA 300.0 - Anions, Analyte		tography - Qualifier	Soluble RL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: 890-4067-4 **Client Sample ID: SW03** Date Collected: 02/07/23 12:10 Matrix: Solid

Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 16:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			02/10/23 15:07	02/12/23 16:55	1
1,4-Difluorobenzene (Surr)	83		70 - 130			02/10/23 15:07	02/12/23 16:55	1
Method: TAL SOP Total BT	EX - Total BTE	X Calculat	tion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/13/23 19:57	1
Method: SW846 8015 NM -	Diesel Range	Organics (	DRO) (GC)					
Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/15/23 09:48	1
Method: SW846 8015B NM - D	iesel Range	organics	(DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:31	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 13:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130			02/13/23 16:56	02/14/23 13:31	1
o-Terphenyl	80		70 - 130			02/13/23 16:56	02/14/23 13:31	1

Job ID: 890-4067-1

Client: Ensolum Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW03** Lab Sample ID: 890-4067-4 Date Collected: 02/07/23 12:10

Matrix: Solid

Date Received: 02/08/23 14:56 Sample Depth: 0-6'

Method: EPA 300.0 - Anions, Id	on Chromate	ography - S	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		5.02	mg/Kg			02/14/23 02:32	1

**Client Sample ID: SW04** Lab Sample ID: 890-4067-5

Date Collected: 02/07/23 12:45 Matrix: Solid

Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Resuit	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
< 0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
< 0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 17:22	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
137	S1+	70 - 130			02/10/23 15:07	02/12/23 17:22	1
82		70 - 130			02/10/23 15:07	02/12/23 17:22	1
-	<0.00201 <0.00201 <0.00402 <0.00201 <0.00402 %Recovery 137	<pre>&lt;0.00201 U &lt;0.00201 U &lt;0.00201 U &lt;0.00201 U &lt;0.00402 U &lt;0.00201 U &lt;0.00402 U  %Recovery Qualifier 137 S1+ 82</pre>	<pre>&lt;0.00201 U</pre>	<0.00201	<0.00201	<0.00201	<0.00201

	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/23 19:57	1
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			02/15/23 09:48	1
	Discol Boson	0	(DDO) (OO)					

Method: SW846 8015B NM - D	iesel Range	<ul><li>Organics</li></ul>	(DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 13:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 13:53	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 13:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			02/13/23 16:56	02/14/23 13:53	1
o-Terphenyl	81		70 - 130			02/13/23 16:56	02/14/23 13:53	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble								
	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	137	5.01	mg/Kg			02/14/23 02:37	1

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Client Sample ID: SW05

Date Collected: 02/07/23 12:50 Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Lab Sample ID: 890-4067-6

**Matrix: Solid** 

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/10/23 15:07	02/12/23 17:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			02/10/23 15:07	02/12/23 17:47	1
1,4-Difluorobenzene (Surr)	86		70 - 130			02/10/23 15:07	02/12/23 17:47	1

**Method: TAL SOP Total BTEX - Total BTEX Calculation** Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Total BTEX <0.00401 U 0.00401 mg/Kg 02/13/23 19:57

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier Unit Analyzed Dil Fac RL D Prepared Total TPH <49.9 U 49.9 mg/Kg 02/15/23 09:48

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac <49.9 U Gasoline Range Organics 49.9 02/13/23 16:56 02/14/23 14:15 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 49.9 mg/Kg 02/13/23 16:56 02/14/23 14:15 C10-C28) Oll Range Organics (Over C28-C36) <49.9 U 49.9 02/13/23 16:56 02/14/23 14:15 mg/Kg %Recovery Qualifier Limits Prepared Dil Fac Surrogate Analyzed

1-Chlorooctane 70 - 130 02/13/23 16:56 02/14/23 14:15 86 o-Terphenyl 84 70 - 130 02/13/23 16:56 02/14/23 14:15 Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride 5.00 mg/Kg 02/14/23 02:42 80.8

**Client Sample ID: SW06** Lab Sample ID: 890-4067-7 Date Collected: 02/07/23 13:05 Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 18:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130			02/10/23 15:07	02/12/23 18:14	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW06** Lab Sample ID: 890-4067-7

Date Collected: 02/07/23 13:05 **Matrix: Solid** Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94	70 - 130	02/10/23 15:07	02/12/23 18:14	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/13/23 19:57	1

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

Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	J	50.0	mg/Kg			02/15/23 09:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)
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method: Offo-to-to-to-to-	ricoci italige	, Organico	(Dito) (GG)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 14:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 14:38	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 14:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74	70 - 130	02/13/23 16:56	02/14/23 14:38	1
o-Terphenyl	73	70 - 130	02/13/23 16:56	02/14/23 14:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/14/23 02:46	1

**Client Sample ID: SW07** Lab Sample ID: 890-4067-8 Matrix: Solid

Date Collected: 02/07/23 13:10 Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Mothod: CIMOAC 9024D	Volatila Organia	c Compounds	(CC)

Welliou. 344040 002 ID - Vo	name Organic	Compoun	us (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 18:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	151	S1+	70 - 130			02/10/23 15:07	02/12/23 18:40	1
1.4-Difluorobenzene (Surr)	95		70 - 130			02/10/23 15:07	02/12/23 18:40	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			02/13/23 19:57	1

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

Analyte	Result Quali	tier RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg			02/15/23 09:48	1

**Matrix: Solid** 

02/14/23 03:00

Client: Ensolum Job ID: 890-4067-1

Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW07** Lab Sample ID: 890-4067-8 Date Collected: 02/07/23 13:10 Date Received: 02/08/23 14:56

7.55

Sample Depth: 0-6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 15:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 15:00	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 15:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			02/13/23 16:56	02/14/23 15:00	1
o-Terphenyl	82		70 - 130			02/13/23 16:56	02/14/23 15:00	1
Method: EPA 300.0 - Anions,	lon Chroma	tography -	Soluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: 890-4067-9 **Client Sample ID: SW08** Date Collected: 02/07/23 13:30 **Matrix: Solid** 

5.02

mg/Kg

Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
m-Xylene & p-Xylene	< 0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 19:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			02/10/23 15:07	02/12/23 19:07	1
1,4-Difluorobenzene (Surr)	86		70 - 130			02/10/23 15:07	02/12/23 19:07	1
Method: TAL SOP Total BTEX	- Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/13/23 19:57	1
Method: SW846 8015 NM - Die	esel Range	Organics (	DRO) (GC)					
Analyte		Qualifier	, RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/15/23 09:48	1
Method: SW846 8015B NM - D	iesel Range	Organics	(DRO) (GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:22	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			02/13/23 16:56	02/14/23 15:22	1
1-Chioroccane	05		70-700			02/10/20 10:00	02/14/20 10.22	,

## **Client Sample Results**

Client: Ensolum Job ID: 890-4067-1

Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW08** Lab Sample ID: 890-4067-9 Date Collected: 02/07/23 13:30 Matrix: Solid Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	14.3		5.00	mg/Kg			02/14/23 03:05	1

**Client Sample ID: SW09** Lab Sample ID: 890-4067-10 **Matrix: Solid** 

Date Collected: 02/07/23 13:35 Date Received: 02/08/23 14:56

Sample Depth: 0-6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/10/23 15:07	02/12/23 19:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130			02/10/23 15:07	02/12/23 19:34	1
1,4-Difluorobenzene (Surr)	88		70 - 130			02/10/23 15:07	02/12/23 19:34	1

Method: TAL SOP Total BTEX	- Total BTE	X Calculati	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/13/23 19:57	1

Method: SW846 8015 NM - Die	sel Range (	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/15/23 09:48	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:44	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 15:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130			02/13/23 16:56	02/14/23 15:44	1
o-Terphenyl	72		70 - 130			02/13/23 16:56	02/14/23 15:44	1

Method: EPA 300.0 - Anions, Io	on Chromatography -	- Soluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79.0	4.98	mg/Kg			02/14/23 03:19	1

**Matrix: Solid** 

Lab Sample ID: 890-4067-11

Client: Ensolum

Job ID: 890-4067-1

Project/Site: Windward 4H Flowline

SDG: 03D2024072

Project/Site: Windward 4H Flowline SDG: 03D2024072

Client Sample ID: FS01

Date Collected: 02/07/23 10:30

Date Received: 02/08/23 14:56

Sample Depth: 7'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 21:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			02/10/23 15:07	02/12/23 21:21	1
1,4-Difluorobenzene (Surr)	86		70 - 130			02/10/23 15:07	02/12/23 21:21	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			02/13/23 19:57	1
	_								

Method: SW846 8015 NM - Dies	sel Range (	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/15/23 09:48	1

Method: SW846 8015B NM - D	Diesel Range	<b>Organics</b>	(DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 16:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 16:31	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 16:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130			02/13/23 16:56	02/14/23 16:31	1

o-Terphenyl	70	70 - 130		(	)2/13/23 16:56	02/14/23 16:31	1
Method: EPA 300.0 - Anions, lo	n Chromatography - So	luble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

 Chloride
 12.0
 4.95
 mg/Kg
 02/14/23 03:23
 1

 Client Sample ID: FS02
 Lab Sample ID: 890-4067-12

Date Collected: 02/07/23 10:55 Date Received: 02/08/23 14:56

Sample Depth: 6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 21:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			02/10/23 15:07	02/12/23 21:48	1

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**Matrix: Solid** 

Client: Ensolum Job ID: 890-4067-1
Project/Site: Windward 4H Flowline SDG: 03D2024072

