

# OIL ANALYSIS REPORT

# VOLVO PENTA

## DORR WALTER VOLVO PENTA 20069039674 - PORT DIESEL ENGINE

**Sample No:** VPA055879

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

### SAMPLE INFORMATION

Sample Number	<b>VPA055879</b>	VPA047207	VPA034245	VPA027766
Sample Date	<b>13 Oct 2023</b>	01 Oct 2022	17 Oct 2021	20 Jul 2020
Machine Hours	<b>831</b>	773	710	589
Oil Hours	<b>60</b>	70	70	0
Oil Changed	<b>Changed</b>	Changed	Changed	N/A
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**Bayview Yachtcrafters Inc**

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.7</b>	13.8	14.3	13.9
Base Number (BN)	mg KOH/g	<b>10.0</b>	11.2	10	---
Oxidation (PA)	%	<b>70</b>	74	77	58

### CONTAMINATION

Soot %	%	<b>0.2</b>	0.2	0.2	0.1
Nitration (PA)	%	<b>69</b>	74	78	53
Sulfation (PA)	%	<b>60</b>	63	63	53
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	4	4	5
Sodium	ppm	<b>4</b>	1	0	2
Potassium	ppm	<b>2</b>	<1	2	0

### 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 acceptable for the time in service.

### WEAR METALS

Iron	ppm	<b>5</b>	6	14	4
Copper	ppm	<b>6</b>	5	8	3
Lead	ppm	<b>&lt;1</b>	1	2	<1
Tin	ppm	<b>&lt;1</b>	<1	<1	0
Aluminum	ppm	<b>3</b>	1	3	8
Chromium	ppm	<b>&lt;1</b>	<1	<1	<1
Molybdenum	ppm	<b>67</b>	62	56	69
Nickel	ppm	<b>&lt;1</b>	<1	<1	<1
Titanium	ppm	<b>&lt;1</b>	0	<1	<1
Silver	ppm	<b>0</b>	0	<1	0
Manganese	ppm	<b>0</b>	<1	<1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1103</b>	1131	1388	1258
Magnesium	ppm	<b>1043</b>	976	904	1156
Zinc	ppm	<b>1361</b>	1333	1272	1305
Phosphorus	ppm	<b>1125</b>	1081	1194	1193
Barium	ppm	<b>&lt;1</b>	0	0	0
Boron	ppm	<b>2</b>	8	25	5

**Depot:** VP151756  
**Unique No:** 10723689  
**Signed:** Don Baldrige  
**Report Date:** 02 Nov 2023

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PENTA**

## GRAPHS

