

# OIL ANALYSIS REPORT



## LIPPMANN 91869 - VARIABLE SPEED - DIESEL ENGINE

**Sample No:** VPA054150  
**Oil Type:** DIESEL ENGINE OIL SAE 40

### SAMPLE INFORMATION

Sample Number	<b>VPA054150</b>	VPA056248	VPA040136	---
Sample Date	<b>12 Mar 2024</b>	12 Jan 2024	29 Mar 2023	---
Machine Hours	<b>1381</b>	2381	1925	---
Oil Hours	<b>250</b>	200	1900	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.7</b>	13.0	13.2	---
Base Number (BN)	mg KOH/g	<b>6.7</b>	8.3	8.0	---
Oxidation (PA)	%	<b>43</b>	58	57	---

### 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.

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Soot %	%	<b>0.2</b>	0.4	0.1	---
Nitration (PA)	%	<b>42</b>	45	41	---
Sulfation (PA)	%	<b>47</b>	58	58	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	---
Silicon	ppm	<b>17</b>	15	14	---
Sodium	ppm	<b>0</b>	2	1	---
Potassium	ppm	<b>3</b>	<1	<1	---

### WEAR METALS

Iron	ppm	<b>10</b>	5	4	---
Copper	ppm	<b>5</b>	10	2	---
Lead	ppm	<b>&lt;1</b>	0	0	---
Tin	ppm	<b>&lt;1</b>	0	0	---
Aluminum	ppm	<b>4</b>	2	2	---
Chromium	ppm	<b>&lt;1</b>	0	<1	---
Molybdenum	ppm	<b>45</b>	80	92	---
Nickel	ppm	<b>&lt;1</b>	0	0	---
Titanium	ppm	<b>&lt;1</b>	<1	0	---
Silver	ppm	<b>&lt;1</b>	<1	<1	---
Manganese	ppm	<b>&lt;1</b>	<1	<1	---
Vanadium	ppm	<b>&lt;1</b>	<1	0	---

### ADDITIVES

Calcium	ppm	<b>1898</b>	1365	1445	---
Magnesium	ppm	<b>281</b>	400	467	---
Zinc	ppm	<b>1044</b>	1238	1236	---
Phosphorus	ppm	<b>913</b>	1045	1036	---
Barium	ppm	<b>0</b>	0	0	---
Boron	ppm	<b>163</b>	390	491	---

**Depot:** VP1121775  
**Unique No:** 10928153  
**Signed:** Don Baldrige  
**Report Date:** 18 Mar 2024

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# VOLVO PENTA

## GRAPHS