Client Sample ID: FS02

Date Collected: 02/07/23 10:55

Lab Sample ID: 890-4067-12

Matrix: Solid

Date Collected: 02/07/23 10:55
Date Received: 02/08/23 14:56

Sample Depth: 6'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	76	70 - 130	02/10/23 15:07	02/12/23 21:48	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/23 19:57	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			02/15/23 09:48	1

Method: SW846 8015B NM - Diesel Rang	ge Organics (DRO) (GC)
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Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 16:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 16:53	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/13/23 16:56	02/14/23 16:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	02/13/23 16:56	02/14/23 16:53	1
o-Terphenyl	81		70 - 130	02/13/23 16:56	02/14/23 16:53	1

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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30.1	5.00	mg/Kg			02/14/23 03:28	1

Client Sample ID: FS03

Date Collected: 02/07/23 12:05

Lab Sample ID: 890-4067-13

Matrix: Solid

Date Collected: 02/07/23 12:05 Date Received: 02/08/23 14:56

Sample Depth: 6'

Method: SW846 8021B	Volatile Organic	Compounds (GC)
MELITOU. SYVO40 OUZ ID	· voiallie Organic	Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 22:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			02/10/23 15:07	02/12/23 22:14	1
1,4-Difluorobenzene (Surr)	85		70 - 130			02/10/23 15:07	02/12/23 22:14	1

Method: TA	I SOP Total RTFX.	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/13/23 19:57	1

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

Analyte	Result Quali	ifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 U	49.8	mg/Kg			02/15/23 09:48	1

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### **Client Sample Results**

Client: Ensolum Job ID: 890-4067-1

Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: FS03** Lab Sample ID: 890-4067-13 Date Collected: 02/07/23 12:05 **Matrix: Solid** 

Date Received: 02/08/23 14:56 Sample Depth: 6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 17:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 17:15	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/13/23 16:56	02/14/23 17:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130			02/13/23 16:56	02/14/23 17:15	1
o-Terphenyl	84		70 - 130			02/13/23 16:56	02/14/23 17:15	1
Method: EPA 300.0 - Anions, I	on Chroma	tography -	Soluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

4.99 **Client Sample ID: FS04** Lab Sample ID: 890-4067-14

mg/Kg

Date Collected: 02/07/23 12:40 Date Received: 02/08/23 14:56

70

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25.4

Sample Depth: 6'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
Toluene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/23 15:07	02/12/23 22:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			02/10/23 15:07	02/12/23 22:40	1
1,4-Difluorobenzene (Surr)	86		70 - 130			02/10/23 15:07	02/12/23 22:40	1
Total BTEX  Method: SW846 8015 NM - Die	<0.00398		0.00398 DRO) (GC)	mg/Kg			02/13/23 19:57	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
T-4-LTDLL	<50.0							
Total TPH -	100.0	U	50.0	mg/Kg			02/15/23 09:48	1
				mg/Kg			02/15/23 09:48	1
- -	Diesel Range			mg/Kg <b>Unit</b>	D	Prepared	02/15/23 09:48  Analyzed	
<u>-</u> Method: SW846 8015B NM - □	Diesel Range	Organics Qualifier	(DRO) (GC)		<u>D</u>	Prepared 02/13/23 16:56		
Method: SW846 8015B NM - DANAINTE Gasoline Range Organics	Diesel Range Result	Organics Qualifier	(DRO) (GC)	Unit	<u>D</u>	02/13/23 16:56	Analyzed	Dil Fac
Method: SW846 8015B NM - DANIEL Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Diesel Range Result <50.0	Organics Qualifier U	(DRO) (GC) RL 50.0	Unit mg/Kg	<u>D</u>	02/13/23 16:56 02/13/23 16:56	Analyzed 02/14/23 17:37	1 Dil Fac

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02/13/23 16:56 02/14/23 17:37

02/13/23 16:56 02/14/23 17:37

70 - 130

70 - 130

02/14/23 03:33

**Matrix: Solid** 

3/16/2023 (Rev. 1)

1-Chlorooctane

o-Terphenyl

Date Received: 02/08/23 14:56

Job ID: 890-4067-1

Client: Ensolum Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: FS04** Lab Sample ID: 890-4067-14 Date Collected: 02/07/23 12:40

**Matrix: Solid** 

Sample Depth: 6'

Method: EPA 300.0 - Anions, Id	on Chromat	ography -	Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.5		5.01	mg/Kg			02/14/23 03:37	1

**Client Sample ID: FS05** Lab Sample ID: 890-4067-15

Date Collected: 02/07/23 13:00 **Matrix: Solid** 

Date Received: 02/08/23 14:56

Sample Depth: 6'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/10/23 15:07	02/12/23 23:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			02/10/23 15:07	02/12/23 23:07	1
1,4-Difluorobenzene (Surr)	85		70 - 130			02/10/23 15:07	02/12/23 23:07	1

Method: TAL SOP Total BTEX -	· Total BTE	X Calculati	on					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/13/23 19:57	1

Method: SW846 8015 NM - Diesel	Range (	Organics (D	RO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/15/23 09:48	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 17:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 17:59	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/13/23 16:56	02/14/23 17:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130			02/13/23 16:56	02/14/23 17:59	1
o-Terphenyl	68	S1-	70 - 130			02/13/23 16:56	02/14/23 17:59	1

Method: EPA 300.0 - Anions, Io	n Chromatography - S	Soluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.4	4.97	mg/Kg			02/14/23 03:42	1

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Lab Sample ID: 890-4067-16 **Client Sample ID: FS06** 

Date Collected: 02/07/23 13:25 Matrix: Solid Date Received: 02/08/23 14:56

Sample Depth: 6'

Method: SW846 8021B - Volat Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 23:34	
Toluene	< 0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 23:34	
Ethylbenzene	< 0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 23:34	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 23:34	
o-Xylene	< 0.00201	U	0.00201	mg/Kg		02/10/23 15:07	02/12/23 23:34	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/10/23 15:07	02/12/23 23:34	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	127		70 - 130			02/10/23 15:07	02/12/23 23:34	
1,4-Difluorobenzene (Surr)	87		70 - 130			02/10/23 15:07	02/12/23 23:34	
Method: TAL SOP Total BTEX	- Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/13/23 19:57	
Method: SW846 8015 NM - Die	esel Range (	Organics (	DRO) (GC)					
					_			
Analyte		Qualifier	DRO) (GC) RL 49.9	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 02/15/23 09:48	Dil Fa
Analyte	Result	Qualifier	RL	Unit mg/Kg	<u>D</u>	Prepared		Dil Fa
Analyte Total TPH	<b>Result</b> <49.9	Qualifier U	<b>RL</b> 49.9		<u>D</u>	Prepared		Dil Fa
Analyte Total TPH Method: SW846 8015B NM - D	Result <49.9	Qualifier U	<b>RL</b> 49.9		<u>D</u>	Prepared Prepared		
Analyte Total TPH  Method: SW846 8015B NM - E Analyte  Gasoline Range Organics	Result <49.9	Qualifier  U  Organics Qualifier	RL 49.9 (DRO) (GC)	mg/Kg	=		02/15/23 09:48	
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9 Diesel Range Result	Qualifier  U  Organics Qualifier  U	RL 49.9 (DRO) (GC) RL	mg/Kg	=	Prepared 02/13/23 16:56	02/15/23 09:48  Analyzed	
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.9  Diesel Range Result <49.9	Qualifier U  Organics Qualifier U	RL 49.9 (DRO) (GC) RL 49.9	mg/Kg  Unit mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56	02/15/23 09:48  Analyzed  02/14/23 18:22	
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9	Qualifier U  Organics Qualifier U  U	RL 49.9 (DRO) (GC) RL 49.9	mg/Kg  Unit mg/Kg  mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56	02/15/23 09:48  Analyzed 02/14/23 18:22 02/14/23 18:22	Dil Fa
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate	Result   <49.9	Qualifier U  Organics Qualifier U  U	RL 49.9 (DRO) (GC) RL 49.9 49.9	mg/Kg  Unit mg/Kg  mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56 02/13/23 16:56	02/15/23 09:48  Analyzed 02/14/23 18:22 02/14/23 18:22 02/14/23 18:22 Analyzed	Dil Fa
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.9	Qualifier U  Organics Qualifier U  U  Qualifier	RL 49.9 (DRO) (GC) RL 49.9 49.9 Limits	mg/Kg  Unit mg/Kg  mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56 02/13/23 16:56 Prepared 02/13/23 16:56	02/15/23 09:48  Analyzed 02/14/23 18:22 02/14/23 18:22 02/14/23 18:22 Analyzed	Dil Fa
Analyte Total TPH  Method: SW846 8015B NM - E Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  Organics Qualifier U  U  U  Qualifier S1-	RL 49.9 (DRO) (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg  Unit mg/Kg  mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56 02/13/23 16:56 Prepared 02/13/23 16:56	Analyzed 02/14/23 18:22 02/14/23 18:22 02/14/23 18:22  Analyzed 02/14/23 18:22	Dil Fa
Method: SW846 8015 NM - Did Analyte Total TPH  Method: SW846 8015B NM - Did Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl  Method: EPA 300.0 - Anions, Analyte	Result	Qualifier U  Organics Qualifier U  U  U  Qualifier S1-	RL 49.9 (DRO) (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg  Unit mg/Kg  mg/Kg	=	Prepared 02/13/23 16:56 02/13/23 16:56 02/13/23 16:56 Prepared 02/13/23 16:56	Analyzed 02/14/23 18:22 02/14/23 18:22 02/14/23 18:22  Analyzed 02/14/23 18:22	Dil Fa

