

# OIL ANALYSIS REPORT

# VOLVO PENTA

## LEOR LANDA VOLVO PENTA A1112240 - STARBOARD DIESEL ENGINE

Sample No: VPA043906

Oil Type: SHELL ROTELLA T 15W40

### SAMPLE INFORMATION

Sample Number	VPA043906	VPA043980	VPA043619	---
Sample Date	06 Dec 2023	04 Nov 2022	04 Nov 2021	---
Machine Hours	293	240	175	---
Oil Hours	293	240	175	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	ATTENTION	NORMAL	NORMAL	---

Larry's Lighthouse Marina

1250

AQUEBOGUE, NY

US 11931

Contact: MAX FUHLBRUGGE

info@lighthousemarina.com

T: x:

F: x:

### OIL CONDITION

Visc @ 100°C	cSt	▲ 12.4	■ 14.1	■ 13.0	---
Base Number (BN)	mg KOH/g	■ 9.0	■ 10	---	---
Oxidation (PA)	%	44	72	82	---

### CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	■ 0.1	■ 0.2	■ 0.2	---
Nitration (PA)	%	38	53	44	---
Sulfation (PA)	%	46	61	62	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	■ 0.2	<1.0	<1.0	---
Silicon	ppm	■ 4	■ 4	■ 9	---
Sodium	ppm	■ 1	■ 1	■ 2	---
Potassium	ppm	■ 3	■ 8	■ <1	---

### Diagnosis

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. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### WEAR METALS

Iron	ppm	■ 8	■ 12	■ 14	---
Copper	ppm	■ 3	■ 3	■ 6	---
Lead	ppm	■ <1	■ 2	■ 2	---
Tin	ppm	■ <1	■ <1	■ 1	---
Aluminum	ppm	■ <1	■ 1	■ 2	---
Chromium	ppm	■ <1	■ <1	■ 1	---
Molybdenum	ppm	■ 61	■ 6	■ 40	---
Nickel	ppm	■ 0	■ <1	■ 1	---
Titanium	ppm	■ 0	■ 0	■ 0	---
Silver	ppm	■ 0	■ 0	■ <1	---
Manganese	ppm	■ <1	■ <1	■ <1	---
Vanadium	ppm	0	0	0	---

### ADDITIVES

Calcium	ppm	■ 2303	■ 2097	■ 1609	---
Magnesium	ppm	■ 24	80	■ 469	---
Zinc	ppm	■ 1193	■ 1131	■ 1037	---
Phosphorus	ppm	■ 976	■ 960	■ 933	---
Barium	ppm	■ 0	■ 0	■ 0	---
Boron	ppm	■ 97	■ 159	■ 70	---

Depot: VP610438

Unique No: 10792818

Signed: Don Baldrige

Report Date: 23 Dec 2023

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**VOLVO  
PENTA**

## GRAPHS

