

# OIL ANALYSIS REPORT



## MARK & SUE RINGHAM MSR VOLVO PENTA D8-A1-1 MP 7008496980 - PORT DIESEL ENGINE

**Sample No:** VPA045814  
**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA045814</b>	VPA059442	VPA046862	VPA042464
Sample Date	<b>31 May 2024</b>	23 Nov 2023	21 Aug 2023	05 May 2023
Machine Hours	<b>1048</b>	847	652	458
Oil Hours	<b>201</b>	195	194	208
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

### ALL SYSTEMS MARINE

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 PENSACOLA, FL  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.2	13.1	13.0
Base Number (BN)	mg KOH/g	<b>9.8</b>	9.9	10.0	9.7
Oxidation (PA)	%	<b>56</b>	56	57	58

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.4</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>52</b>	44	47	48
Sulfation (PA)	%	<b>55</b>	51	52	53
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>11</b>	10	9	9
Sodium	ppm	<b>2</b>	0	0	<1
Potassium	ppm	<b>&lt;1</b>	2	<1	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>8</b>	3	3	2
Copper	ppm	<b>44</b>	4	3	2
Lead	ppm	<b>&lt;1</b>	<1	0	0
Tin	ppm	<b>0</b>	<1	0	0
Aluminum	ppm	<b>2</b>	<1	0	5
Chromium	ppm	<b>&lt;1</b>	<1	<1	0
Molybdenum	ppm	<b>65</b>	61	57	65
Nickel	ppm	<b>&lt;1</b>	<1	<1	0
Titanium	ppm	<b>0</b>	<1	<1	0
Silver	ppm	<b>&lt;1</b>	0	<1	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	0
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1190</b>	1056	984	1183
Magnesium	ppm	<b>1050</b>	958	871	1037
Zinc	ppm	<b>1370</b>	1202	1119	1404
Phosphorus	ppm	<b>1095</b>	1034	958	1136
Barium	ppm	<b>0</b>	<1	<1	0
Boron	ppm	<b>2</b>	2	0	16

**Depot:** VP99220003  
**Unique No:** 11073299  
**Signed:** Don Baldrige  
**Report Date:** 13 Jun 2024

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# VOLVO PENTA

## GRAPHS

