



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**DOUG ZALK [7720058]**  
 Machine Id  
**VOLVO PENTA A1053534**  
 Component  
**Starboard Diesel Engine**  
 Fluid  
**VOLVO VDS-4.5 Premium Motor Oil 15W40 (5 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VPA054007</b>	VPA050655	VPA026056
Sample Date		Client Info		<b>10 Jun 2024</b>	03 Jul 2023	20 Jun 2022
Machine Age	hrs	Client Info		<b>307</b>	258	220
Oil Age	hrs	Client Info		<b>0</b>	0	70
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>26</b>	18	16
Chromium	ppm	ASTM D5185m	>6	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	3	4
Lead	ppm	ASTM D5185m	>95	<b>1</b>	0	1
Copper	ppm	ASTM D5185m	>85	<b>3</b>	3	4
Tin	ppm	ASTM D5185m	>9	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

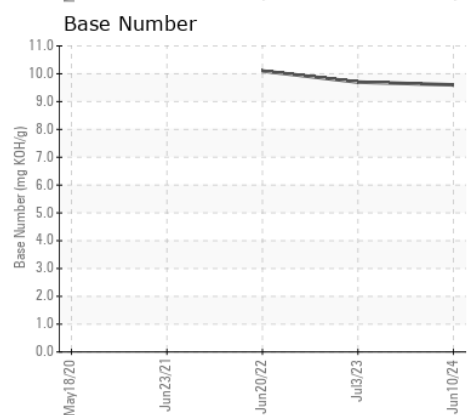
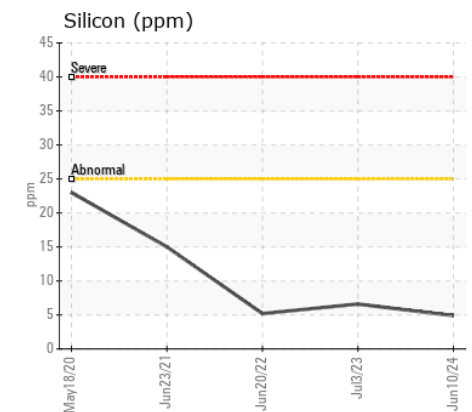
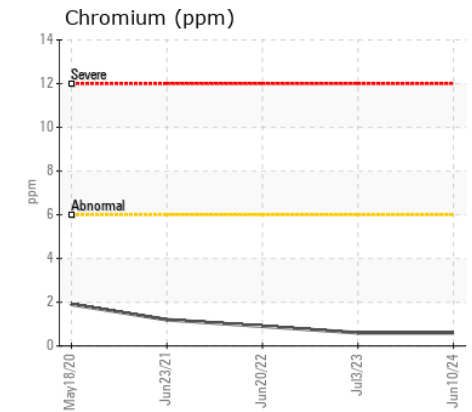
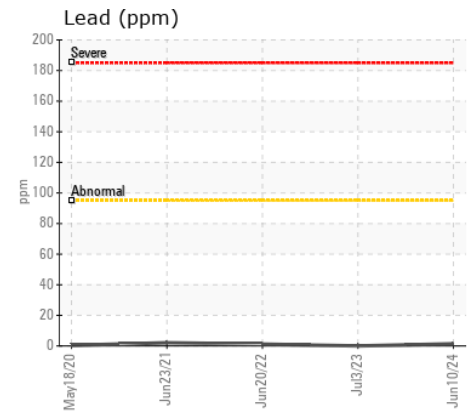
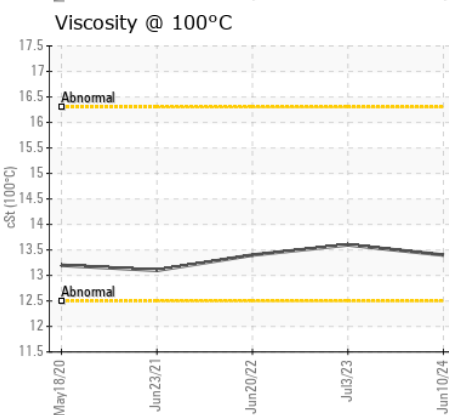
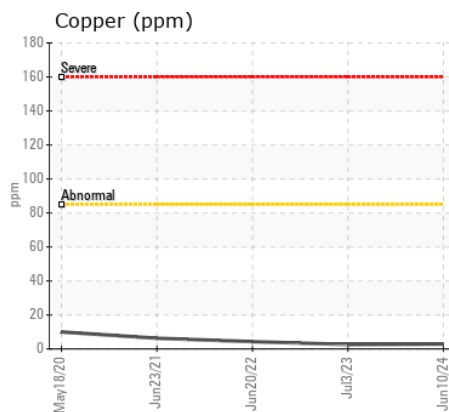
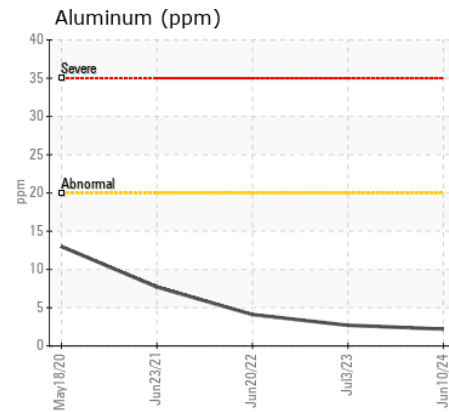
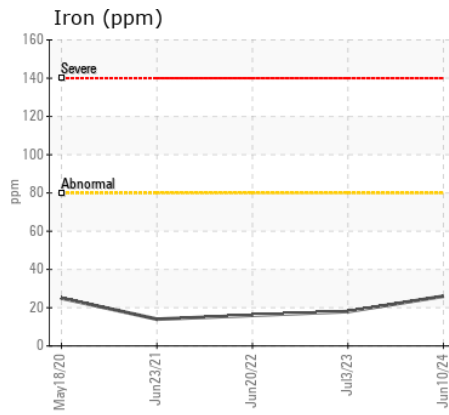
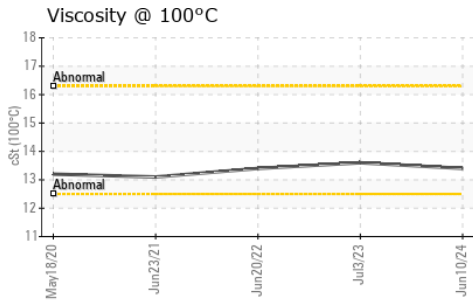
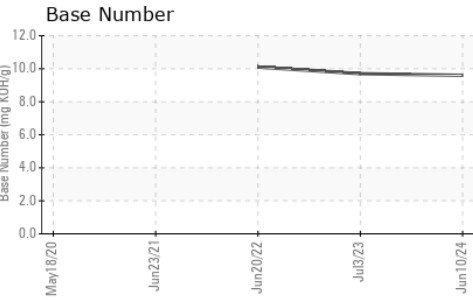
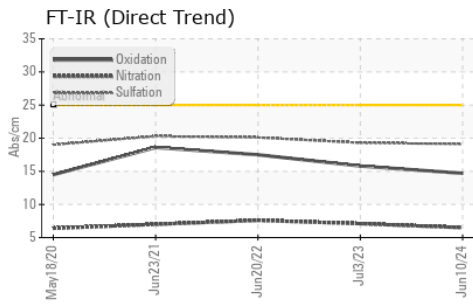
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	7	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	7.1	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	19.3	20.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	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		<b>2</b>	<1	2
Boron	ppm	ASTM D5185m		<b>27</b>	<1	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>58</b>	62	53
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>991</b>	1091	899
Calcium	ppm	ASTM D5185m		<b>1144</b>	1155	1002
Phosphorus	ppm	ASTM D5185m		<b>1169</b>	1149	817
Zinc	ppm	ASTM D5185m		<b>1350</b>	1460	1182
Sulfur	ppm	ASTM D5185m		<b>5228</b>	4405	3074
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.7</b>	15.8	17.5
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.6</b>	9.7	10.1
Visc @ 100°C	cSt	ASTM D445		<b>13.4</b>	13.6	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA054007 **Received** : 20 Jun 2024  
**Lab Number** : 06215589 **Tested** : 21 Jun 2024  
**Unique Number** : 11088453 **Diagnosed** : 22 Jun 2024 - Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

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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)