



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**PATRICK WELCH [DILLON]**

Machine Id  
**VOLVO PENTA A707043**

Component  
**Starboard Diesel Engine**

Fluid  
**VOLVO PENTA SAE 15W40 (2 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>VPA053004</b>	VPA048509	VPA045524
Sample Date		Client Info		<b>17 Apr 2024</b>	23 Aug 2023	28 Mar 2023
Machine Age	hrs	Client Info		<b>370</b>	358	329
Oil Age	hrs	Client Info		<b>0</b>	27	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Changd	N/A
Filter Changed		Client Info		<b>Changed</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

**WEAR**

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>80	<b>85</b>	67	▲ 125
Chromium	ppm	ASTM D5185m	>6	<b>6</b>	5	▲ 9
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	2	3
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>24</b>	30	▲ 81
Lead	ppm	ASTM D5185m	>95	<b>2</b>	2	6
Copper	ppm	ASTM D5185m	>85	<b>14</b>	12	26
Tin	ppm	ASTM D5185m	>9	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

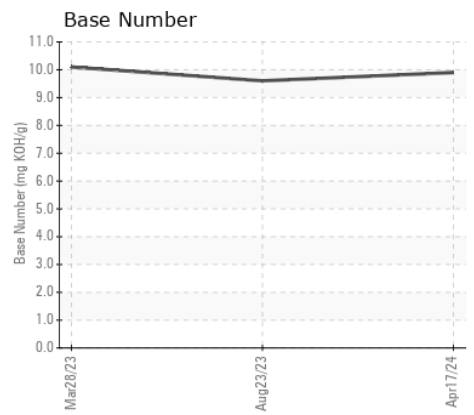
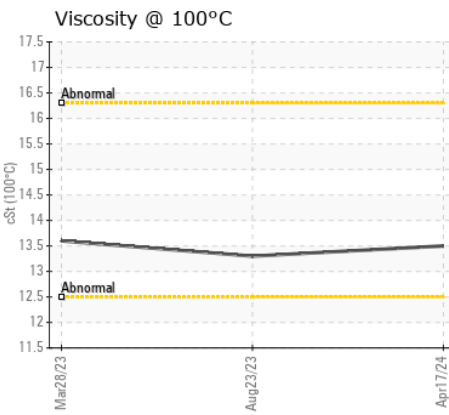
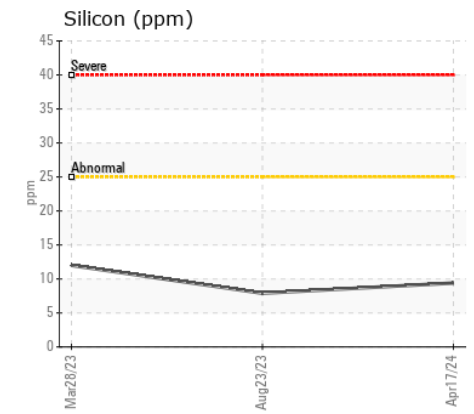
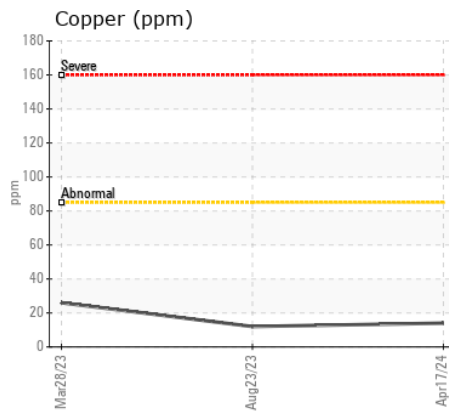
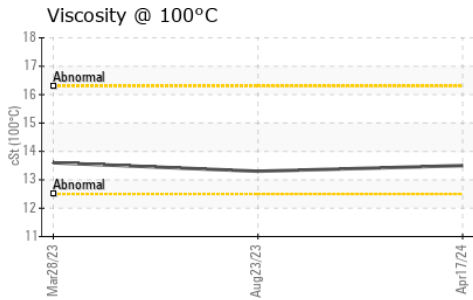
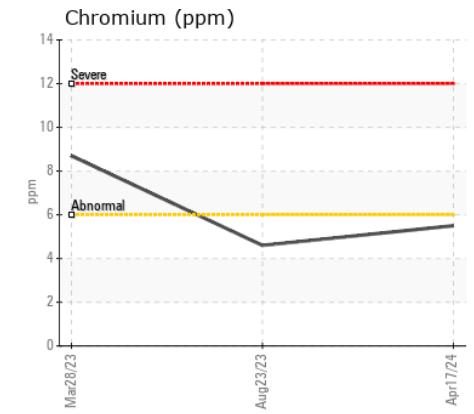
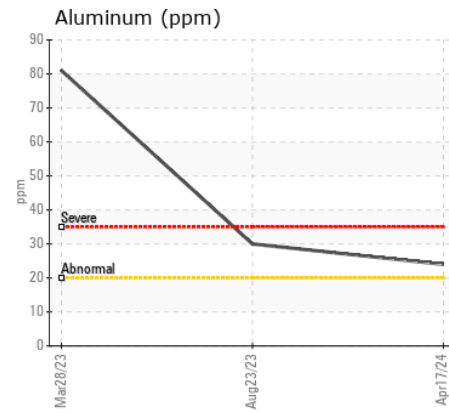
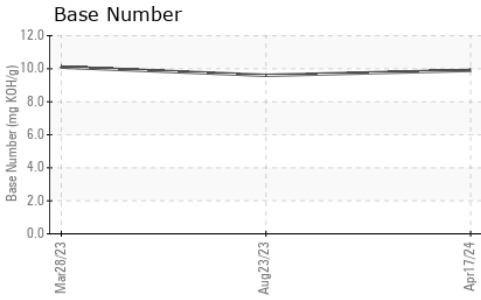