### **Surrogate Summary**

Client: Ensolum Job ID: 890-4067-1
Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

			Perce	nt Surrogate Re
		BFB1	DFBZ1	-
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4067-1	FS07	129	83	
890-4067-1 MS	FS07	122	85	
890-4067-1 MSD	FS07	100	84	
890-4067-2	SW01	123	78	
890-4067-3	SW02	142 S1+	91	
890-4067-4	SW03	111	83	
890-4067-5	SW04	137 S1+	82	
890-4067-6	SW05	116	86	
890-4067-7	SW06	144 S1+	94	
890-4067-8	SW07	151 S1+	95	
890-4067-9	SW08	118	86	
890-4067-10	SW09	132 S1+	88	
890-4067-11	FS01	129	86	
890-4067-12	FS02	108	76	
890-4067-13	FS03	111	85	
890-4067-14	FS04	112	86	
890-4067-15	FS05	125	85	
890-4067-16	FS06	127	87	
LCS 880-46021/1-A	Lab Control Sample	124	97	
LCSD 880-46021/2-A	Lab Control Sample Dup	118	96	
	Method Blank	84	81	

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

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

Matrix: Solid Prep Type: Total/NA

			Pe
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4067-1	FS07	82	82
890-4067-1 MS	FS07	78	74
890-4067-1 MSD	FS07	78	76
890-4067-2	SW01	78	76
890-4067-3	SW02	72	72
890-4067-4	SW03	82	80
890-4067-5	SW04	83	81
890-4067-6	SW05	86	84
890-4067-7	SW06	74	73
890-4067-8	SW07	84	82
890-4067-9	SW08	83	80
890-4067-10	SW09	72	72
890-4067-11	FS01	71	70
890-4067-12	FS02	83	81
890-4067-13	FS03	87	84
890-4067-14	FS04	70	70
890-4067-15	FS05	68 S1-	68 S1-
890-4067-16	FS06	69 S1-	70

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### **Surrogate Summary**

Client: Ensolum
Project/Site: Windward 4H Flowline
Job ID: 890-4067-1
SDG: 03D2024072

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

Matrix: Solid Prep Type: Total/NA

			Perc	ent Surrogate Rec
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
LCS 880-46199/2-A	Lab Control Sample	108	91	
LCSD 880-46199/3-A	Lab Control Sample Dup	94	90	
MB 880-46199/1-A	Method Blank	95	96	
Surrogate Legend				
1CO = 1-Chlorooctane				
OTPH = o-Terphenyl				

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### **QC Sample Results**

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46021/5-A

**Matrix: Solid** 

**Analysis Batch: 46072** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

Prep Batch: 46021

•	MB	MB					•	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 15:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 15:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 15:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/23 15:07	02/12/23 15:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/23 15:07	02/12/23 15:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/23 15:07	02/12/23 15:12	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared A	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	02/10/23 15:07 02/	12/23 15:12	1
1,4-Difluorobenzene (Surr)	81		70 - 130	02/10/23 15:07 02/	12/23 15:12	1

Lab Sample ID: LCS 880-46021/1-A

Matrix: Solid

**Analysis Batch: 46072** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 46021

	Spike	LCS LCS			%Rec	
Analyte	Added	Result Qualifier	Unit	D %Rec	Limits	
Benzene	0.100	0.1183	mg/Kg	118	70 - 130	
Toluene	0.100	0.1212	mg/Kg	121	70 - 130	
Ethylbenzene	0.100	0.1188	mg/Kg	119	70 - 130	
m-Xylene & p-Xylene	0.200	0.2376	mg/Kg	119	70 - 130	
o-Xylene	0.100	0.1211	mg/Kg	121	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: LCSD 880-46021/2-A

**Matrix: Solid** 

**Analysis Batch: 46072** 

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

Prep Batch: 46021

	Spike	LCSD L	.CSD				%Rec		RPD
Analyte	Added	Result Q	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1072		mg/Kg	_	107	70 - 130	10	35
Toluene	0.100	0.1118		mg/Kg		112	70 - 130	8	35
Ethylbenzene	0.100	0.1110		mg/Kg		111	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2259		mg/Kg		113	70 - 130	5	35
o-Xylene	0.100	0.1117		mg/Kg		112	70 - 130	8	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1.4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-4067-1 MS

**Matrix: Solid** 

**Analysis Batch: 46072** 

**Client Sample ID: FS07** Prep Type: Total/NA

Prep Batch: 46021

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.100	0.09807		mg/Kg	_	98	70 - 130	
Toluene	<0.00201	U F1 F2	0.100	0.09915		mg/Kg		99	70 - 130	

### QC Sample Results

Client: Ensolum Job ID: 890-4067-1 SDG: 03D2024072 Project/Site: Windward 4H Flowline

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

Lab Sample ID: 890-4067-1 MS **Matrix: Solid** 

**Analysis Batch: 46072** 

Client Sample ID: FS07 Prep Type: Total/NA

Prep Batch: 46021

Sample	Sample	Spike	MS	MS				%Rec	
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
<0.00201	U	0.100	0.09841		mg/Kg		98	70 - 130	
<0.00402	U	0.201	0.2009		mg/Kg		99	70 - 130	
<0.00201	U	0.100	0.1004		mg/Kg		100	70 - 130	
	Result <0.00201 <0.00402	<0.00402 U	Result   Qualifier   Added	Result   Qualifier   Added   Result	Result          Qualifier         Added          Result          Qualifier           <0.00201	Result         Qualifier         Added         Result         Qualifier         Unit           <0.00201	Result         Qualifier         Added         Result         Qualifier         Unit         D           <0.00201	Result Qualifier         Added Added         Result Qualifier         Unit Discovery         D %Rec           <0.00201 U	Result Qualifier         Added Added         Result Qualifier         Unit Unit Unit Unit Unit Unit Unit Unit

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	85		70 - 130

Client Sample ID: FS07

Prep Type: Total/NA

**Matrix: Solid** 

Lab Sample ID: 890-4067-1 MSD

Prep Batch: 46021 **Analysis Batch: 46072** Sample Sample Spike MSD MSD %Rec **RPD** 

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Benzene <0.00201 U 0.0990 82 70 - 130 19 35 0.08116 mg/Kg Toluene <0.00201 UF1F2 0.0990 0.008855 F1 F2 9 70 - 130 167 35 mg/Kg Ethylbenzene <0.00201 U 0.0990 0.08781 mg/Kg 89 70 - 130 11 35 m-Xylene & p-Xylene <0.00402 U 0.198 0.1731 mg/Kg 87 70 - 130 15 35 <0.00201 U 0.0990 0.08067 81 70 - 130 22 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	84		70 - 130

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

Lab Sample ID: MB 880-46199/1-A

**Matrix: Solid** 

**Analysis Batch: 46269** 

**Client Sample ID: Method Blank** Prep Type: Total/NA Prep Batch: 46199

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics <50.0 U 50.0 02/13/23 16:56 02/14/23 09:07 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg 02/13/23 16:56 02/14/23 09:07 C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 mg/Kg 02/13/23 16:56 02/14/23 09:07

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	02/13/23 16:56	02/14/23 09:07	1
o-Terphenyl	96		70 - 130	02/13/23 16:56	02/14/23 09:07	1

Lab Sample ID: LCS 880-46199/2-A

**Matrix: Solid** 

**Analysis Batch: 46269** 

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

Prep Batch: 46199

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	875.0		mg/Kg		87	70 - 130	-
Diesel Range Organics (Over C10-C28)	1000	920.4		mg/Kg		92	70 - 130	

### QC Sample Results

Client: Ensolum Job ID: 890-4067-1 SDG: 03D2024072 Project/Site: Windward 4H Flowline

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

Lab Sample ID: LCS 880-46199/2-A

Lab Sample ID: LCSD 880-46199/3-A

**Matrix: Solid** 

**Analysis Batch: 46269** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 46199

LCS LCS

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 108 70 - 130 o-Terphenyl 91 70 - 130

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

**Prep Type: Total/NA** 

**Matrix: Solid** 

**Analysis Batch: 46269** 

Prep Batch: 46199 LCSD LCSD RPD %Rec Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 838.2 mg/Kg 84 70 - 130 4 20 (GRO)-C6-C10 Diesel Range Organics (Over 1000 903.2 mg/Kg 90 70 - 130 2 20

C10-C28)

LCSD LCSD %Recovery Qualifier Surrogate Limits 1-Chlorooctane 94 70 - 130 70 - 130 o-Terphenyl 90

Lab Sample ID: 890-4067-1 MS Client Sample ID: FS07 **Matrix: Solid Prep Type: Total/NA** 

**Analysis Batch: 46269** Prep Batch: 46199 Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec

318.0 F1 Gasoline Range Organics <49.9 UF1 999 mg/Kg 30 70 - 130 (GRO)-C6-C10 999 Diesel Range Organics (Over <49.9 UF1 273.5 F1 mg/Kg 25 70 - 130

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 78 o-Terphenyl 74 70 - 130

Lab Sample ID: 890-4067-1 MSD Client Sample ID: FS07 **Prep Type: Total/NA** 

**Matrix: Solid** 

**Analysis Batch: 46269** 

Released to Imaging: 7/24/2023 9:54:19 AM

Prep Batch: 46199 Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit **Analyte** Unit %Rec Gasoline Range Organics <49.9 U F1 998 346.2 F1 32 70 - 130 8 20 mg/Kg (GRO)-C6-C10

277.3 F1

mg/Kg

26

70 - 130

998

Diesel Range Organics (Over C10-C28)

