

OIL ANALYSIS REPORT

VOLVO PENTA

VOLVO PENTA 2006017452 - STARBOARD DIESEL ENGINE

Sample No: VPA056473

Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

Sample Number	VPA056473	VPA031045	---	---
Sample Date	19 Mar 2024	11 Feb 2021	---	---
Machine Hours	0	438	---	---
Oil Hours	0	0	---	---
Oil Changed	Not Changd	N/A	---	---
Sample Status	NORMAL	NORMAL	---	---

MARINE DIESEL SERVICES INC

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OIL CONDITION

Visc @ 100°C	cSt	█ 13.8	█ 14.5	---	---
Base Number (BN)	mg KOH/g	█ 7.5	---	---	---
Oxidation (PA)	%	57	62	---	---

CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	█ 0.1	█ 0.1	---	---
Nitration (PA)	%	59	62	---	---
Sulfation (PA)	%	50	55	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	█ 4	█ 4	---	---
Sodium	ppm	█ 2	█ 3	---	---
Potassium	ppm	█ 2	█ 20	---	---

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	█ 8	█ 11	---	---
Copper	ppm	█ 13	█ 8	---	---
Lead	ppm	█ 1	█ 0	---	---
Tin	ppm	█ <1	█ 0	---	---
Aluminum	ppm	█ 3	█ 6	---	---
Chromium	ppm	█ <1	█ 2	---	---
Molybdenum	ppm	█ 44	█ 57	---	---
Nickel	ppm	█ 2	█ 2	---	---
Titanium	ppm	█ <1	█ <1	---	---
Silver	ppm	█ 0	█ 0	---	---
Manganese	ppm	█ <1	█ <1	---	---
Vanadium	ppm	<1	0	---	---

ADDITIVES

Calcium	ppm	█ 1117	█ 1438	---	---
Magnesium	ppm	█ 674	1033	---	---
Zinc	ppm	█ 1051	█ 1284	---	---
Phosphorus	ppm	█ 890	█ 1168	---	---
Barium	ppm	█ 0	█ 11	---	---
Boron	ppm	█ 22	█ 23	---	---

Depot: VP288530

Unique No: 10937620

Signed: Don Baldrige

Report Date: 22 Mar 2024

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GRAPHS

