

# OIL ANALYSIS REPORT

# VOLVO PENTA

## KOHLER 33CTGMHD0002 - PORT GENSET

**Sample No:** VPA051766  
**Oil Type:** VOLVO VDS 4.5

### SAMPLE INFORMATION

Sample Number	<b>VPA051766</b>	VPA023236	VPA034043	VPA038812
Sample Date	<b>25 Dec 2023</b>	01 Aug 2023	22 Feb 2023	26 Jul 2022
Machine Hours	<b>2076</b>	1772	1325	853
Oil Hours	<b>250</b>	250	142	424
Oil Changed	<b>Changed</b>	Changed	N/A	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.0</b>	13.7	13.8	14.7
Base Number (BN)	mg KOH/g	<b>8.4</b>	8.4	9.1	9.0
Oxidation (PA)	%	<b>71</b>	74	73	83

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>72</b>	76	77	87
Sulfation (PA)	%	<b>52</b>	53	54	59
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	8	7	7
Sodium	ppm	<b>3</b>	3	<1	4
Potassium	ppm	<b>0</b>	3	2	1

### 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>7</b>	14	14	19
Copper	ppm	<b>&lt;1</b>	2	1	3
Lead	ppm	<b>0</b>	0	<1	<1
Tin	ppm	<b>0</b>	<1	0	<1
Aluminum	ppm	<b>&lt;1</b>	2	2	1
Chromium	ppm	<b>&lt;1</b>	2	2	4
Molybdenum	ppm	<b>50</b>	61	61	61
Nickel	ppm	<b>0</b>	0	0	0
Titanium	ppm	<b>0</b>	<1	<1	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	<1	0	0

### ADDITIVES

Calcium	ppm	<b>828</b>	936	903	842
Magnesium	ppm	<b>935</b>	1125	1017	1045
Zinc	ppm	<b>1137</b>	1370	1239	1245
Phosphorus	ppm	<b>885</b>	1055	1033	1018
Barium	ppm	<b>0</b>	0	0	2
Boron	ppm	<b>43</b>	37	40	41

**Depot:** VP99298099  
**Unique No:** 10805132  
**Signed:** Sean Felton  
**Report Date:** 27 Dec 2023

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## GRAPHS

