

OIL ANALYSIS REPORT

**VOLVO
PENTA**

NORTHERN LIGHTS 0642-58267 - PORT GENSET

Sample No: VPA051772

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

SAMPLE INFORMATION

Sample Number	VPA051772	VPA051741	VPA034053	VPA034080
Sample Date	03 Apr 2024	04 Oct 2023	08 Mar 2023	23 Nov 2022
Machine Hours	7100	5981	4995	4611
Oil Hours	0	986	1179	750
Oil Changed	Changed	Changed	Changed	Not Changd
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

NEWT MARINE

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OIL CONDITION

Visc @ 100°C	cSt	12.9	13.0	12.3	13.0
Base Number (BN)	mg KOH/g	11.3	8.9	9.8	10.6
Oxidation (PA)	%	67	63	67	69

CONTAMINATION

Water	%	▲ 0.489	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	70	55	64	63
Sulfation (PA)	%	54	55	58	61
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	0.3	<1.0
Silicon	ppm	5	4	5	4
Sodium	ppm	0	4	1	2
Potassium	ppm	2	1	1	0

Diagnosis

We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate concentration of water present 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	10	6	10	8
Copper	ppm	1	2	<1	<1
Lead	ppm	12	7	11	8
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	2	1	2	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	69	61	65	65
Nickel	ppm	<1	0	<1	0
Titanium	ppm	<1	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	1139	1075	1160	1144
Magnesium	ppm	1017	1048	1031	1011
Zinc	ppm	1276	1381	1372	1291
Phosphorus	ppm	1090	1069	1077	1049
Barium	ppm	2	0	0	0
Boron	ppm	0	<1	2	4

Depot: VP99298099
Unique No: 11022893
Signed: Sean Felton
Report Date: 16 May 2024

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GRAPHS

