

OIL ANALYSIS REPORT



JAMES TALBOTT JT VOLVO PENTA 1012412781 - STARBOARD DIESEL ENGINE

Sample No: VPA045857
Oil Type: SHELL ROTELLA T4 15W40

SAMPLE INFORMATION

Sample Number	VPA045857	VPA037294	VPA034516	---
Sample Date	17 Nov 2023	07 Jan 2023	15 Nov 2020	---
Machine Hours	747	337	561	---
Oil Hours	0	53	81	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

Outstanding Marine
 PO Box 274
 GALENA, MD
 US 21635
 Contact: Ronda Bolinger
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 T:
 F:

OIL CONDITION

Visc @ 100°C	cSt	14.1	14.3	14.2	---
Base Number (BN)	mg KOH/g	7.7	8.7	---	---
Oxidation (PA)	%	63	63	67	---

CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	1.3	0.6	1.3	---
Nitration (PA)	%	62	53	61	---
Sulfation (PA)	%	61	58	64	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	2	3	2	---
Sodium	ppm	2	0	<1	---
Potassium	ppm	4	7	7	---

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	9	5	14	---
Copper	ppm	3	1	5	---
Lead	ppm	<1	1	<1	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	0	<1	0	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	0	<1	9	---
Nickel	ppm	0	<1	<1	---
Titanium	ppm	<1	<1	6	---
Silver	ppm	0	0	<1	---
Manganese	ppm	0	<1	<1	---
Vanadium	ppm	<1	<1	<1	---

ADDITIVES

Calcium	ppm	2199	2205	2186	---
Magnesium	ppm	17	15	80	---
Zinc	ppm	1166	1241	1122	---
Phosphorus	ppm	1012	965	1030	---
Barium	ppm	0	0	0	---
Boron	ppm	156	170	179	---

Depot: VP153685
Unique No: 10765802
Signed: Don Baldrige
Report Date: 03 Dec 2023

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**VOLVO
PENTA**

GRAPHS

