

OIL ANALYSIS REPORT

**VOLVO
PENTA**

BRIAN 7011446302 - STARBOARD DIESEL ENGINE

Sample No: VPA045995

Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA045995	VPA045998	VPA034098	VPA034235
Sample Date	03 Nov 2023	15 Aug 2023	13 Jan 2023	15 Sep 2022
Machine Hours	8504	8154	7014	6457
Oil Hours	350	452	320	250
Oil Changed	Not Changd	Not Changd	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

FURY KEY WEST

313 MARGARET ST

KEY WEST, FL

US 33040

Contact: MARCEL GELUK

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OIL CONDITION

Visc @ 100°C	cSt	12.7	12.3	12.1	12.2
Base Number (BN)	mg KOH/g	9.2	9.2	9.8	6.8
Oxidation (PA)	%	64	60	57	77

CONTAMINATION

Soot %	%	0.3	0.4	0.3	0.4
Nitration (PA)	%	66	60	52	93
Sulfation (PA)	%	55	55	53	62
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	4	3	3	2
Sodium	ppm	3	2	2	<1
Potassium	ppm	0	<1	<1	<1

WEAR METALS

Iron	ppm	<1	4	3	3
Copper	ppm	9	8	7	4
Lead	ppm	0	<1	<1	0
Tin	ppm	<1	<1	0	0
Aluminum	ppm	<1	1	0	0
Chromium	ppm	0	<1	0	0
Molybdenum	ppm	50	58	54	58
Nickel	ppm	0	0	<1	0
Titanium	ppm	<1	<1	0	0
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	0	0
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	1443	1211	986	1014
Magnesium	ppm	590	870	832	889
Zinc	ppm	1314	1233	1124	1181
Phosphorus	ppm	1033	1022	941	1000
Barium	ppm	0	0	0	0
Boron	ppm	18	6	0	1

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.

Depot: VPFURKEY

Unique No: 10741856

Signed: Sean Felton

Report Date: 16 Nov 2023

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GRAPHS

