

# OIL ANALYSIS REPORT

**VOLVO  
PENTA**

## GROFF JC VOLVO PENTA A510255 - STARBOARD DIESEL ENGINE

**Sample No:** VPA021392

**Oil Type:** SHELL ROTELLA T 15W40

### SAMPLE INFORMATION

Sample Number	VPA021392	VPA037831	---	---
Sample Date	13 Dec 2023	21 Jun 2022	---	---
Machine Hours	517	400	---	---
Oil Hours	0	18	---	---
Oil Changed	Changed	Not Changd	---	---
Sample Status	NORMAL	NORMAL	---	---

### Outstanding Marine

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

### OIL CONDITION

Visc @ 100°C	cSt	█ 14.0	█ 13.9	---	---
Base Number (BN)	mg KOH/g	█ 8.6	█ 10.6	---	---
Oxidation (PA)	%	61	58	---	---

### CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	█ 0.2	█ 0.1	---	---
Nitration (PA)	%	47	43	---	---
Sulfation (PA)	%	54	54	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	█ 4	█ 4	---	---
Sodium	ppm	█ <1	█ <1	---	---
Potassium	ppm	█ 4	█ 2	---	---

### Diagnosis

Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

### WEAR METALS

Iron	ppm	█ 7	█ 4	---	---
Copper	ppm	█ 2	█ 2	---	---
Lead	ppm	█ 0	█ 1	---	---
Tin	ppm	█ <1	█ <1	---	---
Aluminum	ppm	█ 2	█ <1	---	---
Chromium	ppm	█ <1	█ <1	---	---
Molybdenum	ppm	█ 15	█ 46	---	---
Nickel	ppm	█ <1	█ <1	---	---
Titanium	ppm	█ <1	█ 0	---	---
Silver	ppm	█ 0	█ 1	---	---
Manganese	ppm	█ <1	█ <1	---	---
Vanadium	ppm	<1	0	---	---

### ADDITIVES

Calcium	ppm	█ 1876	█ 1253	---	---
Magnesium	ppm	█ 235	765	---	---
Zinc	ppm	█ 1157	█ 1241	---	---
Phosphorus	ppm	█ 989	█ 987	---	---
Barium	ppm	█ 0	█ 0	---	---
Boron	ppm	█ 142	█ 38	---	---

**Depot:** VP153685  
**Unique No:** 10816288  
**Signed:** Sean Felton  
**Report Date:** 04 Jan 2024

# OIL ANALYSIS REPORT

**VOLVO  
PENTA**

## GRAPHS