MSD MSD

<49.9 UF1

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 78 70 - 130 76 o-Terphenyl 70 - 130

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Dil Fac

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Analyzed

02/14/23 01:27

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: SW06

Client Sample ID: SW06

**Prep Type: Soluble** 

**Prep Type: Soluble** 

### **QC Sample Results**

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46037/1-A

**Matrix: Solid** 

**Analysis Batch: 46194** 

MB MB

Analyte Result Qualifier RL Unit D Prepared 5.00 mg/Kg

Chloride <5.00 U

Lab Sample ID: LCS 880-46037/2-A **Matrix: Solid** 

**Analysis Batch: 46194** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 247.2 90 - 110 mg/Kg 99

Lab Sample ID: LCSD 880-46037/3-A

**Matrix: Solid** 

**Analysis Batch: 46194** 

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Limits **RPD** Limit Unit D %Rec Chloride 250 243.3 97 mg/Kg

Lab Sample ID: 890-4067-7 MS

**Matrix: Solid** 

**Analysis Batch: 46194** 

Spike MS MS %Rec Sample Sample Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride <5.00 U 250 250.7 mg/Kg 90 - 110

Lab Sample ID: 890-4067-7 MSD

**Matrix: Solid** 

**Analysis Batch: 46194** 

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Unit %Rec Limits RPD Result Qualifier Limit Chloride <5.00 U 250 244.4 96 3 20 mg/Kg 90 - 110

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-4067-1 SDG: 03D2024072

### **GC VOA**

### Prep Batch: 46021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Total/NA	Solid	5035	
890-4067-2	SW01	Total/NA	Solid	5035	
890-4067-3	SW02	Total/NA	Solid	5035	
890-4067-4	SW03	Total/NA	Solid	5035	
890-4067-5	SW04	Total/NA	Solid	5035	
890-4067-6	SW05	Total/NA	Solid	5035	
890-4067-7	SW06	Total/NA	Solid	5035	
890-4067-8	SW07	Total/NA	Solid	5035	
890-4067-9	SW08	Total/NA	Solid	5035	
890-4067-10	SW09	Total/NA	Solid	5035	
890-4067-11	FS01	Total/NA	Solid	5035	
890-4067-12	FS02	Total/NA	Solid	5035	
890-4067-13	FS03	Total/NA	Solid	5035	
890-4067-14	FS04	Total/NA	Solid	5035	
890-4067-15	FS05	Total/NA	Solid	5035	
890-4067-16	FS06	Total/NA	Solid	5035	
MB 880-46021/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46021/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46021/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4067-1 MS	FS07	Total/NA	Solid	5035	
890-4067-1 MSD	FS07	Total/NA	Solid	5035	

### **Analysis Batch: 46072**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Total/NA	Solid	8021B	46021
890-4067-2	SW01	Total/NA	Solid	8021B	46021
890-4067-3	SW02	Total/NA	Solid	8021B	46021
890-4067-4	SW03	Total/NA	Solid	8021B	46021
890-4067-5	SW04	Total/NA	Solid	8021B	46021
890-4067-6	SW05	Total/NA	Solid	8021B	46021
890-4067-7	SW06	Total/NA	Solid	8021B	46021
890-4067-8	SW07	Total/NA	Solid	8021B	46021
890-4067-9	SW08	Total/NA	Solid	8021B	46021
890-4067-10	SW09	Total/NA	Solid	8021B	46021
890-4067-11	FS01	Total/NA	Solid	8021B	46021
890-4067-12	FS02	Total/NA	Solid	8021B	46021
890-4067-13	FS03	Total/NA	Solid	8021B	46021
890-4067-14	FS04	Total/NA	Solid	8021B	46021
890-4067-15	FS05	Total/NA	Solid	8021B	46021
890-4067-16	FS06	Total/NA	Solid	8021B	46021
MB 880-46021/5-A	Method Blank	Total/NA	Solid	8021B	46021
LCS 880-46021/1-A	Lab Control Sample	Total/NA	Solid	8021B	46021
LCSD 880-46021/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46021
890-4067-1 MS	FS07	Total/NA	Solid	8021B	46021
890-4067-1 MSD	FS07	Total/NA	Solid	8021B	46021

#### **Analysis Batch: 46250**

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<b>Lab Sample ID</b> 890-4067-1	Client Sample ID FS07	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-4067-2	SW01	Total/NA	Solid	Total BTEX	
890-4067-3	SW02	Total/NA	Solid	Total BTEX	

Client: Ensolum Job ID: 890-4067-1
Project/Site: Windward 4H Flowline SDG: 03D2024072

## GC VOA (Continued)

### **Analysis Batch: 46250 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-4	SW03	Total/NA	Solid	Total BTEX	
890-4067-5	SW04	Total/NA	Solid	Total BTEX	
890-4067-6	SW05	Total/NA	Solid	Total BTEX	
890-4067-7	SW06	Total/NA	Solid	Total BTEX	
890-4067-8	SW07	Total/NA	Solid	Total BTEX	
890-4067-9	SW08	Total/NA	Solid	Total BTEX	
890-4067-10	SW09	Total/NA	Solid	Total BTEX	
890-4067-11	FS01	Total/NA	Solid	Total BTEX	
890-4067-12	FS02	Total/NA	Solid	Total BTEX	
890-4067-13	FS03	Total/NA	Solid	Total BTEX	
890-4067-14	FS04	Total/NA	Solid	Total BTEX	
890-4067-15	FS05	Total/NA	Solid	Total BTEX	
890-4067-16	FS06	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 46199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-4067-1	FS07	Total/NA	Solid	8015NM Prep	
890-4067-2	SW01	Total/NA	Solid	8015NM Prep	
890-4067-3	SW02	Total/NA	Solid	8015NM Prep	
890-4067-4	SW03	Total/NA	Solid	8015NM Prep	
890-4067-5	SW04	Total/NA	Solid	8015NM Prep	
890-4067-6	SW05	Total/NA	Solid	8015NM Prep	
890-4067-7	SW06	Total/NA	Solid	8015NM Prep	
890-4067-8	SW07	Total/NA	Solid	8015NM Prep	
890-4067-9	SW08	Total/NA	Solid	8015NM Prep	
890-4067-10	SW09	Total/NA	Solid	8015NM Prep	
890-4067-11	FS01	Total/NA	Solid	8015NM Prep	
890-4067-12	FS02	Total/NA	Solid	8015NM Prep	
890-4067-13	FS03	Total/NA	Solid	8015NM Prep	
890-4067-14	FS04	Total/NA	Solid	8015NM Prep	
890-4067-15	FS05	Total/NA	Solid	8015NM Prep	
890-4067-16	FS06	Total/NA	Solid	8015NM Prep	
MB 880-46199/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46199/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46199/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4067-1 MS	FS07	Total/NA	Solid	8015NM Prep	
890-4067-1 MSD	FS07	Total/NA	Solid	8015NM Prep	

### **Analysis Batch: 46269**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Total/NA	Solid	8015B NM	46199
890-4067-2	SW01	Total/NA	Solid	8015B NM	46199
890-4067-3	SW02	Total/NA	Solid	8015B NM	46199
890-4067-4	SW03	Total/NA	Solid	8015B NM	46199
890-4067-5	SW04	Total/NA	Solid	8015B NM	46199
890-4067-6	SW05	Total/NA	Solid	8015B NM	46199
890-4067-7	SW06	Total/NA	Solid	8015B NM	46199
890-4067-8	SW07	Total/NA	Solid	8015B NM	46199
890-4067-9	SW08	Total/NA	Solid	8015B NM	46199

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Client: Ensolum Project/Site: Windward 4H Flowline Job ID: 890-4067-1

SDG: 03D2024072

## GC Semi VOA (Continued)

### **Analysis Batch: 46269 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-10	SW09	Total/NA	Solid	8015B NM	46199
890-4067-11	FS01	Total/NA	Solid	8015B NM	46199
890-4067-12	FS02	Total/NA	Solid	8015B NM	46199
890-4067-13	FS03	Total/NA	Solid	8015B NM	46199
890-4067-14	FS04	Total/NA	Solid	8015B NM	46199
890-4067-15	FS05	Total/NA	Solid	8015B NM	46199
890-4067-16	FS06	Total/NA	Solid	8015B NM	46199
MB 880-46199/1-A	Method Blank	Total/NA	Solid	8015B NM	46199
LCS 880-46199/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46199
LCSD 880-46199/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46199
890-4067-1 MS	FS07	Total/NA	Solid	8015B NM	46199
890-4067-1 MSD	FS07	Total/NA	Solid	8015B NM	46199

### **Analysis Batch: 46379**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Total/NA	Solid	8015 NM	
890-4067-2	SW01	Total/NA	Solid	8015 NM	
890-4067-3	SW02	Total/NA	Solid	8015 NM	
890-4067-4	SW03	Total/NA	Solid	8015 NM	
890-4067-5	SW04	Total/NA	Solid	8015 NM	
890-4067-6	SW05	Total/NA	Solid	8015 NM	
890-4067-7	SW06	Total/NA	Solid	8015 NM	
890-4067-8	SW07	Total/NA	Solid	8015 NM	
890-4067-9	SW08	Total/NA	Solid	8015 NM	
890-4067-10	SW09	Total/NA	Solid	8015 NM	
890-4067-11	FS01	Total/NA	Solid	8015 NM	
890-4067-12	FS02	Total/NA	Solid	8015 NM	
890-4067-13	FS03	Total/NA	Solid	8015 NM	
890-4067-14	FS04	Total/NA	Solid	8015 NM	
890-4067-15	FS05	Total/NA	Solid	8015 NM	
890-4067-16	FS06	Total/NA	Solid	8015 NM	

