

OIL ANALYSIS REPORT

VOLVO PENTA

ALPHA CAS JRS VOLVO PENTA 2013962541 - STARBOARD DIESEL ENGINE

Sample No: VPA029888

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

SAMPLE INFORMATION

Sample Number	VPA029888	VPA037258	VPA041630	---
Sample Date	13 Oct 2023	12 Jan 2023	16 Jun 2022	---
Machine Hours	632	388	221	---
Oil Hours	244	200	221	---
Oil Changed	N/A	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

OIL CONDITION

Visc @ 100°C	cSt	█ 13.1	█ 13.1	█ 13.2	---
Base Number (BN)	mg KOH/g	█ 9.1	█ 9.3	█ 8.0	---
Oxidation (PA)	%	65	58	41	---

CONTAMINATION

Soot %	%	█ 0.3	█ 0.3	█ 0.3	---
Nitration (PA)	%	65	58	51	---
Sulfation (PA)	%	58	54	44	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	█ 8	█ 9	█ 23	---
Sodium	ppm	█ <1	█ 1	█ 3	---
Potassium	ppm	█ 4	█ 6	█ 21	---

WEAR METALS

Iron	ppm	█ 12	█ 13	█ 35	---
Copper	ppm	█ 4	█ 7	█ 27	---
Lead	ppm	█ 1	█ 1	█ 3	---
Tin	ppm	█ 1	█ 1	█ 4	---
Aluminum	ppm	█ 2	█ 2	█ 11	---
Chromium	ppm	█ <1	█ <1	█ <1	---
Molybdenum	ppm	█ 75	█ 57	█ 51	---
Nickel	ppm	█ <1	█ <1	█ 2	---
Titanium	ppm	█ <1	█ 0	█ 0	---
Silver	ppm	█ 0	█ 0	█ 3	---
Manganese	ppm	█ <1	█ <1	█ 3	---
Vanadium	ppm	0	0	<1	---

ADDITIVES

Calcium	ppm	█ 1246	█ 1090	1158	---
Magnesium	ppm	1154	█ 912	1126	---
Zinc	ppm	█ 1467	█ 1241	1635	---
Phosphorus	ppm	█ 1207	█ 1043	1276	---
Barium	ppm	█ 3	█ 0	█ 0	---
Boron	ppm	█ 4	█ 0	3	---

ALPHA CAS

100 BUELL HILL RD
KILLINGWORTH, CT
US 06419

Contact: JOSHUA SUMMERS
joshuasummers@me.com

T:
F:

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.

Depot: ALPKIL

Unique No: 10712303

Signed: Sean Felton

Report Date: 27 Oct 2023

OIL ANALYSIS REPORT

**VOLVO
PENTA**

GRAPHS

