

OIL ANALYSIS REPORT

VOLVO PENTA

WERNER, CARL 23-2612 VOLVO PENTA 2013764280 - PORT DIESEL ENGINE

Sample No: VPA049903

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

SAMPLE INFORMATION

Sample Number	VPA049903	VPA039496	VPA033709	---
Sample Date	12 Oct 2023	07 Dec 2021	15 Oct 2020	---
Machine Hours	594	552	457	---
Oil Hours	42	0	150	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

OIL CONDITION

Visc @ 100°C	cSt	13.3	13.2	13.4	---
Base Number (BN)	mg KOH/g	10.1	10.3	---	---
Oxidation (PA)	%	55	59	62	---

CONTAMINATION

Soot %	%	0.1	0.2	0.5	---
Nitration (PA)	%	43	51	61	---
Sulfation (PA)	%	52	55	57	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	6	8	5	---
Sodium	ppm	1	1	2	---
Potassium	ppm	0	2	5	---

WEAR METALS

Iron	ppm	8	7	16	---
Copper	ppm	<1	<1	3	---
Lead	ppm	0	1	<1	---
Tin	ppm	<1	1	1	---
Aluminum	ppm	0	1	0	---
Chromium	ppm	0	<1	<1	---
Molybdenum	ppm	55	64	66	---
Nickel	ppm	0	<1	<1	---
Titanium	ppm	0	<1	<1	---
Silver	ppm	0	0	<1	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	0	0	0	---

ADDITIVES

Calcium	ppm	990	1195	1208	---
Magnesium	ppm	870	1088	878	---
Zinc	ppm	1099	1381	1213	---
Phosphorus	ppm	926	1199	1072	---
Barium	ppm	0	0	<1	---
Boron	ppm	<1	6	8	---

Outstanding Marine

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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: VP153685
Unique No: 10698219
Signed: Don Baldrige
Report Date: 18 Oct 2023

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GRAPHS

