



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area

[W2023040]

Machine Id

2006039421

Component

Starboard Main Engine

Fluid

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (20 LTR)

## RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA047841	VPA044328	---
Sample Date		Client Info		02 May 2024	01 May 2023	---
Machine Age	hrs	Client Info		1510	1388	---
Oil Age	hrs	Client Info		119	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	8	9	---
Chromium	ppm	ASTM D5185(m)	>8	0	0	---
Nickel	ppm	ASTM D5185(m)	>2	0	<1	---
Titanium	ppm	ASTM D5185(m)	>3	0	<1	---
Silver	ppm	ASTM D5185(m)	>2	0	0	---
Aluminum	ppm	ASTM D5185(m)	>15	4	2	---
Lead	ppm	ASTM D5185(m)	>18	<1	2	---
Copper	ppm	ASTM D5185(m)	>80	3	3	---
Tin	ppm	ASTM D5185(m)	>14	0	<1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---

## CONTAMINATION

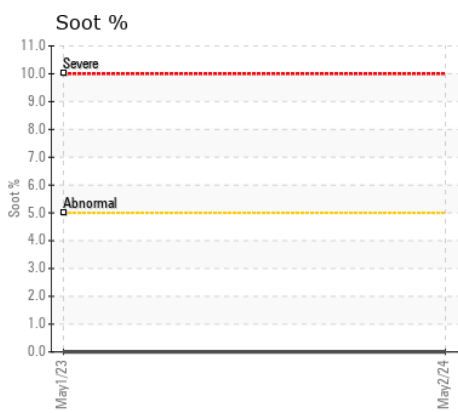
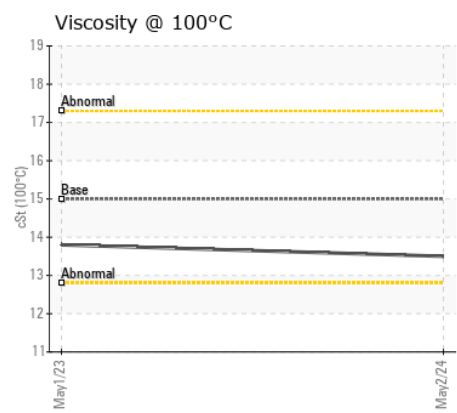
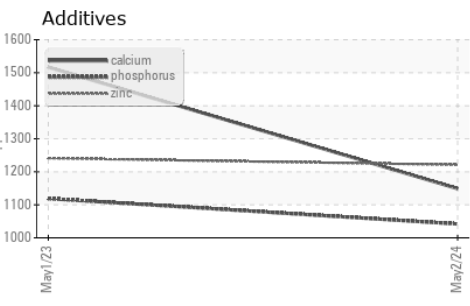
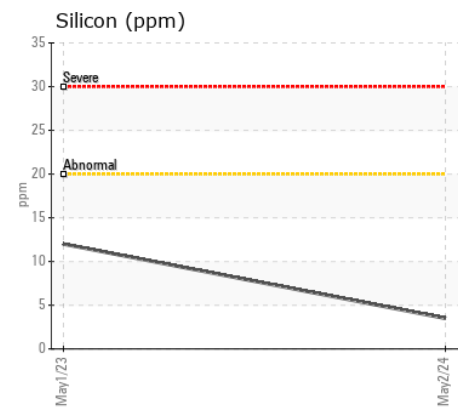
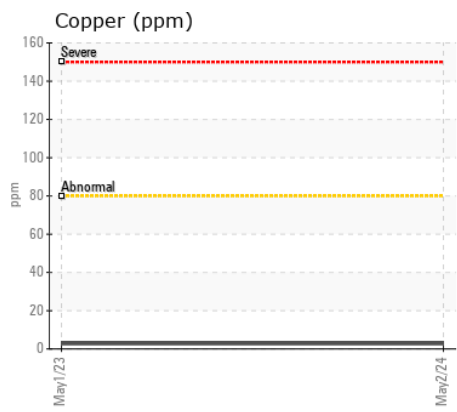
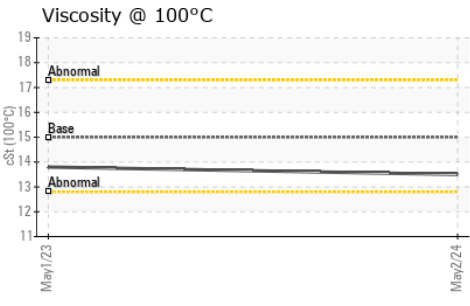
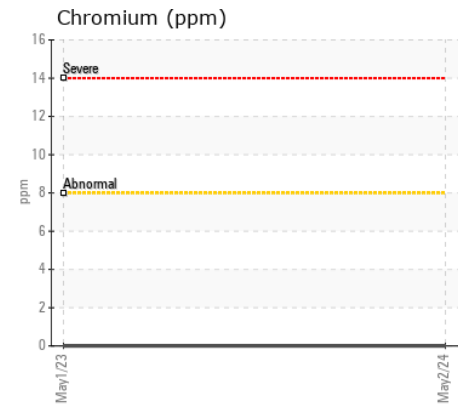
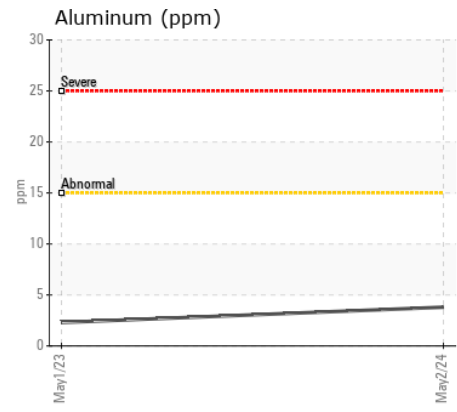
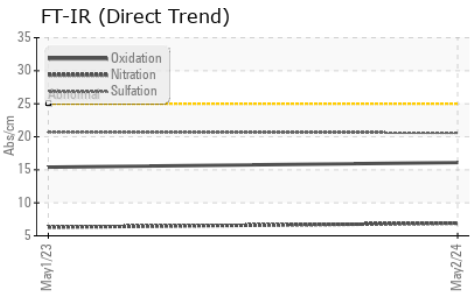
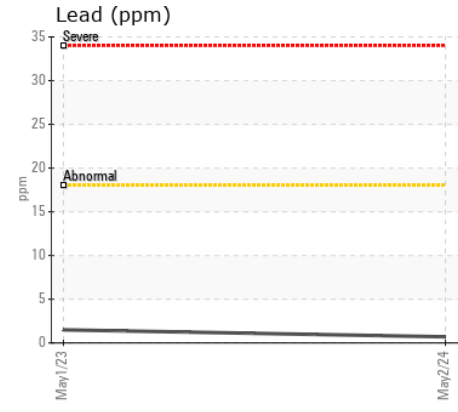
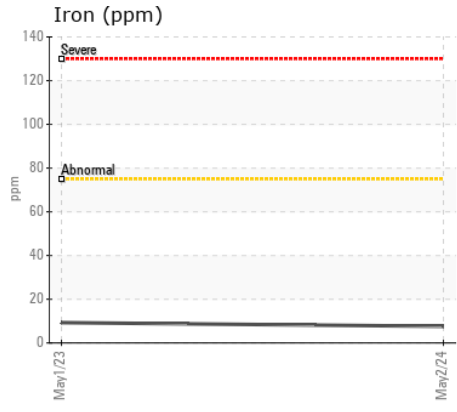
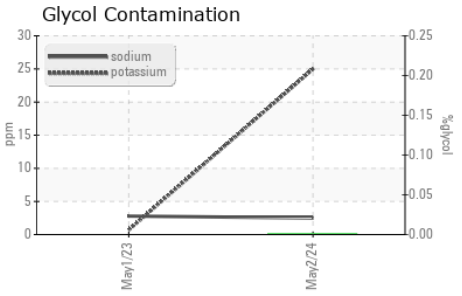
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>20	4	12	---
