

OIL ANALYSIS REPORT

**VOLVO
PENTA**

MATHEW NICHOLS H14901 MERCUISER OW697009 - STARBOARD GASOLINE ENGINE

Sample No: VPA036435

Oil Type: NOT GIVEN

SAMPLE INFORMATION

Sample Number	VPA036435	VPA040978	VPA028965	---
Sample Date	02 Oct 2023	19 Dec 2022	18 Feb 2021	---
Machine Hours	92	88	86	---
Oil Hours	0	2	0	---
Oil Changed	Not Changd	Not Changd	Changed	---
Sample Status	NORMAL	ABNORMAL	NORMAL	---

Walstrom Marine - 767948

501 Bay Street
HARBOR SPRINGS, MI
US 49740

Contact: MARK LEWIS
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F:

OIL CONDITION

Visc @ 100°C	cSt	13.9	23.8	14.3	---
Base Number (BN)	mg KOH/g	8.8	9.3	---	---
Oxidation (PA)	%	12	13	12	---

CONTAMINATION

Water	%	---	0.823	---	---
Soot %	%	0	0.1	0.1	---
Nitration (PA)	%	6	6	6	---
Sulfation (PA)	%	10	10	10	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	12	8	8	---
Sodium	ppm	1	1	1	---
Potassium	ppm	0	0	0	---

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The water content is negligible. 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	8	0	4	---
Copper	ppm	23	19	13	---
Lead	ppm	0	<1	0	---
Tin	ppm	0	<1	<1	---
Aluminum	ppm	<1	<1	<1	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	50	51	50	---
Nickel	ppm	0	<1	0	---
Titanium	ppm	0	0	0	---
Silver	ppm	0	<1	<1	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	0	0	0	---

ADDITIVES

Calcium	ppm	2115	2105	2332	---
Magnesium	ppm	18	17	15	---
Zinc	ppm	901	852	838	---
Phosphorus	ppm	785	725	772	---
Barium	ppm	0	0	0	---
Boron	ppm	203	225	225	---

Depot: VP154879

Unique No: 10682076

Signed: Don Baldrige

Report Date: 09 Oct 2023

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GRAPHS

