

OIL ANALYSIS REPORT

VOLVO PENTA

NADINE URUIOLI EISENZIMMER VOLVO PENTA 5103945273D - STERNDRIVE - CENTER DIESEL ENGINE

Sample No: VPA051501

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

SAMPLE INFORMATION

Sample Number	VPA051501	VPA041605	VPA037629	---
Sample Date	01 Aug 2023	16 Aug 2022	03 Aug 2021	---
Machine Hours	560	539	64	---
Oil Hours	560	539	64	---
Oil Changed	Not Changd	Not Changd	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

Helmut's Marine Service

619 Canal Street
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US 94901-3545
Contact: NADINE URUIOLI
SERVICE@HELMUTSMARINE.COM

T: x:

F: x:

OIL CONDITION

Visc @ 100°C	cSt	█ 13.4	█ 13.0	12.0	---
Base Number (BN)	mg KOH/g	█ 9.8	█ 10.7	---	---
Oxidation (PA)	%	54	65	37	---

CONTAMINATION

Soot %	%	█ 0.1	█ 0.2	█ 0.1	---
Nitration (PA)	%	40	55	29	---
Sulfation (PA)	%	50	59	45	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	█ 0.6	---
Silicon	ppm	█ 4	█ 7	█ 6	---
Sodium	ppm	█ 0	█ 2	█ 7	---
Potassium	ppm	█ 2	█ 1	█ 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 suitable for further service.

WEAR METALS

Iron	ppm	█ 6	█ 15	█ 10	---
Copper	ppm	█ 2	█ 8	█ 15	---
Lead	ppm	█ 0	█ <1	█ <1	---
Tin	ppm	█ 0	█ <1	█ <1	---
Aluminum	ppm	█ <1	█ 2	█ <1	---
Chromium	ppm	█ 0	█ <1	█ <1	---
Molybdenum	ppm	█ 59	█ 62	█ 38	---
Nickel	ppm	█ <1	█ 0	█ 0	---
Titanium	ppm	█ 0	█ 0	█ 0	---
Silver	ppm	█ <1	█ 0	█ 0	---
Manganese	ppm	█ 0	█ <1	█ <1	---
Vanadium	ppm	0	0	0	---

ADDITIVES

Calcium	ppm	█ 1073	█ 1150	█ 3299	---
Magnesium	ppm	█ 891	█ 885	█ 54	---
Zinc	ppm	█ 1190	█ 1251	█ 1052	---
Phosphorus	ppm	█ 1006	█ 1015	█ 967	---
Barium	ppm	█ 0	█ 0	█ 0	---
Boron	ppm	█ 6	█ 14	█ 504	---

Depot: VP152741

Unique No: 10589076

Signed: Don Baldrige

Report Date: 08 Aug 2023

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GRAPHS