Potassium	ppm	ASTM D5185(m)	>20	25	<1	---
Fuel		WC Method	>4.0	<1.0	<1.0	---
Water		WC Method	>0.1	NEG	NEG	---
Glycol	%	ASTM D7922*		0.0	NEG	---
Soot %	%	ASTM D7844*		0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	6.9	6.3	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.6	20.7	---
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	---

## FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>75	2	3	---
Boron	ppm	ASTM D5185(m)	2.5	41	356	---
Barium	ppm	ASTM D5185(m)	0.0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0.7	65	81	---
Manganese	ppm	ASTM D5185(m)	0.0	0	<1	---
Magnesium	ppm	ASTM D5185(m)	256	956	437	---
Calcium	ppm	ASTM D5185(m)	2057	1149	1517	---
Phosphorus	ppm	ASTM D5185(m)	935	1042	1119	---
Zinc	ppm	ASTM D5185(m)	1223	1221	1241	---
Sulfur	ppm	ASTM D5185(m)	4079	2699	2870	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.1	15.4	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	13.5	13.8	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : VPA047841 **Received** : 03 May 2024  
**Lab Number** : 02633029 **Tested** : 03 May 2024  
**Unique Number** : 5774182 **Diagnosed** : 03 May 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Glycol )

**Canadian Coast Guard**  
 9860 W Saanich Rd  
 Sidney, BC  
 CA V8L 5T5  
 Contact: Nick Berben

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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