



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	MARGINAL

Area  
**BARRY BARR [1610045]**  
 Machine Id  
**VOLVO PENTA 2071161817**  
 Component  
**Starboard Diesel Engine**  
 Fluid  
**VOLVO VDS-4.5 Premium Motor Oil 15W40 (5 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VPA056520</b>	VPA047201	---
Sample Date		Client Info		<b>27 Mar 2024</b>	11 Apr 2022	---
Machine Age	hrs	Client Info		<b>0</b>	1407	---
Oil Age	hrs	Client Info		<b>0</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>N/A</b>	Changed	---
Filter Changed		Client Info		<b>N/A</b>	Changed	---
Sample Status				<b>MARGINAL</b>	NORMAL	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>6</b>	9	---
Chromium	ppm	ASTM D5185m	>6	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>2	<b>2</b>	3	---
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	<1	---
Lead	ppm	ASTM D5185m	>95	<b>2</b>	2	---
Copper	ppm	ASTM D5185m	>85	<b>14</b>	23	---
Tin	ppm	ASTM D5185m	>9	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

**CONTAMINATION**

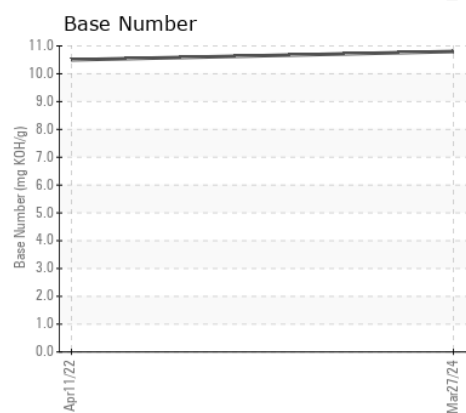
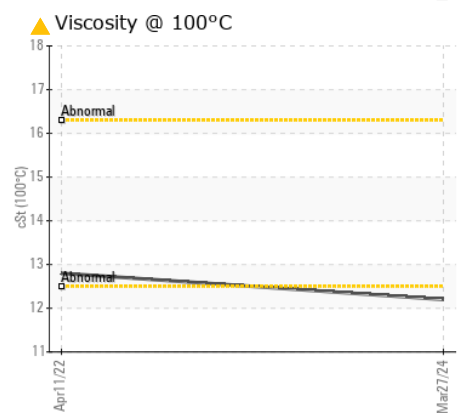
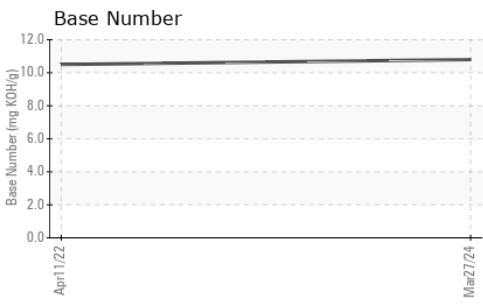
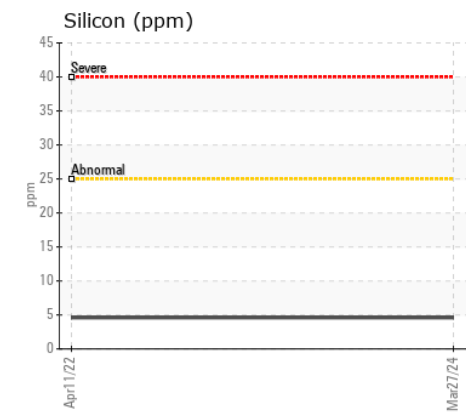
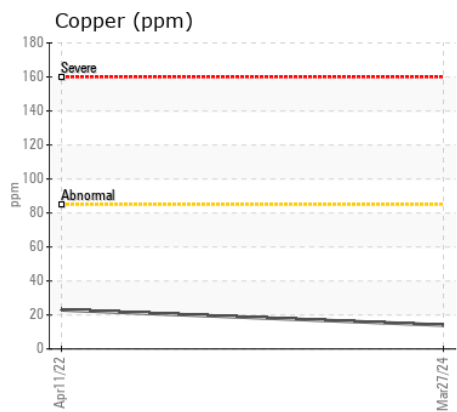
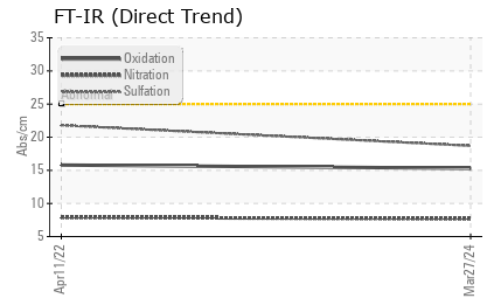
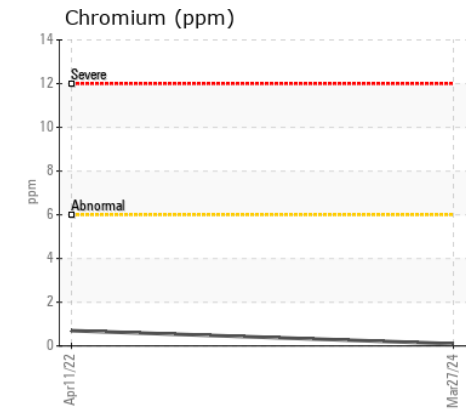
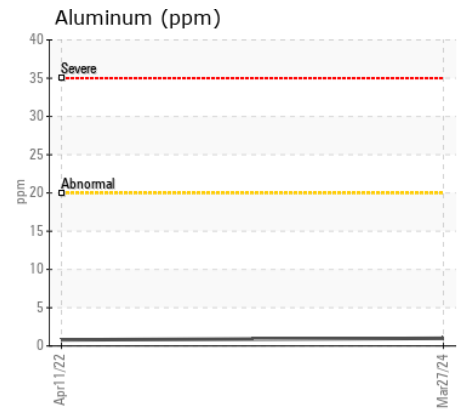
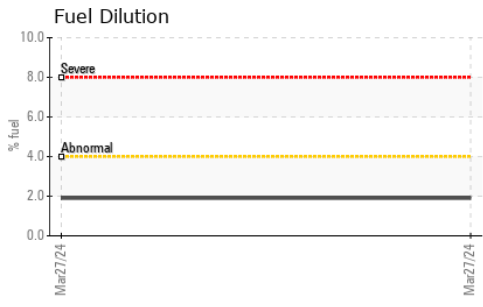
