

OIL ANALYSIS REPORT

**VOLVO
PENTA**

RICHARD CANNY 506239 VOLVO PENTA A186556 - STARBOARD DIESEL ENGINE

Sample No: VPA053679

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA053679	VPA042456	VPA028521	---
Sample Date	08 May 2024	15 Feb 2023	24 Feb 2022	---
Machine Hours	408	372	307	---
Oil Hours	0	0	0	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	ABNORMAL	ABNORMAL	NORMAL	---

Jefferson Beach Yacht Sales Inc

24400 Jefferson Ave.
SAINT CLAIR SHORES, MI
US 48080

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F:

OIL CONDITION

Visc @ 100°C	cSt	13.5	14.5	13.4	---
Base Number (BN)	mg KOH/g	9.9	9.9	8.9	---
Oxidation (PA)	%	56	57	51	---

CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.7	1.7	0.5	---
Nitration (PA)	%	52	70	48	---
Sulfation (PA)	%	54	63	48	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	10	16	8	---
Sodium	ppm	1	5	3	---
Potassium	ppm	3	6	<1	---

Diagnosis

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Chromium and iron ppm levels are abnormal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

WEAR METALS

Iron	ppm	▲ 221	▲ 307	65	---
Copper	ppm	13	36	11	---
Lead	ppm	1	3	2	---
Tin	ppm	<1	3	2	---
Aluminum	ppm	9	45	15	---
Chromium	ppm	▲ 16	▲ 22	5	---
Molybdenum	ppm	65	59	57	---
Nickel	ppm	3	6	1	---
Titanium	ppm	0	<1	<1	---
Silver	ppm	0	<1	<1	---
Manganese	ppm	1	3	<1	---
Vanadium	ppm	0	0	<1	---

ADDITIVES

Calcium	ppm	1244	1063	1033	---
Magnesium	ppm	1009	949	939	---
Zinc	ppm	1344	1226	1113	---
Phosphorus	ppm	1120	1087	997	---
Barium	ppm	0	0	0	---
Boron	ppm	4	34	12	---

Depot: VP297371

Unique No: 11021117

Signed: Don Baldrige

Report Date: 13 May 2024

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GRAPHS

