

# OIL ANALYSIS REPORT



## THOMAS RENENDETI AJD/502644 VOLVO PENTA 2004032679 - STARBOARD DIESEL ENGINE

**Sample No:** VPA060470  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

### SAMPLE INFORMATION

Sample Number	<b>VPA060470</b>	VPA043142	VPA035157	---
Sample Date	<b>20 Feb 2024</b>	24 Apr 2023	06 Dec 2021	---
Machine Hours	<b>1564</b>	1445	1329	---
Oil Hours	<b>0</b>	0	0	---
Oil Changed	<b>N/A</b>	N/A	N/A	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.2</b>	13.4	13.6	---
Base Number (BN)	mg KOH/g	<b>9.6</b>	9.2	10.4	---
Oxidation (PA)	%	<b>71</b>	69	70	---

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Soot %	%	<b>0.1</b>	0.1	0.1	---
Nitration (PA)	%	<b>72</b>	72	76	---
Sulfation (PA)	%	<b>58</b>	58	59	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	---
Silicon	ppm	<b>5</b>	6	5	---
Sodium	ppm	<b>2</b>	2	2	---
Potassium	ppm	<b>&lt;1</b>	0	<1	---

### 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	<b>7</b>	5	6	---
Copper	ppm	<b>8</b>	9	10	---
Lead	ppm	<b>5</b>	1	5	---
Tin	ppm	<b>1</b>	<1	1	---
Aluminum	ppm	<b>3</b>	2	6	---
Chromium	ppm	<b>2</b>	<1	1	---
Molybdenum	ppm	<b>57</b>	55	56	---
Nickel	ppm	<b>3</b>	2	2	---
Titanium	ppm	<b>&lt;1</b>	0	<1	---
Silver	ppm	<b>0</b>	0	0	---
Manganese	ppm	<b>&lt;1</b>	<1	<1	---
Vanadium	ppm	<b>0</b>	<1	0	---

### ADDITIVES

Calcium	ppm	<b>1612</b>	1306	1194	---
Magnesium	ppm	<b>779</b>	902	1009	---
Zinc	ppm	<b>1286</b>	1280	1245	---
Phosphorus	ppm	<b>1028</b>	1027	1120	---
Barium	ppm	<b>0</b>	0	0	---
Boron	ppm	<b>76</b>	45	17	---

**Depot:** VP794951  
**Unique No:** 10902236  
**Signed:** Don Baldrige  
**Report Date:** 02 Mar 2024

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## GRAPHS

