

# OIL ANALYSIS REPORT

**VOLVO  
PENTA**

## 4 FROGS 51609 - PORT DIESEL ENGINE

**Sample No:** VPA058239  
**Oil Type:** SHELL ROTELLA T 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA058239</b>	VPA044665	VPA032082	---
Sample Date	<b>17 Nov 2023</b>	04 Nov 2022	02 Oct 2021	---
Machine Hours	<b>491</b>	318	124	---
Oil Hours	<b>172</b>	111	0	---
Oil Changed	<b>N/A</b>	Changed	Not Changd	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

### OIL CONDITION

Visc @ 100°C	cSt	<b>13.7</b>	13.7	14.3	---
Base Number (BN)	mg KOH/g	<b>7.9</b>	8.1	---	---
Oxidation (PA)	%	<b>69</b>	72	73	---

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Soot %	%	<b>0.2</b>	0.2	0.2	---
Nitration (PA)	%	<b>62</b>	68	66	---
Sulfation (PA)	%	<b>58</b>	59	60	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	---
Silicon	ppm	<b>4</b>	4	5	---
Sodium	ppm	<b>&lt;1</b>	2	2	---
Potassium	ppm	<b>8</b>	8	8	---

### WEAR METALS

Iron	ppm	<b>14</b>	23	30	---
Copper	ppm	<b>71</b>	98	69	---
Lead	ppm	<b>0</b>	2	<1	---
Tin	ppm	<b>0</b>	<1	<1	---
Aluminum	ppm	<b>1</b>	2	2	---
Chromium	ppm	<b>&lt;1</b>	<1	1	---
Molybdenum	ppm	<b>0</b>	<1	<1	---
Nickel	ppm	<b>0</b>	<1	<1	---
Titanium	ppm	<b>0</b>	0	<1	---
Silver	ppm	<b>4</b>	6	5	---
Manganese	ppm	<b>0</b>	<1	1	---
Vanadium	ppm	<b>0</b>	0	<1	---

### ADDITIVES

Calcium	ppm	<b>2042</b>	2363	2226	---
Magnesium	ppm	<b>14</b>	16	19	---
Zinc	ppm	<b>1095</b>	1290	1260	---
Phosphorus	ppm	<b>941</b>	1050	1007	---
Barium	ppm	<b>3</b>	0	0	---
Boron	ppm	<b>195</b>	190	202	---

#### The Talaria Company

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#### 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:** VP592286  
**Unique No:** 10778823  
**Signed:** Doug Bogart  
**Report Date:** 11 Dec 2023

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## GRAPHS