### HPLC/IC

#### Leach Batch: 46037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Soluble	Solid	DI Leach	
890-4067-2	SW01	Soluble	Solid	DI Leach	
890-4067-3	SW02	Soluble	Solid	DI Leach	
890-4067-4	SW03	Soluble	Solid	DI Leach	
890-4067-5	SW04	Soluble	Solid	DI Leach	
890-4067-6	SW05	Soluble	Solid	DI Leach	
890-4067-7	SW06	Soluble	Solid	DI Leach	
890-4067-8	SW07	Soluble	Solid	DI Leach	
890-4067-9	SW08	Soluble	Solid	DI Leach	
890-4067-10	SW09	Soluble	Solid	DI Leach	
890-4067-11	FS01	Soluble	Solid	DI Leach	
890-4067-12	FS02	Soluble	Solid	DI Leach	
890-4067-13	FS03	Soluble	Solid	DI Leach	
890-4067-14	FS04	Soluble	Solid	DI Leach	
890-4067-15	FS05	Soluble	Solid	DI Leach	

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-4067-1 SDG: 03D2024072

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

### Leach Batch: 46037 (Continued)

<b>Lab Sample ID</b> 890-4067-16	Client Sample ID FS06	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
MB 880-46037/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46037/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46037/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4067-7 MS	SW06	Soluble	Solid	DI Leach	
890-4067-7 MSD	SW06	Soluble	Solid	DI Leach	

### **Analysis Batch: 46194**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4067-1	FS07	Soluble	Solid	300.0	46037
890-4067-2	SW01	Soluble	Solid	300.0	46037
890-4067-3	SW02	Soluble	Solid	300.0	46037
890-4067-4	SW03	Soluble	Solid	300.0	46037
890-4067-5	SW04	Soluble	Solid	300.0	46037
890-4067-6	SW05	Soluble	Solid	300.0	46037
890-4067-7	SW06	Soluble	Solid	300.0	46037
890-4067-8	SW07	Soluble	Solid	300.0	46037
890-4067-9	SW08	Soluble	Solid	300.0	46037
890-4067-10	SW09	Soluble	Solid	300.0	46037
890-4067-11	FS01	Soluble	Solid	300.0	46037
890-4067-12	FS02	Soluble	Solid	300.0	46037
890-4067-13	FS03	Soluble	Solid	300.0	46037
890-4067-14	FS04	Soluble	Solid	300.0	46037
890-4067-15	FS05	Soluble	Solid	300.0	46037
890-4067-16	FS06	Soluble	Solid	300.0	46037
MB 880-46037/1-A	Method Blank	Soluble	Solid	300.0	46037
LCS 880-46037/2-A	Lab Control Sample	Soluble	Solid	300.0	46037
LCSD 880-46037/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46037
890-4067-7 MS	SW06	Soluble	Solid	300.0	46037
890-4067-7 MSD	SW06	Soluble	Solid	300.0	46037

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Job ID: 890-4067-1

SDG: 03D2024072

Client Sample ID: FS07

Client: Ensolum

Date Collected: 02/07/23 10:40 Date Received: 02/08/23 14:56

Project/Site: Windward 4H Flowline

Lab Sample ID: 890-4067-1

**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			4.98 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 15:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 11:42	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 02:09	CH	EET MID

**Client Sample ID: SW01** Lab Sample ID: 890-4067-2 Date Collected: 02/07/23 10:50 **Matrix: Solid** 

Date Received: 02/08/23 14:56

Batch Batch Dil Initial Final Batch Prepared Method **Prep Type** Type Run **Factor Amount** Amount Number or Analyzed **Analyst** Lab Total/NA 5035 46021 02/10/23 15:07 MNR EET MID Prep 5.02 g 5 mL Total/NA 8021B 5 mL 46072 **EET MID** Analysis 5 mL 02/12/23 16:04 MNR 1 Total/NA Total BTEX Analysis 46250 02/13/23 19:57 SM **EET MID** 1 Total/NA 8015 NM 46379 **EET MID** Analysis 1 02/15/23 09:48 AJ Total/NA Prep 8015NM Prep 10.01 g 10 mL 46199 02/13/23 16:56 SM **EET MID** Total/NA 8015B NM 46269 Analysis 1 uL 1 uL 02/14/23 12:48 AJ **EET MID** Soluble 4.99 g 50 mL 46037 02/10/23 16:45 KS Leach DI Leach **EET MID** 300.0 02/14/23 02:23 CH Soluble Analysis 1 46194 **EET MID** 

Client Sample ID: SW02 Lab Sample ID: 890-4067-3

Date Collected: 02/07/23 11:00 Date Received: 02/08/23 14:56

	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	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 16:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 13:10	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 02:28	CH	EET MID

**Client Sample ID: SW03** Lab Sample ID: 890-4067-4 Date Collected: 02/07/23 12:10 **Matrix: Solid** 

Date Received: 02/08/23 14:56

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 16:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID

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Released to Imaging: 7/24/2023 9:54:19 AM

**Matrix: Solid** 

Client: Ensolum Job ID: 890-4067-1 Project/Site: Windward 4H Flowline SDG: 03D2024072

**Client Sample ID: SW03** Lab Sample ID: 890-4067-4 Date Collected: 02/07/23 12:10

Matrix: Solid Date Received: 02/08/23 14:56

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 13:31	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 02:32	CH	EET MID

**Client Sample ID: SW04** Lab Sample ID: 890-4067-5 Date Collected: 02/07/23 12:45 **Matrix: Solid** 

Date Received: 02/08/23 14:56

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 17:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 13:53	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 02:37	CH	EET MID

**Client Sample ID: SW05** Lab Sample ID: 890-4067-6 Date Collected: 02/07/23 12:50 **Matrix: Solid** 

Date Received: 02/08/23 14:56

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 17:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MI
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 14:15	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46037	02/10/23 16:45	KS	EET MI
Soluble	Analysis	300.0		1			46194	02/14/23 02:42	CH	EET MII

**Client Sample ID: SW06** Lab Sample ID: 890-4067-7 Date Collected: 02/07/23 13:05 Matrix: Solid

Date Received: 02/08/23 14:56

Prep Type Total/NA	Batch Type Prep	Batch Method 5035	Run	Dil Factor	Amount 5.02 g	Final Amount 5 mL	Batch Number 46021	Prepared or Analyzed 02/10/23 15:07	Analyst MNR	Lab EET MID
Total/NA Total/NA	Analysis Analysis	8021B Total BTEX		1	5 mL	5 mL	46072 46250	02/12/23 18:14 02/13/23 19:57	MNR SM	EET MID
Total/NA Total/NA Total/NA	Analysis Prep Analysis	8015 NM 8015NM Prep 8015B NM		1	10.00 g 1 uL	10 mL 1 uL	46379 46199 46269	02/15/23 09:48 02/13/23 16:56 02/14/23 14:38		EET MID EET MID EET MID

Job ID: 890-4067-1

SDG: 03D2024072

**Client Sample ID: SW06** 

Client: Ensolum

Lab Sample ID: 890-4067-7

Date Collected: 02/07/23 13:05 Date Received: 02/08/23 14:56

Project/Site: Windward 4H Flowline

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 02:46	CH	EET MID

Lab Sample ID: 890-4067-8

Matrix: Solid

Date Collected: 02/07/23 13:10 Date Received: 02/08/23 14:56

**Client Sample ID: SW07** 

	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	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 18:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 15:00	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:00	CH	EET MID

Lab Sample ID: 890-4067-9 **Client Sample ID: SW08** 

Date Collected: 02/07/23 13:30

Date Received: 02/08/23 14:56

**Matrix: Solid** 

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 19:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 15:22	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:05	CH	EET MID

**Client Sample ID: SW09** Lab Sample ID: 890-4067-10 Date Collected: 02/07/23 13:35 Matrix: Solid

Date Received: 02/08/23 14:56

	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	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 19:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 15:44	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:19	CH	EET MID

Project/Site: Windward 4H Flowline

SDG: 03D2024072

**Client Sample ID: FS01** 

Date Received: 02/08/23 14:56

Client: Ensolum

Lab Sample ID: 890-4067-11 Date Collected: 02/07/23 10:30

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 21:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 16:31	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:23	CH	EET MID

**Client Sample ID: FS02** Lab Sample ID: 890-4067-12

Date Collected: 02/07/23 10:55 **Matrix: Solid** Date Received: 02/08/23 14:56

	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	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 21:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 16:53	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:28	CH	EET MID

**Client Sample ID: FS03** Lab Sample ID: 890-4067-13 Date Collected: 02/07/23 12:05 **Matrix: Solid** 

Date Received: 02/08/23 14:56

	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	46021	02/10/23 15:07	MNR	EET MIC
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 22:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MIC
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 17:15	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:33	CH	EET MI

**Client Sample ID: FS04** Lab Sample ID: 890-4067-14 Date Collected: 02/07/23 12:40 **Matrix: Solid** 

Date Received: 02/08/23 14:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 22:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID

Project/Site: Windward 4H Flowline

Client: Ensolum

Lab Sample ID: 890-4067-14

**Matrix: Solid** 

**Client Sample ID: FS04** Date Collected: 02/07/23 12:40

Date Received: 02/08/23 14:56

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 17:37	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:37	CH	EET MID

