

OIL ANALYSIS REPORT

VOLVO PENTA

590-27 590-27 CUMMINS 22364027 - STARBOARD DIESEL ENGINE

Sample No: VPA059559

Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA059559	---	---	---
Sample Date	03 Nov 2023	---	---	---
Machine Hours	352	---	---	---
Oil Hours	17	---	---	---
Oil Changed	N/A	---	---	---
Sample Status	ABNORMAL	---	---	---

Outstanding Marine

PO Box 274
GALENA, MD
US 21635
Contact: Ronda Bolinger
rlwb@verizon.net
T:
F:

OIL CONDITION

Visc @ 100°C	cSt	█ 14.06	---	---	---
Base Number (BN)	mg KOH/g	█ 8.5	---	---	---
Oxidation (PA)	%	█ 64	---	---	---

CONTAMINATION

Soot %	%	█ 0.4	---	---	---
Nitration (PA)	%	█ 50	---	---	---
Sulfation (PA)	%	█ 57	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	< 1.0	---	---	---
Silicon	ppm	█ 6	---	---	---
Sodium	ppm	█ 19	---	---	---
Potassium	ppm	█ 7	---	---	---

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. Cylinder, crank, or cam shaft wear is indicated. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

WEAR METALS

Iron	ppm	▲ 100	---	---	---
Copper	ppm	█ 41	---	---	---
Lead	ppm	█ < 1	---	---	---
Tin	ppm	█ < 1	---	---	---
Aluminum	ppm	▲ 63	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 11	---	---	---
Nickel	ppm	█ 5	---	---	---
Titanium	ppm	█ < 1	---	---	---
Silver	ppm	█ < 1	---	---	---
Manganese	ppm	█ < 1	---	---	---
Vanadium	ppm	0	---	---	---

ADDITIVES

Calcium	ppm	█ 2012	---	---	---
Magnesium	ppm	█ 27	---	---	---
Zinc	ppm	█ 1073	---	---	---
Phosphorus	ppm	█ 969	---	---	---
Barium	ppm	█ 6	---	---	---
Boron	ppm	█ 173	---	---	---

Depot: VP153685
Unique No: 10729238
Signed: Doug Bogart
Report Date: 07 Nov 2023

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GRAPHS

