

OIL ANALYSIS REPORT



KEITH REINHARDT 507275 VOLVO PENTA 2004018547 - STARBOARD DIESEL ENGINE

Sample No: VPA059598
Oil Type: SHELL ROTELLA T4 15W40

SAMPLE INFORMATION

Sample Number	VPA059598	VPA042792	VPA033114	VPA022221
Sample Date	09 Nov 2023	26 Oct 2022	14 Dec 2021	12 Oct 2018
Machine Hours	302	0	0	302
Oil Hours	0	0	0	0
Oil Changed	N/A	Changed	Changed	N/A
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	14.3	13.7	13.8	14.23
Base Number (BN)	mg KOH/g	8.9	10.2	9.2	---
Oxidation (PA)	%	67	63	63	63

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.2	0.1
Nitration (PA)	%	52	56	49	55
Sulfation (PA)	%	57	57	54	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	6	4	5
Sodium	ppm	0	<1	2	2
Potassium	ppm	7	0	4	11

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.

WEAR METALS

Iron	ppm	5	6	2	6
Copper	ppm	2	1	6	2
Lead	ppm	0	<1	1	0
Tin	ppm	0	<1	<1	0
Aluminum	ppm	1	2	2	2
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	11	57	34	41
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	<1	0	<1	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	1916	1049	1775	1415
Magnesium	ppm	162	931	399	665
Zinc	ppm	1127	1262	1185	1128
Phosphorus	ppm	1017	1025	1011	1006
Barium	ppm	0	0	0	0
Boron	ppm	186	2	105	41

Depot: VP543511
Unique No: 10750536
Signed: Sean Felton
Report Date: 21 Nov 2023

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**VOLVO
PENTA**

GRAPHS