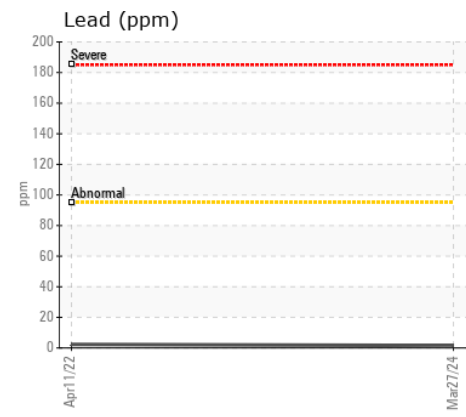
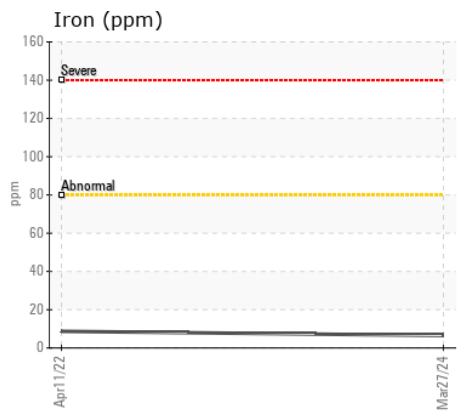
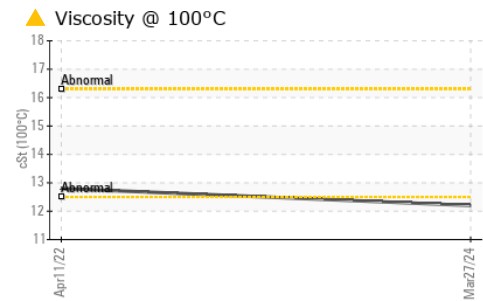
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	---
Fuel	%	ASTM D3524	>4.0	<b>1.9</b>	<1.0	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844		<b>0.5</b>	0.7	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	7.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.7</b>	21.8	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	---

**FLUID CONDITION**

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>0</b>	2	---
Boron	ppm	ASTM D5185m		<b>9</b>	29	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>57</b>	51	---
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>949</b>	902	---
Calcium	ppm	ASTM D5185m		<b>1071</b>	1149	---
Phosphorus	ppm	ASTM D5185m		<b>1040</b>	1020	---
Zinc	ppm	ASTM D5185m		<b>1243</b>	1157	---
Sulfur	ppm	ASTM D5185m		<b>3502</b>	2826	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	15.8	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.8</b>	10.5	---
Visc @ 100°C	cSt	ASTM D445		<b>▲ 12.2</b>	12.8	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA056520 **Received** : 17 Apr 2024  
**Lab Number** : 06151702 **Tested** : 22 Apr 2024  
**Unique Number** : 10981780 **Diagnosed** : 22 Apr 2024 - Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, 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)