

OIL ANALYSIS REPORT

VOLVO PENTA

COLLIN MADDEN PATRICK/502474-5250 VOLVO PENTA 2071180082 - STARBOARD DIESEL ENGINE

Sample No: VPA059053

Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40

SAMPLE INFORMATION

Sample Number	VPA059053	VPA036013	---	---
Sample Date	23 Oct 2023	26 Oct 2021	---	---
Machine Hours	1121	0	---	---
Oil Hours	0	100	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	NORMAL	---	---

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OIL CONDITION

Visc @ 100°C	cSt	13.6	14.4	---	---
Base Number (BN)	mg KOH/g	10.1	---	---	---
Oxidation (PA)	%	60	61	---	---

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.

CONTAMINATION

Soot %	%	0.4	0.3	---	---
Nitration (PA)	%	55	60	---	---
Sulfation (PA)	%	54	57	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	4	3	---	---
Sodium	ppm	4	2	---	---
Potassium	ppm	3	3	---	---

WEAR METALS

Iron	ppm	10	8	---	---
Copper	ppm	16	8	---	---
Lead	ppm	4	3	---	---
Tin	ppm	<1	<1	---	---
Aluminum	ppm	4	1	---	---
Chromium	ppm	1	<1	---	---
Molybdenum	ppm	57	16	---	---
Nickel	ppm	2	2	---	---
Titanium	ppm	<1	<1	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	0	<1	---	---
Vanadium	ppm	<1	<1	---	---

ADDITIVES

Calcium	ppm	1020	1432	---	---
Magnesium	ppm	937	612	---	---
Zinc	ppm	1202	923	---	---
Phosphorus	ppm	1071	737	---	---
Barium	ppm	0	0	---	---
Boron	ppm	5	75	---	---

Depot: VP794951
Unique No: 10713542
Signed: Don Baldrige
Report Date: 30 Oct 2023

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GRAPHS

