

OIL ANALYSIS REPORT



RICK GARTON 3729/54-01 VOLVO PENTA 7011440516 - STARBOARD DIESEL ENGINE

Sample No: VPA050472

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

SAMPLE INFORMATION

Sample Number	VPA050472	VPA044576	VPA038138	VPA259443
Sample Date	17 Jun 2024	08 Nov 2022	04 Oct 2021	31 Mar 2021
Machine Hours	587	512	467	439
Oil Hours	0	120	100	70
Oil Changed	Changed	Changed	Changed	N/A
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

GRAND BANKS

450 SW SALEM RD

STUART, FL

US 34994

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F:

OIL CONDITION

Visc @ 100°C	cSt	12.6	12.8	12.3	12.5
Base Number (BN)	mg KOH/g	9.7	11.5	---	---
Oxidation (PA)	%	59	60	59	61

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.1	0.2	0.2
Nitration (PA)	%	53	50	49	48
Sulfation (PA)	%	53	56	54	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	4	7	7
Sodium	ppm	1	<1	2	2
Potassium	ppm	3	2	0	<1

WEAR METALS

Iron	ppm	4	4	4	3
Copper	ppm	23	10	15	14
Lead	ppm	0	<1	<1	<1
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	1	1	1	<1
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	48	58	54	59
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	<1	3	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	<1	0	0

ADDITIVES

Calcium	ppm	1315	1042	1052	1110
Magnesium	ppm	784	922	953	1007
Zinc	ppm	1266	1203	1133	1252
Phosphorus	ppm	1051	1001	988	1106
Barium	ppm	<1	0	0	0
Boron	ppm	24	1	4	4

Diagnosis

No corrective action is recommended at this time. 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 condition of the oil is acceptable for the time in service.

Depot: VP531377

Unique No: 11098669

Signed: Don Baldrige

Report Date: 27 Jun 2024

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GRAPHS

