

# OIL ANALYSIS REPORT

# VOLVO PENTA

## RAY KOHLER 33CTGMHD0001 - STARBOARD GENSET

Sample No: VPA023238

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

### SAMPLE INFORMATION

Sample Number	VPA023238	VPA023261	VPA034001	VPA038817
Sample Date	01 Dec 2023	01 Aug 2023	22 Feb 2023	26 Jul 2022
Machine Hours	2078	1813	1336	857
Oil Hours	250	250	155	425
Oil Changed	Changed	Changed	Not Changd	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

### NEWT MARINE

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US 52001  
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### OIL CONDITION

Visc @ 100°C	cSt	13.1	13.7	13.7	14.8
Base Number (BN)	mg KOH/g	8.5	8.5	9.2	8.7
Oxidation (PA)	%	68	72	71	87

### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	68	74	75	91
Sulfation (PA)	%	52	52	53	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	3	4	5	9
Sodium	ppm	3	3	0	4
Potassium	ppm	0	1	5	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	5	8	11	22
Copper	ppm	0	<1	6	3
Lead	ppm	0	0	<1	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	0	<1	2	1
Chromium	ppm	<1	<1	2	4
Molybdenum	ppm	49	56	60	60
Nickel	ppm	0	0	0	0
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	<1	0	0

### ADDITIVES

Calcium	ppm	795	900	912	857
Magnesium	ppm	954	1100	987	1037
Zinc	ppm	1140	1347	1222	1247
Phosphorus	ppm	871	1024	1037	1009
Barium	ppm	0	0	0	2
Boron	ppm	46	37	29	42

Depot: VP99298099  
Unique No: 10805133  
Signed: Sean Felton  
Report Date: 27 Dec 2023

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## GRAPHS