Lab Sample ID: 890-4067-15

**Matrix: Solid** 

Date Collected: 02/07/23 13:00 Date Received: 02/08/23 14:56

**Client Sample ID: FS05** 

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 23:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 17:59	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:42	CH	EET MID

**Client Sample ID: FS06** Lab Sample ID: 890-4067-16

Date Collected: 02/07/23 13:25 **Matrix: Solid** Date Received: 02/08/23 14:56

	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	46021	02/10/23 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46072	02/12/23 23:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46250	02/13/23 19:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			46379	02/15/23 09:48	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46199	02/13/23 16:56	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46269	02/14/23 18:22	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46037	02/10/23 16:45	KS	EET MID
Soluble	Analysis	300.0		1			46194	02/14/23 03:47	CH	EET MID

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

Client: Ensolum
Project/Site: Windward 4H Flowline
Job ID: 890-4067-1
SDG: 03D2024072

### **Laboratory: Eurofins Midland**

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

uthority		ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-25	06-30-23
T1 . (.1)				
,		ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes fo
the agency does not		ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes fo
,		ort, but the laboratory is r Matrix	not certified by the governing authority.  Analyte	This list may include analytes fo
the agency does not o	offer certification.	,	, , ,	This list may include analytes fo

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### **Method Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-4067-1

SDG: 03D2024072

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
800.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
Ol Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

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## **Sample Summary**

Client: Ensolum

Project/Site: Windward 4H Flowline

Job ID: 890-4067-1 SDG: 03D2024072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4067-1	FS07	Solid	02/07/23 10:40	02/08/23 14:56	0-7'
890-4067-2	SW01	Solid	02/07/23 10:50	02/08/23 14:56	0-7'
890-4067-3	SW02	Solid	02/07/23 11:00	02/08/23 14:56	0-6'
890-4067-4	SW03	Solid	02/07/23 12:10	02/08/23 14:56	0-6'
890-4067-5	SW04	Solid	02/07/23 12:45	02/08/23 14:56	0-6'
890-4067-6	SW05	Solid	02/07/23 12:50	02/08/23 14:56	0-6'
890-4067-7	SW06	Solid	02/07/23 13:05	02/08/23 14:56	0-6'
890-4067-8	SW07	Solid	02/07/23 13:10	02/08/23 14:56	0-6'
890-4067-9	SW08	Solid	02/07/23 13:30	02/08/23 14:56	0-6'
890-4067-10	SW09	Solid	02/07/23 13:35	02/08/23 14:56	0-6'
890-4067-11	FS01	Solid	02/07/23 10:30	02/08/23 14:56	7'
890-4067-12	FS02	Solid	02/07/23 10:55	02/08/23 14:56	6'
890-4067-13	FS03	Solid	02/07/23 12:05	02/08/23 14:56	6'
890-4067-14	FS04	Solid	02/07/23 12:40	02/08/23 14:56	6'
890-4067-15	FS05	Solid	02/07/23 13:00	02/08/23 14:56	6'
890-4067-16	FS06	Solid	02/07/23 13:25	02/08/23 14:56	6'

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**Environment Testing** Xenco

## **Chain of Custody**

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

Work Order	No:	

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Project Manager:	Joe Gab	ile				Bill to: (if	different	)	Kalei Jennings					Work Order Comments										
Company Name:	Ensolum	ı, LLC				Compan	y Name		Ensol	um, LL	.C						Program	UST/P	ST 🔲	PRP[]	Brown	nfields 🗌 RI	RC Superfund	
Address:	601 N M	arienfeld	St St	uite 400		Address			601 N	Marie	nfeld S	St Suite	400				State of	•						
City, State ZIP:	Midland,	TX 7970	01			City, Sta	te ZIP:		Midla	nd, TX	79701						1						RP Level IV	
Phone:	903-386	-8073			Email:	kjenning	gs@en	s@ensolum.com, igable@ensolum.com					Deliverables: EDD ADaPT Other:					her:						
Project Name:	l w	indward	4H Flo	owline	Turr	Around	d ANALYSIS F				REC	EQUEST Preservative					rvative Codes							
Project Number:		03D20			☑ Routine	Pres																None: NO	DI Water: H₂O	
Project Location:		Le	ea		Due Date:																	Cool: Cool	MeOH: Me	
Sampler's Name:		Peter Va				s the day received by received by 4:30pm														1		HCL: HC	HNO <sub>3</sub> : HN	
PO #:					the lab, if red	eived by 4	:30pm	S.								1111	u)				H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	NaOH: Na		
SAMPLE RECEI	PT ·	Temp Bla	nk:	Ces No	Wet Ice:	Yes	No	meters	9				HIII					W .				H₃PO₄: HP		
Samples Received II		Yes N		Thermometer	ID:	thm	.007	aran	300.0)				11111				AN 100 11 11 11 11 11 11 11 11 11 11 11 11					NaHSO <sub>4</sub> : NABIS		
Cooler Custody Seal	s: Ye	es No	MA	Correction Fa	ctor:	-0	.2	à.	(EPA:				W		M(M)		f Custody				Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn			
Sample Custody Sea	als: Ye	es No	$\overline{}$	Temperature		4	.4		S (E		=		11111	4067	Chain	of C					NaOH+Ascorbic Acid: SAPC			
Total Containers:				Corrected Ter	mperature:	1 4	.0		SE SE	015	805		890	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						1	INAUTHASCUIDIC ACID. SAFC			
Sample Ider	ntification		Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		CHLORIDES	TPH (8015)	BTEX (8021)											Samp	le Comments	
SWO	)5	S	Soil	2/7/2023	1040	0'-7'	Comp	1	х	х	х													
SW	06	s	Soil	2/7/2023	1050	0'-7'	Comp	1	x	×	x													
SWO	07	s	Soil	2/7/2023	1100	0'-6'	Comp	1	x	×	×													
SW	08	s	Soil	2/7/2023	1210	0'-6'	Comp	1	x	x	x			8				-						
SW	9	s	Soil	2/7/2023	1245	0'-6'	Comp	1	x	X	x													
SW1	10	s	oil	2/7/2023	1250	0'-6'	Comp	1	х	X	х													
SW1	11	s	oil	2/7/2023	1305	0'-6'	Comp	1	х	x	×			1										
SW1	12	s	oil	2/7/2023	1310	0'-6'	Comp	1	Х	Х	Х						1		-					
SW1	13	S	oil	2/7/2023	1330	0'-6'	Comp	1	х	x	х								-					
SW1	14	S	oil	2/7/2023	1335	0'-6'	Comp	1	х	x	Х								<u> </u>					
Total 200.7 / 60	010 20	0.8 / 602	20:	81	RCRA 13P	PM Te	xas 11	Al S	b As	Ba E	Be B	Cd C	a Cr	Co C	u Fe	Pb	Mg Mn N	lo Ni	< Se	Ag Si	O <sub>2</sub> Na	Sr TI Sn	U V Zn	

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

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
· Peta-la Patta	Surana State	2-8-23 145	6		
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5			6		

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eurofins		
Caronno	Environment	Testing
	Xenco	

## **Chain of Custody**

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Work Order No:	Work	Order	No:				
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Project Manager:	Jue Gable Bill to: (il dillerent)   Raier Settlings									Kalei Jennings					Work Order Comments								
	Ensolum, LLC Comp						y Name	e:	Ensolum, LLC						Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund								
	601 N Ma		St Suit	te 400		Address	:		601 N	Marie	nfeld S	Suite 4	00				of Pro	•					
City, State ZIP:	Midland,	TX 7970	1			City, Sta	te ZIP:		Midlar	nd, TX	79701					1							Level IV
	903-386-	8073			Email:	kjenning	gs@en	solum	.com,	igable	@ens	olum.c	om			Delive	erables	: EDD		AE	DaPT 🗆	Other	•
Project Name:	\\A/ii	ndward 4	L Elov	wline	Tuen	Around							Δ	NALY	SIS RE	QUEST						Preserva	ative Codes
Project Number:	VVII	03D20			✓ Routine	Rush		Pres.					Ť								None	: NO	DI Water: H₂O
1					Due Date:			Code						-							Cool:	Cool	MeOH: Me
Project Location: Sampler's Name:		Le Peter Var			TAT starts the	day rece	aived by											1	1		HCL:	HC	HNO <sub>3</sub> : HN
PO #:	<u>'</u>	eter var	ii i atte	211	the lab, if rec			yo													H <sub>2</sub> S0,	;: H <sub>2</sub>	NaOH: Na
SAMPLE RECEI	PT T	emp Blan	k:	Yes No	Wet Ice:	Yes	No	eter	6												H₃PO	4: HP	
Samples Received In		Yes No		hermometer				Ta Ta	(EPA: 300.0)													O₄: NAB	
Cooler Custody Seal		s No	N/A C	orrection Fa	etor.	1		Pa	PA:												-	2O <sub>3</sub> : NaS	
Sample Custody Sea	als: Ye	s No	N/A T	emperature	Reading:				S (E		_											etate+Na	
Total Containers:			С	orrected Ter	mperature:				i i	15)	(8021)										NaOF	I+Ascorb	ic Acid: SAPC
Sample Iden	ntification	М	atrix	Date Sampled	Time Sampled	Depth	Grab/ Comp		CHLORIDE	TPH (8015)	втех (											Sample	Comments
FS0	)4	Sc	lic	2/7/2023	1030	7'	Comp	1	х	х	Х												
FS0	)5	Sc	lic	2/7/2023	1055	6'	Comp	1	х	х	х												
FS0	)6	Sc	lic	2/7/2023	1205	6'	Comp	1	х	x	х												
FS0	)7	Sc	oil	2/7/2023	1240	6'	Comp	1	х	×	х												
FS0	8	Sc	oil	2/7/2023	1300	6'	Comp	1_	х	×	х												
FS0	9	Sc	lic	2/7/2023	1325	6'	Comp	1	х	×	х												
			$\equiv$														-			$\dashv$			
								_															

Total 200.7 / 6010 200.8 / 6020:	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471
Officie Method(3) and Metal(3) to be analyzed	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Peter Leiter	Diracia State	2-8-23 145	2		
			4		
			6		

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-4067-1 SDG Number: 03D2024072

Login Number: 4067 **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: 7/24/2023 9:54:19 AM

# **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-4067-1

 SDG Number: 03D2024072

Login Number: 4067
List Source: Eurofins Midland
List Number: 2
List Creation: 02/10/23 11:50 AM

Creator: Rodriguez, Leticia

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

<6mm (1/4").



