

OIL ANALYSIS REPORT

**VOLVO
PENTA**

ENCORE V - PORT MAIN ENGINE

Sample No: VPA042630

Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA042630	VPA042622	VPA039849	VPA035191
Sample Date	24 Feb 2024	01 Nov 2023	20 Feb 2023	20 Jul 2022
Machine Hours	5912	5712	0	3916
Oil Hours	200	200	200	200
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

BAY STATE CRUISE COMPANY
200 SEAPORT BLVD, SUITE 50 LOWER LEVEL
BOSTON, MA
US 02210
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OIL CONDITION

Visc @ 100°C	cSt	14.6	14.4	14.6	15.1
Base Number (BN)	mg KOH/g	9.6	9.4	9.6	10.7
Oxidation (PA)	%	54	54	53	59

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	46	43	46	43
Sulfation (PA)	%	48	48	49	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	3	4	3	3
Sodium	ppm	1	0	3	2
Potassium	ppm	<1	2	<1	3

WEAR METALS

Iron	ppm	4	2	4	<1
Copper	ppm	3	3	2	1
Lead	ppm	1	1	<1	1
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	9	1	1	2
Chromium	ppm	<1	1	<1	<1
Molybdenum	ppm	60	58	58	52
Nickel	ppm	<1	2	1	0
Titanium	ppm	3	<1	0	0
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	<1	0
Vanadium	ppm	<1	<1	<1	<1

ADDITIVES

Calcium	ppm	1167	1060	1044	963
Magnesium	ppm	1016	944	929	859
Zinc	ppm	1343	1205	1202	1094
Phosphorus	ppm	1080	970	1008	871
Barium	ppm	0	0	0	0
Boron	ppm	5	<1	2	5

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 suitable for further service.

Depot: VPBAYBOS
Unique No: 11073302
Signed: Don Baldrige
Report Date: 13 Jun 2024

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GRAPHS

