

OIL ANALYSIS REPORT

VOLVO PENTA

4 FROGS 51662 - STARBOARD DIESEL ENGINE

Sample No: VPA044660

Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA044660	VPA032083	---	---
Sample Date	04 Nov 2022	04 Oct 2021	---	---
Machine Hours	399	0	---	---
Oil Hours	111	0	---	---
Oil Changed	Changed	Not Changd	---	---
Sample Status	ABNORMAL	ATTENTION	---	---

OIL CONDITION

Visc @ 100°C	cSt	█ 13.8	█ 13.7	---	---
Base Number (BN)	mg KOH/g	█ 7.9	---	---	---
Oxidation (PA)	%	72	75	---	---

CONTAMINATION

Soot %	%	█ 0.2	█ 0.2	---	---
Nitration (PA)	%	70	69	---	---
Sulfation (PA)	%	60	61	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	█ 3	█ 2	---	---
Sodium	ppm	█ 2	█ 2	---	---
Potassium	ppm	█ 8	█ 9	---	---

WEAR METALS

Iron	ppm	█ 15	█ 15	---	---
Copper	ppm	▲ 161	▲ 125	---	---
Lead	ppm	█ 4	█ 1	---	---
Tin	ppm	█ <1	█ <1	---	---
Aluminum	ppm	█ 3	█ 2	---	---
Chromium	ppm	█ <1	█ <1	---	---
Molybdenum	ppm	█ 1	█ 1	---	---
Nickel	ppm	█ <1	█ 1	---	---
Titanium	ppm	█ 0	█ <1	---	---
Silver	ppm	█ 0	█ <1	---	---
Manganese	ppm	█ <1	█ <1	---	---
Vanadium	ppm	0	<1	---	---

ADDITIVES

Calcium	ppm	█ 2397	█ 2214	---	---
Magnesium	ppm	█ 25	█ 14	---	---
Zinc	ppm	█ 1306	█ 1242	---	---
Phosphorus	ppm	█ 1052	█ 981	---	---
Barium	ppm	█ 0	█ 0	---	---
Boron	ppm	█ 179	█ 183	---	---

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Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VP592286

Unique No: 10319188

Signed: Sean Felton

Report Date: 01 Feb 2023

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GRAPHS