APPENDIX D

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	NAPP2218850477
District RP	
Facility ID	fAPP2132638253
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@ConocoPhillip.com	Incident # (assigned by OCD)	NAPP2218850477		
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701				

Location of Release Source							
Latitude	32.194	444		Longitude	-103.711	667	
	(NAD 83 in decimal degrees to 5 decimal places)						
Site Name		Windward F	ederal 004H	Site Type	Flowline	е	
Date Release	Discovered	July 2, 2022	2	API# (if applie	able)		
Unit Letter	Section	Township	Range	County			
В	30	24S	32E	Lea			

### Nature and Volume of Release

Crude Oil	Volume Released (bbls) 9.33	Volume Recovered (bbls) 0
Produced Water	Volume Released (bbls) 14	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	■ Yes □ No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a pinhole in the flowline due to corrosion. This release occurred off pad. A vacuum truck was dispatched to remove all freestanding fluids. 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.

Surface Owner: State Federal Tribal Private (Name: \_

PageHd3eof 136

Incident ID	NAPP2218850477
District RP	
Facility ID	fAPP2132638253
Application ID	

	T	
Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the response	nsible party consider this a major release?
☐ Yes ■ No		
If YES, was immediate n	otice given to the OCD? By whom? To w	hom? 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 rela	ease has been stopped.	
l	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.
If all the actions describe	d above have <u>not</u> been undertaken, explain	why:
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 please attach all information needed for closure evaluation.
		best of my knowledge and understand that pursuant to OCD rules and ifications and perform corrective actions for releases which may endanger
public health or the environi	ment. The acceptance of a C-141 report by the	OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
addition, OCD acceptance of and/or regulations.	of a C-141 report does not relieve the operator of	responsibility for compliance with any other federal, state, or local laws
Printed Name Brittar	ny N. Esparza	Title: Environmental Technician
Signature:	tan Departie	
Drittony Longr	za@ConocoPhillips.com	Date: 7/7/2022 Telephone: (432) 221-0398
email: Dillary.Espar	<u> </u>	Telephone: ( ' )
OCD O. L		
OCD Only		07/07/0000
Received by: Jocelyn	Harimon	Date:07/07/2022

Received by OCD: 7/7/	/2022 24	02.24 DI	<i>a</i>	92		48 Spill Vo	olume Estima	te Form			NAPP2218850477	Page 3 of 4
- Received by OCD: ////	2022 2:00	Facility	y Name & Number:	WINDWARD 4H FLO	OWLINE							Page 5 0j 4
			Asset Area:	DBEN								
	Relea	ase Disc	covery Date & Time:	7/2/2022								
			Release Type:	Oil Mixture								
Provide	any kno	uwn deta	ils about the event.	PINHOLE IN FLOW	LINE							
		2	216	W.	Spi	III Calculation	n - On Pad Surfac	e Pool Spill	0-	W		W
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area		Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)		Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	30.0	8.0	8.00	4	240.000	0.167	7.120	0.008	7.179	40.00%	2.872	4.308
Rectangle B	60.0	9.0	8.00	4	540.000	0.167	16.020	0.008	16.154	40.00%	6.461	9.692
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Released to Imaging:	1/7/2022	2.24.42	DM		0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
- Acteused to anniging.	///atras	1004040	-112	£	AL 39		A 3	Total Volume Release:	23.333	1	9.333	14.000

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 123536

#### CONDITIONS

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	123536
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
jharimon	None	7/7/2022

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Incident ID NAPP2218850477 District RP Facility ID fAPP2132638253 Application ID

# **Site Assessment/Characterization**

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</u> (ft bgs)				
Did this release impact groundwater or surface water?	☐ Yes ⊠ No				
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No				
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No				
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No				
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No				
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No				
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No				
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No				
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No				
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No				
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No				
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	⊠ Yes □ No				
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.					

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

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

Received by OCD: 5/1/2023 3:11:15 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

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	1 480 117 0/ 1
Incident ID	NAPP2218850477
District RP	
Facility ID	fAPP2132638253
Application ID	

regulations all operators are required to report and/or file certain relepublic health or the environment. The acceptance of a C-141 report failed to adequately investigate and remediate contamination that post	e to the best of my knowledge and understand that pursuant to OCD rules and case notifications and perform corrective actions for releases which may endanger by the OCD does not relieve the operator of liability should their operations have see a threat to groundwater, surface water, human health or the environment. In the trator 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:04/26/2023
email:Jacob.Laird@conocophillips.com	Telephone: <u>575-70</u> 3-5482
OCD Only	
Received by:Jocelyn Harimon	Date:05/01/2023

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Incident ID	NAPP2218850477
District RP	
Facility ID	fAPP2132638253
Application ID	

# Closure

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

Closure Report Attachment Checklist: Each of the following	g items must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29	0.11 NMAC
Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
□ Laboratory analyses of final sampling (Note: appropriate OI)	OC 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 cert may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regulations.	Title:Environmental Engineer
OCD Only	
Received by:Jocelyn Harimon	Date:05/01/2023
	ty of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible d/or regulations.
Closure Approved by: Nelson Velez  Printed Name: Nelson Velez	Date: 07/24/2023
Printed Name: Nelson Velez	Title: Environmental Specialist – Adv



APPENDIX E

**NMOCD Notifications** 

From: Nobui, Jennifer, EMNRD

To: Kalei Jennings

Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

Subject: FW: [EXTERNAL] COP- Sampling Notification (Week of 09/05/22-09/09/22)

**Date:** Tuesday, September 6, 2022 11:14:09 AM

Attachments: <u>image001.png</u>

image002.png image003.png image004.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.

Thanks

Jennifer Nobui

From: Enviro, OCD, EMNRD < OCD. Enviro@state.nm.us>

Sent: Tuesday, September 6, 2022 9:06 AM

**To:** Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>; Bratcher, Mike, EMNRD

<mike.bratcher@state.nm.us>

**Subject:** Fw: [EXTERNAL] COP- Sampling Notification (Week of 09/05/22-09/09/22)

**From:** Kalei Jennings < <u>kjennings@ensolum.com</u>>

Sent: Friday, September 2, 2022 1:10 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@state.nm.us >

**Subject:** [EXTERNAL] COP- Sampling Notification (Week of 09/05/22-09/09/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

COP plans to complete final sampling activities at the following sites the week of September 5, 2022.

#### Monday:

Holiday

#### Tuesday:

Zia Hills 1A/B BTF / NAPP2216037138

### Wednesday:

- Zia Hills 1A/B BTF / NAPP2216037138
- •

### Thursday:

• West Pearl 36 State CTB / NAPP2216438339

### Friday:

- West Pearl 36 State CTB / NAPP2216438339
- Windward 2H CTB / NAPP2222347897
- Windward 2H CTB-Flare / NAPP2222347897
- Windward 4H Flowline / NAPP2218850477

Thank you,



# Kalei Jennings Senior Scientist 817-683-2503 Ensolum, LLC

From: Nobui, Jennifer, EMNRD

To: <u>Kalei Jennings</u>

Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

Subject: FW: [EXTERNAL] COP- Sampling Notification (Week of 09/19/22-09/23/22)

**Date:** Tuesday, September 20, 2022 10:26:49 AM

Attachments: <u>image001.png</u>

image002.png image003.png image004.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.

Thanks,

Jennifer Nobui

From: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Sent: Tuesday, September 20, 2022 8:02 AM

**To:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Subject: Fw: [EXTERNAL] COP- Sampling Notification (Week of 09/19/22-09/23/22)

From: Kalei Jennings < kjennings@ensolum.com > Sent: Monday, September 19, 2022 8:28 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Subject:** [EXTERNAL] COP- Sampling Notification (Week of 09/19/22-09/23/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

COP plans to complete final sampling activities at the following sites the week of September 19, 2022.

Tuesday (9/20/2022)

- Federal 9 Com/ NAPP2218848721
- Windward 4H Flowline/NAPP2218850477
- Windward 2H CTB Flare Fire/NAPP2222347897

## Wednesday (9/21/2022)

- -Federal 9 Com/ NAPP2218848721
- Windward 4H Flowline/NAPP2218850477
- Windward 2H CTB Flare Fire/NAPP2222347897

## Thursday (9/22/2022)

• Corvo Federal 4/ NAPP2217430297

Thank you,



# Kalei Jennings Senior Scientist 817-683-2503 Ensolum, LLC

From: Nobui, Jennifer, EMNRD

To: <u>Kalei Jennings</u>

Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

Subject: FW: [EXTERNAL] COP- Sampling Notification (Week of 09/26/22-09/30/22)

Date: Thursday, September 22, 2022 3:13:44 PM

Attachments: <u>image001.png</u>

image002.png image003.png image004.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.

