

OIL ANALYSIS REPORT



A345913 - STARBOARD DIESEL ENGINE

Sample No: VPA026993

Oil Type: SHELL ROTELLA T6 5W40

SAMPLE INFORMATION

Sample Number	VPA026993	VPA040282	VPA040312	VPA024164
Sample Date	13 Apr 2024	23 Oct 2022	23 Oct 2021	13 Oct 2020
Machine Hours	860	742	661	591
Oil Hours	118	151	71	49
Oil Changed	Changed	Changed	Not Changd	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	15.1	15.6	16.1	15.4
Base Number (BN)	mg KOH/g	9.2	9.0	---	---
Oxidation (PA)	%	70	73	69	69

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.5	0.5	0.2	0.3
Nitration (PA)	%	71	73	58	60
Sulfation (PA)	%	57	62	58	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	5	5	5
Sodium	ppm	4	3	5	3
Potassium	ppm	2	1	22	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 suitable for further service.

WEAR METALS

Iron	ppm	20	22	13	16
Copper	ppm	9	12	7	8
Lead	ppm	3	3	2	2
Tin	ppm	2	1	1	<1
Aluminum	ppm	2	2	1	2
Chromium	ppm	2	<1	<1	<1
Molybdenum	ppm	47	6	10	14
Nickel	ppm	3	2	<1	2
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	<1	0	0	<1
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	1245	2185	2096	2095
Magnesium	ppm	772	126	155	257
Zinc	ppm	1221	1191	1134	1205
Phosphorus	ppm	1122	995	1000	1067
Barium	ppm	0	0	0	0
Boron	ppm	92	187	200	188

Depot: VPKENCHI
Unique No: 10982782
Signed: Don Baldrige
Report Date: 22 Apr 2024

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VOLVO PENTA

GRAPHS

