

OIL ANALYSIS REPORT



RICHARD LEWIS 505843 VOLVO PENTA 701183384 - STARBOARD DIESEL ENGINE

Sample No: VPA056183

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

SAMPLE INFORMATION

Sample Number	VPA056183	VPA042414	VPA031698	VPA023827
Sample Date	27 Mar 2024	23 Feb 2023	30 Sep 2020	06 Mar 2020
Machine Hours	1326	1280	1250	1135
Oil Hours	0	35	100	67
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	MARGINAL	NORMAL

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 24400 Jefferson Ave.
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 US 48080
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OIL CONDITION

Visc @ 100°C	cSt	12.4	12.9	12.4	12.8
Base Number (BN)	mg KOH/g	9.9	10.0	---	---
Oxidation (PA)	%	57	54	55	56

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.2	0.2
Nitration (PA)	%	47	43	56	44
Sulfation (PA)	%	52	52	53	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	2.1	<1.0
Silicon	ppm	2	2	3	2
Sodium	ppm	0	0	2	2
Potassium	ppm	1	2	<1	<1

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	3	2	4	2
Copper	ppm	2	2	6	3
Lead	ppm	0	<1	1	<1
Tin	ppm	0	<1	<1	0
Aluminum	ppm	<1	1	0	<1
Chromium	ppm	0	0	<1	<1
Molybdenum	ppm	58	63	63	57
Nickel	ppm	<1	<1	1	<1
Titanium	ppm	0	0	0	0
Silver	ppm	0	<1	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	<1	0	0

Diagnosis

ADDITIVES

Calcium	ppm	1165	1107	1042	1001
Magnesium	ppm	1088	937	910	872
Zinc	ppm	1302	1229	1173	1078
Phosphorus	ppm	1119	1056	1029	971
Barium	ppm	0	0	<1	0
Boron	ppm	<1	<1	4	4

Depot: VP297371
Unique No: 10953993
Signed: Sean Felton
Report Date: 03 Apr 2024

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**VOLVO
PENTA**

GRAPHS

