

OIL ANALYSIS REPORT



STEVE BOUKER 7719010 VOLVO PENTA 7011379342 - STARBOARD DIESEL ENGINE

Sample No: VPA049700

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

SAMPLE INFORMATION

Sample Number	VPA049700	VPA055467	VPA029758	VPA029083
Sample Date	28 Mar 2024	20 Apr 2023	16 Jul 2021	28 Oct 2019
Machine Hours	672	0	400	268
Oil Hours	110	0	134	268
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	ATTENTION	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.5	10.8	12.6	12.2
Base Number (BN)	mg KOH/g	9.4	8.6	---	---
Oxidation (PA)	%	57	55	62	58

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.3	0.3	0.4
Nitration (PA)	%	51	51	61	63
Sulfation (PA)	%	52	50	58	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	1.5	<1.0	<1.0
Silicon	ppm	8	13	7	16
Sodium	ppm	3	4	2	2
Potassium	ppm	2	2	<1	3

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 suitable for further service.

WEAR METALS

Iron	ppm	4	23	6	12
Copper	ppm	13	0	36	71
Lead	ppm	1	0	1	<1
Tin	ppm	1	0	1	0
Aluminum	ppm	2	5	0	4
Chromium	ppm	1	<1	<1	1
Molybdenum	ppm	57	40	59	54
Nickel	ppm	1	0	1	2
Titanium	ppm	<1	0	0	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	1087	725	1083	1261
Magnesium	ppm	1017	690	885	898
Zinc	ppm	1267	720	1124	1149
Phosphorus	ppm	1137	626	1013	1048
Barium	ppm	<1	0	0	0
Boron	ppm	<1	28	4	4

Depot: VP99031103
Unique No: 10968325
Signed: Jonathan Hester
Report Date: 12 Apr 2024

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VOLVO PENTA

GRAPHS