Thanks,

Jennifer Nobui

From: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Sent: Thursday, September 22, 2022 2:08 PM

**To:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Subject: Fw: [EXTERNAL] COP- Sampling Notification (Week of 09/26/22-09/30/22)

From: Kalei Jennings < kjennings@ensolum.com > Sent: Thursday, September 22, 2022 2:07 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Subject:** [EXTERNAL] COP- Sampling Notification (Week of 09/26/22-09/30/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

COP plans to complete final sampling activities at the following sites the week of September 26, 2022.

Monday:

Windward 4H Flowline / NAPP2218850477

Tuesday:

## Wednesday:

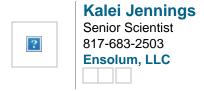
- Zia Hills 1A/B BTF / NAPP2216037138
- Eata Fajita / NAPP2220244157

### Thursday:

• Zia Hills 1A/B BTF / NAPP2216037138

Friday:

Thank you,



From: Beauvais, Charles R
To: Kalei Jennings

Subject: FW: [EXTERNAL] COG- Extension Request- Windward Federal 004H (Incident Number NAPP2218850477)

Date: Wednesday, September 28, 2022 12:07:54 PM

Attachments: <u>image001.png</u>

### [ \*\*EXTERNAL EMAIL\*\*]

FYI

From: Nobui, Jennifer, EMNRD < Jennifer. Nobui@emnrd.nm.gov>

Sent: Wednesday, September 28, 2022 11:01 AM

**To:** Beauvais, Charles R < Charles.R.Beauvais@conocophillips.com>

**Cc:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>

**Subject:** FW: [EXTERNAL] COG- Extension Request- Windward Federal 004H (Incident Number NAPP2218850477)

NAFF2210030477)

**CAUTION**: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

#### Charles

OCD approves your request for a 90-day extension to December 30, 2022 to submit a closure report. 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.

Thanks, Jennifer Nobui

From: Enviro, OCD, EMNRD < OCD.Enviro@emnrd.nm.gov >

**Sent:** Wednesday, September 28, 2022 9:46 AM

**To:** Bratcher, Michael, EMNRD < <a href="mike.bratcher@emnrd.nm.gov">mike.bratcher@emnrd.nm.gov"> ; Nobui, Jennifer, EMNRD < <a href="mike.bratcher@emnrd.nm.gov"> ; Nobui, Jennifer, EMNRD < <a href="mike.bratcher@emnrd.nm.gov

**Subject:** Fw: [EXTERNAL] COG- Extension Request- Windward Federal 004H (Incident Number NAPP2218850477)

**From:** Beauvais, Charles R < <a href="mailto:Charles.R.Beauvais@conocophillips.com">Charles R < <a href="mailto:Charles.R.Beauvais@conocophillips.com">Charles.R.Beauvais@conocophillips.com</a>

Sent: Wednesday, September 28, 2022 9:45 AM

**To:** Enviro, OCD, EMNRD < <a href="mailto:color:blue;">CCD.Enviro@emnrd.nm.gov</a>; EMNRD-OCD-District1spills < <a href="mailto:EMNRD-OCD-District1spills@state.nm.us">EMNRD < a href="mailto:Robert.Hamlet@emnrd.nm.gov">CFO\_Spill, BLM\_NM < a href="mailto:BLM\_NM\_CFO\_Spill@blm.gov">BLM\_NM\_CFO\_Spill@blm.gov</a>>

**Cc:** Fejervary Morena, Gustavo A < <u>G.Fejervary@conocophillips.com</u>>; Esparza, Brittany < <u>Brittany.Esparza@conocophillips.com</u>>

**Subject:** [EXTERNAL] COG- Extension Request- Windward Federal 004H (Incident Number NAPP2218850477)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To Whom It May Concern,

#### Windward Federal 004H (Incident Number NAPP2218850477)

COG Operating is requesting an extension for the current deadline of September 30, 2022 for submitting a closure report required in 19.15.29.12.B.(1) NMAC at the Windward Federal 004H (Incident Number NAPP2218850477). The release occurred on July 2, 2022. Remediation of the release could not be completed due to ongoing operations and pipeline maintenance. Site excavation activities are currently ongoing. COG anticipates completing delineation of the release by the end of next week. COG is requesting a 90-day extension to complete delineation and excavation of the impacted soil. In order to complete the field activities and submit a closure report, COG requests an extension until December 29, 2022.

Respectfully,

## Charles R. Beauvais II

Senior Environmental Engineer | Environmental Operations | ConocoPhillips (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: Nobui, Jennifer, EMNRD

To: <u>Kalei Jennings</u>

Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

Subject: FW: [EXTERNAL] COP- Sampling Notification (Week of 10/10/22-10/14/22)

**Date:** Wednesday, October 12, 2022 12:16:31 PM

Attachments: <u>image001.png</u>

image002.png image003.png image004.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.

Thanks,

Jennifer Nobui

From: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Sent: Wednesday, October 12, 2022 8:29 AM

**To:** Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Subject: Fw: [EXTERNAL] COP- Sampling Notification (Week of 10/10/22-10/14/22)

**From:** Kalei Jennings < <u>kiennings@ensolum.com</u>>

Sent: Sunday, October 9, 2022 1:31 PM

To: Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

**Subject:** [EXTERNAL] COP- Sampling Notification (Week of 10/10/22-10/14/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

COP plans to complete final sampling activities at the following sites the week of October 10, 2022.

Monday:

Tuesday:

Windward 4H Flowline / NAPP2218850477

Wednesday:

• Windward 4H Flowline / NAPP2218850477

## Thursday:

• Windward 4H Flowline / NAPP2218850477

## Friday:

• Windward 4H Flowline / NAPP2218850477

Thank you,





From: Beauvais, Charles R To: Kalei Jennings

FW: [EXTERNAL](Extension Denied) COG - Windward Federal 004H (Incident Number NAPP2218850477) Subject:

Date: Thursday, December 29, 2022 2:10:43 PM

Attachments: image002.jpg

image003.png

### [ \*\*EXTERNAL EMAIL\*\*]

#### Denial

From: Hamlet, Robert, EMNRD < Robert. Hamlet@emnrd.nm.gov>

Sent: Thursday, December 29, 2022 10:44 AM

**To:** Beauvais, Charles R < Charles.R.Beauvais@conocophillips.com>

Cc: Esparza, Brittany < Brittany. Esparza@conocophillips.com>; Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD < Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>

Subject: [EXTERNAL] (Extension Denied) COG - Windward Federal 004H (Incident Number NAPP2218850477)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

RE: Incident #NAPP2218850477

#### Charles,

An extension for this release has already been granted. Your request for another extension is denied. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced **Environmental Bureau** EMNRD - Oil Conservation Division 506 W. Texas Ave. | Artesia, NM 88210 575.909.0302 | robert.hamlet@state.nm.us

http://www.emnrd.state.nm.us/OCD/



**From:** Beauvais, Charles R < <a href="mailto:Charles.R.Beauvais@conocophillips.com">Charles.R.Beauvais@conocophillips.com</a>

Sent: Wednesday, December 28, 2022 12:39 PM

**To:** Enviro, OCD, EMNRD < <a href="mailto:color:blue;">CCD.Enviro@emnrd.nm.gov</a>; EMNRD-OCD-District1spills < <a href="mailto:EMNRD-OCD-District1spills@state.nm.us">EMNRD <a href="mailto:Robert.Hamlet@emnrd.nm.gov">CFO\_Spill, BLM\_NM <a href="mailto:BLM\_NM\_CFO\_Spill@blm.gov">BLM\_NM <a href="mailto:Spill@blm.gov">Spill@blm.gov</a>>

**Cc:** Esparza, Brittany < <u>Brittany.Esparza@conocophillips.com</u>>; Fejervary Morena, Gustavo A < <u>G.Fejervary@conocophillips.com</u>>

**Subject:** [EXTERNAL] COG- Final Extension Request- Windward Federal 004H (Incident Number NAPP2218850477)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

To Whom It May Concern,

#### Windward Federal 004H (Incident Number NAPP2218850477)

COPC, COG Operating is requesting an extension for the current deadline of December 29, 2022 for submitting a closure report required in 19.15.29.12.B.(1) NMAC at the Windward Federal 004H (Incident Number NAPP2218850477). The release occurred on July 2, 2022. Remediation of the release was originally delayed due to ongoing operations and pipeline maintenance. Site excavation activities began on September 8, 2022 and are currently ongoing. Based on the volume of soil remaining to be excavated and additional delineation sampling planned, COG anticipates completing excavation of soils impacted by the release by the end of January. COG is requesting a 90-day extension to complete on-site work, laboratory analysis, and final reporting. In order to complete the field activities and submit a closure report, COPC/COG requests an extension until March 30, 2023.

Respectfully,

### Charles R. Beauvais II

Senior Environmental Engineer | Environmental Operations | ConocoPhillips (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: 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 02/06/2023)

Date: Thursday, February 2, 2023 9:51:30 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, February 1, 2023 7:41 PM

**To:** Enviro, OCD, EMNRD < OCD. Enviro@emnrd.nm.gov>

Cc: Josh Adams <jadams@ensolum.com>; Hadlie Green <hgreen@ensolum.com>

Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 02/06/2023)

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 6, 2023.

- Windward Flowline/ NAPP2218850477
- Wilder CTB/ NAPP2300343271

Thank you,



# Kalei Jennings Senior Scientist 817-683-2503 Ensolum, LLC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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 212320

#### **CONDITIONS**

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	212320
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	None	7/24/2023