

OIL ANALYSIS REPORT

**VOLVO
PENTA**

CHRIS SLOCUM VOLVO A650762 - PORT DIESEL ENGINE

Sample No: VPA025833

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

SAMPLE INFORMATION

Sample Number	VPA025833	VPA020230	VPA027931	VPA023384
Sample Date	09 Aug 2023	20 Aug 2020	20 Aug 2019	27 Aug 2018
Machine Hours	533	390	268	184
Oil Hours	533	0	84	184
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

Talley's Pier 77 Marine

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OIL CONDITION

Visc @ 100°C	cSt	13.5	13.6	13.2	13.95
Base Number (BN)	mg KOH/g	9.5	---	---	---
Oxidation (PA)	%	52	50	55	54

CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	46	52	48	57
Sulfation (PA)	%	49	45	51	46
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	4	9	21
Sodium	ppm	1	5	5	7
Potassium	ppm	<1	<1	0	1

WEAR METALS

Iron	ppm	9	6	6	11
Copper	ppm	2	4	4	13
Lead	ppm	<1	<1	0	<1
Tin	ppm	<1	<1	0	0
Aluminum	ppm	<1	0	2	3
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	62	43	60	40
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	<1	<1	<1	1
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	1135	1109	1246	2104
Magnesium	ppm	1057	738	996	514
Zinc	ppm	1340	1122	1171	1212
Phosphorus	ppm	1096	946	961	1081
Barium	ppm	0	0	0	<1
Boron	ppm	4	5	7	47

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: VP303974
Unique No: 10621093
Signed: Don Baldrige
Report Date: 28 Aug 2023

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GRAPHS

