

# OIL ANALYSIS REPORT

# VOLVO PENTA

**PETER HUYSSING PATRICK/502357-5250 VOLVO PENTA A1133471 - STARBOARD DIESEL ENGINE**

**Sample No:** VPA060402

**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40

## SAMPLE INFORMATION

Sample Number	<b>VPA060402</b>	VPA043129	---	---
Sample Date	<b>11 Sep 2023</b>	28 Sep 2022	---	---
Machine Hours	<b>138</b>	90	---	---
Oil Hours	<b>49</b>	90	---	---
Oil Changed	<b>Changed</b>	Changed	---	---
Sample Status	<b>NORMAL</b>	NORMAL	---	---

**Endor Marine LLC - Coastal Marine - 152124**  
4300 11th Ave. NW  
SEATTLE, WA  
US 98107  
Contact: WILLOW YANARELLA  
service@coastalmarineengine.com  
T: (206)784-3703  
F: (206)784-8823

## OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.2	---	---
Base Number (BN)	mg KOH/g	<b>9.8</b>	10.8	---	---
Oxidation (PA)	%	<b>55</b>	69	---	---

## Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. 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.

## CONTAMINATION

Soot %	%	<b>0.1</b>	0.2	---	---
Nitration (PA)	%	<b>40</b>	50	---	---
Sulfation (PA)	%	<b>52</b>	66	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	<b>&lt;1.0</b>	<1.0	---	---
Silicon	ppm	<b>8</b>	21	---	---
Sodium	ppm	<b>2</b>	3	---	---
Potassium	ppm	<b>0</b>	2	---	---

## WEAR METALS

Iron	ppm	<b>9</b>	11	---	---
Copper	ppm	<b>5</b>	12	---	---
Lead	ppm	<b>1</b>	6	---	---
Tin	ppm	<b>&lt;1</b>	2	---	---
Aluminum	ppm	<b>12</b>	16	---	---
Chromium	ppm	<b>&lt;1</b>	<1	---	---
Molybdenum	ppm	<b>70</b>	92	---	---
Nickel	ppm	<b>&lt;1</b>	2	---	---
Titanium	ppm	<b>&lt;1</b>	<1	---	---
Silver	ppm	<b>0</b>	0	---	---
Manganese	ppm	<b>&lt;1</b>	1	---	---
Vanadium	ppm	<b>0</b>	<1	---	---

## ADDITIVES

Calcium	ppm	<b>1248</b>	1444	---	---
Magnesium	ppm	<b>1022</b>	622	---	---
Zinc	ppm	<b>1256</b>	851	---	---
Phosphorus	ppm	<b>1054</b>	726	---	---
Barium	ppm	<b>0</b>	0	---	---
Boron	ppm	<b>54</b>	262	---	---

**Depot:** VP794951  
**Unique No:** 10648343  
**Signed:** Sean Felton  
**Report Date:** 19 Sep 2023

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## GRAPHS

