

OIL ANALYSIS REPORT

**VOLVO
PENTA**

REMIEN VOLVO PENTA A296115 - STARBOARD DIESEL ENGINE

Sample No: VPA021956
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA021956	VPA036764	VPA041215	---
Sample Date	02 May 2024	06 Dec 2023	22 Feb 2023	---
Machine Hours	680	674	621	---
Oil Hours	6	0	0	---
Oil Changed	N/A	Changed	N/A	---
Sample Status	NORMAL	MARGINAL	NORMAL	---

OIL CONDITION

Visc @ 100°C	cSt	14.1	12.2	13.38	---
Base Number (BN)	mg KOH/g	8.9	8.4	9.9	---
Oxidation (PA)	%	61	39	52	---

CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	53	38	48	---
Sulfation (PA)	%	53	45	49	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	2.8	<1.0	---
Silicon	ppm	7	6	5	---
Sodium	ppm	4	9	<1	---
Potassium	ppm	2	<1	3	---

WEAR METALS

Iron	ppm	9	25	9	---
Copper	ppm	1	4	2	---
Lead	ppm	0	0	1	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	2	2	<1	---
Chromium	ppm	<1	2	0	---
Molybdenum	ppm	43	17	53	---
Nickel	ppm	<1	<1	<1	---
Titanium	ppm	<1	0	0	---
Silver	ppm	0	<1	0	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	<1	0	0	---

ADDITIVES

Calcium	ppm	1405	1945	1242	---
Magnesium	ppm	452	194	932	---
Zinc	ppm	1068	908	1314	---
Phosphorus	ppm	919	804	1024	---
Barium	ppm	0	0	0	---
Boron	ppm	46	19	11	---

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Diagnosis

No corrective action is recommended at this time. 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: 11015826
Signed: Doug Bogart
Report Date: 08 May 2024

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GRAPHS

