

# OIL ANALYSIS REPORT



## PACIFIC RAIL SAM VOLVO PENTA 20132301754 - DIESEL ENGINE

**Sample No:** VPA060064  
**Oil Type:** DIESEL ENGINE OIL SAE 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA060064</b>	VPA060067	---	---
Sample Date	<b>08 Mar 2024</b>	08 Mar 2024	---	---
Machine Hours	<b>393</b>	393	---	---
Oil Hours	<b>0</b>	0	---	---
Oil Changed	<b>N/A</b>	Not Changd	---	---
Sample Status	<b>SEVERE</b>	ABNORMAL	---	---

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### OIL CONDITION

Visc @ 100°C	cSt	---	▲ 12.0	---	---
Base Number (BN)	mg KOH/g	■ <b>72.9</b>	■ 11.1	---	---
Oxidation (PA)	%	<b>361</b>	47	---	---

### CONTAMINATION

Water	%	▲ <b>16.4</b>	NEG	---	---
Soot %	%	■ <b>1.4</b>	■ 0.1	---	---
Nitration (PA)	%	<b>633</b>	70	---	---
Sulfation (PA)	%	<b>3</b>	44	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	<b>&lt;1.0</b>	▲ 4.8	---	---
Silicon	ppm	■ <b>32</b>	■ 28	---	---
Sodium	ppm	▲ <b>1369</b>	▲ 285	---	---
Potassium	ppm	▲ <b>82</b>	▲ 28	---	---

### WEAR METALS

Iron	ppm	■ <b>9</b>	■ 11	---	---
Copper	ppm	■ <b>74</b>	■ 156	---	---
Lead	ppm	■ <b>1</b>	■ <1	---	---
Tin	ppm	■ <b>4</b>	■ <1	---	---
Aluminum	ppm	■ <b>2</b>	■ 2	---	---
Chromium	ppm	■ <b>0</b>	■ 0	---	---
Molybdenum	ppm	■ <b>13</b>	■ 58	---	---
Nickel	ppm	■ <b>&lt;1</b>	■ <1	---	---
Titanium	ppm	■ <b>3</b>	■ 4	---	---
Silver	ppm	■ <b>0</b>	■ 2	---	---
Manganese	ppm	■ <b>2</b>	■ 3	---	---
Vanadium	ppm	<b>0</b>	0	---	---

### ADDITIVES

Calcium	ppm	■ <b>231</b>	■ 1000	---	---
Magnesium	ppm	■ <b>53</b>	■ 426	---	---
Zinc	ppm	■ <b>332</b>	■ 840	---	---
Phosphorus	ppm	■ <b>170</b>	■ 731	---	---
Barium	ppm	■ <b>0</b>	■ 0	---	---
Boron	ppm	■ <b>41</b>	■ 25	---	---

### Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. Please note that there was too much water present in the oil to perform a viscosity test. All component wear rates are normal. Sodium and/or potassium levels are high. Appearance is milky. There is a high concentration of water present in the oil. The oil is no longer serviceable due to the presence of contaminants.

**Depot:** VP794951  
**Unique No:** 10926944  
**Signed:** Jonathan Hester  
**Report Date:** 19 Mar 2024

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## GRAPHS