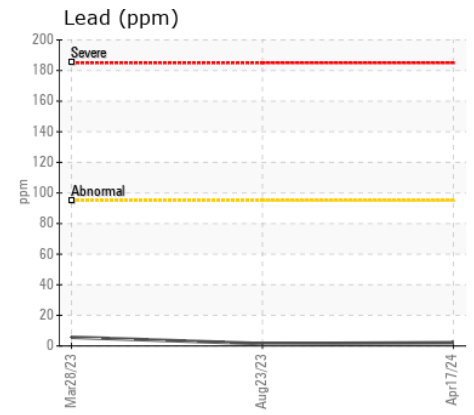
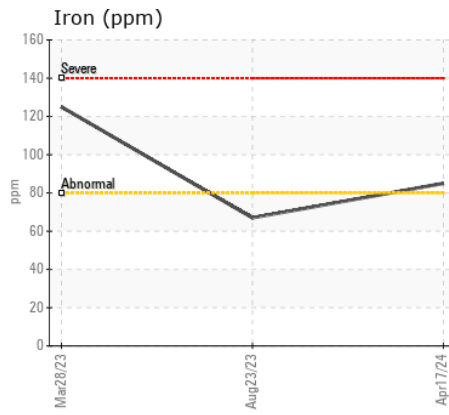
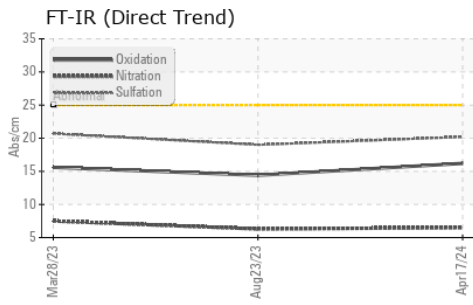
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>9</b>	8	12
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	6
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>0.2</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	6.3	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.2</b>	19.0	20.7
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>7</b>	5	17
Boron	ppm	ASTM D5185m		<b>15</b>	2	<1
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>53</b>	55	63
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Magnesium	ppm	ASTM D5185m		<b>803</b>	935	1051
Calcium	ppm	ASTM D5185m		<b>1240</b>	1084	1185
Phosphorus	ppm	ASTM D5185m		<b>946</b>	985	1101
Zinc	ppm	ASTM D5185m		<b>1094</b>	1213	1355
Sulfur	ppm	ASTM D5185m		<b>3352</b>	3603	3787
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	14.4	15.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.9</b>	9.6	10.1
Visc @ 100°C	cSt	ASTM D445		<b>13.5</b>	13.3	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA053004 **Received** : 22 Apr 2024  
**Lab Number** : 06155512 **Tested** : 22 Apr 2024  
**Unique Number** : 10990935 **Diagnosed** : 24 Apr 2024 - Sean Felton  
**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)