



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

SWEET SPOT

Machine Id

20132021663

Component

Starboard Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA060906	---	---
Sample Date		Client Info		03 May 2024	---	---
Machine Age	hrs	Client Info		798	---	---
Oil Age	hrs	Client Info		798	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	24	---	---
Chromium	ppm	ASTM D5185m	>6	1	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>20	4	---	---
Lead	ppm	ASTM D5185m	>95	2	---	---
Copper	ppm	ASTM D5185m	>85	5	---	---
Tin	ppm	ASTM D5185m	>9	3	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

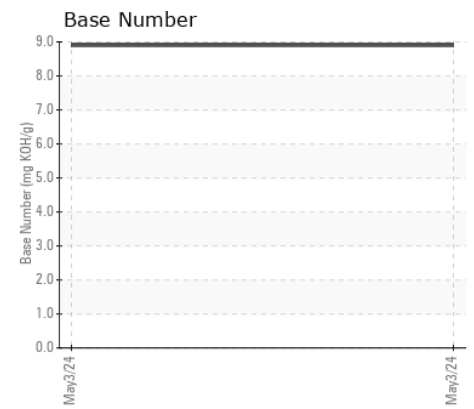
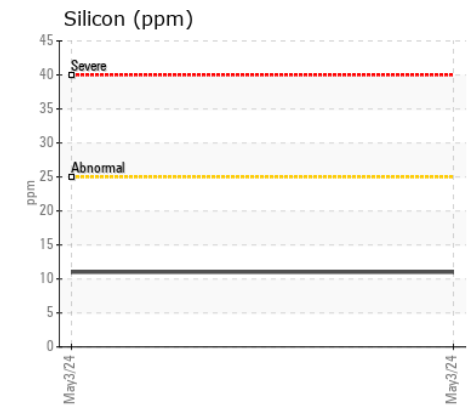
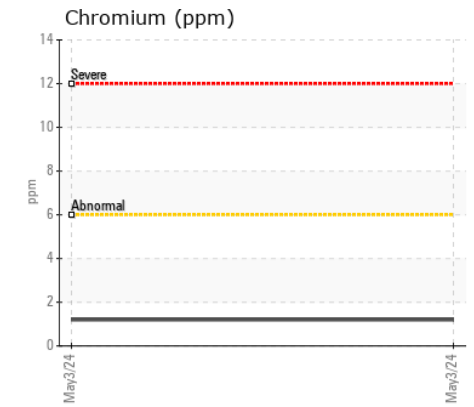
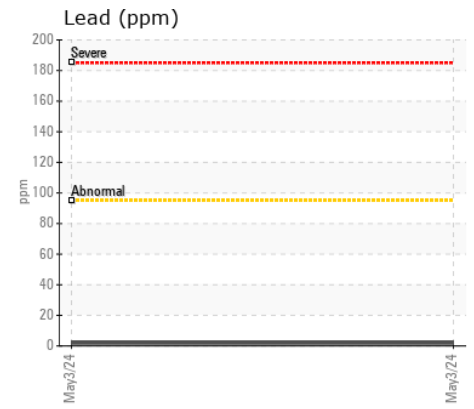
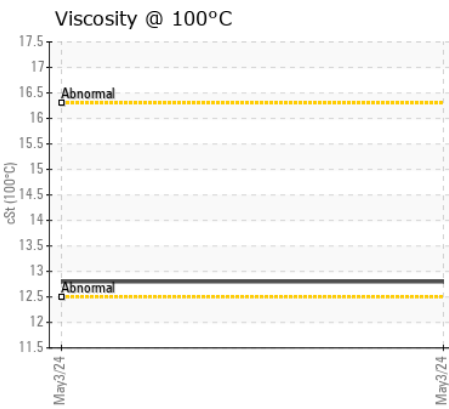
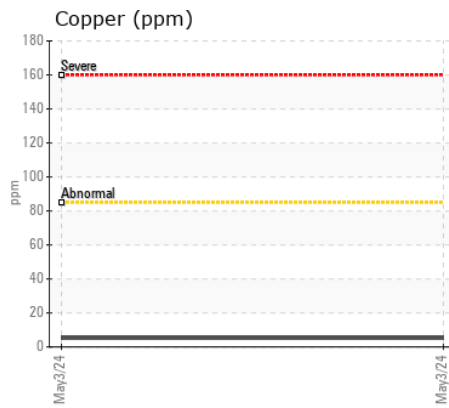
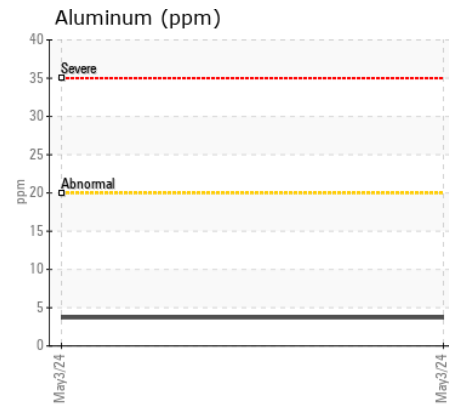
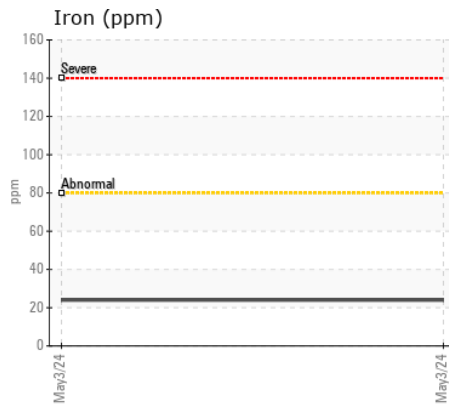
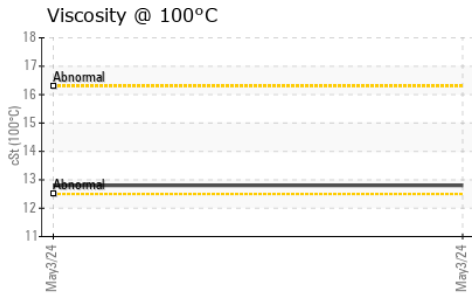
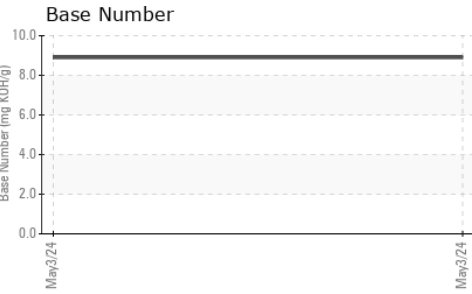
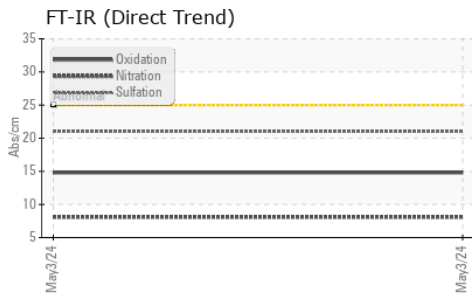
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	---	---
Potassium	ppm	ASTM D5185m	>20	8	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		1.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.1	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	---	---
Boron	ppm	ASTM D5185m		5	---	---
Barium	ppm	ASTM D5185m		2	---	---
Molybdenum	ppm	ASTM D5185m		65	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		931	---	---
Calcium	ppm	ASTM D5185m		1158	---	---
Phosphorus	ppm	ASTM D5185m		1070	---	---
Zinc	ppm	ASTM D5185m		1212	---	---
Sulfur	ppm	ASTM D5185m		3093	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.9	---	---
Visc @ 100°C	cSt	ASTM D445		12.8	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA060906 **Received** : 13 May 2024
Lab Number : 06176842 **Tested** : 14 May 2024
Unique Number : 11022895 **Diagnosed** : 14 May 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

MMRS - MOBILE MARINE KEY WEST
 5680 1ST AVE, UNIT 4
 KEY WEST, FL
 US 33040
 Contact: Matt Graf

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:
F: