

OIL ANALYSIS REPORT



WERRLEIR 23-2783 VOLVO PENTA 7011381382 - PORT DIESEL ENGINE

Sample No: VPA058542

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA058542	VPA031057	---	---
Sample Date	06 Dec 2023	14 Dec 2022	---	---
Machine Hours	973	867	---	---
Oil Hours	130	830	---	---
Oil Changed	Changed	N/A	---	---
Sample Status	NORMAL	NORMAL	---	---

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

OIL CONDITION

Visc @ 100°C	cSt	12.9	13.3	---	---
Base Number (BN)	mg KOH/g	9.2	11.7	---	---
Oxidation (PA)	%	61	84	---	---

CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0.4	1	---	---
Nitration (PA)	%	58	63	---	---
Sulfation (PA)	%	55	68	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	6	5	---	---
Sodium	ppm	0	0	---	---
Potassium	ppm	2	2	---	---

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	8	3	---	---
Copper	ppm	33	7	---	---
Lead	ppm	<1	0	---	---
Tin	ppm	1	<1	---	---
Aluminum	ppm	1	1	---	---
Chromium	ppm	<1	0	---	---
Molybdenum	ppm	55	56	---	---
Nickel	ppm	1	0	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	<1	<1	---	---
Vanadium	ppm	0	0	---	---

ADDITIVES

Calcium	ppm	1141	1233	---	---
Magnesium	ppm	852	827	---	---
Zinc	ppm	1199	1226	---	---
Phosphorus	ppm	990	1061	---	---
Barium	ppm	11	0	---	---
Boron	ppm	10	17	---	---

Depot: VP153685
Unique No: 10782818
Signed: Don Baldrige
Report Date: 15 Dec 2023

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VOLVO PENTA

GRAPHS

