

# OIL ANALYSIS REPORT



## MORNING STAR MORNING STAR VOLVO PENTA 3100004871 - STERNDRIVE - STARBOARD GEARBOX

**Sample No:** VPA058190  
**Oil Type:** VOLVO API GL-5 SAE 75W90

### SAMPLE INFORMATION

Sample Number	<b>VPA058190</b>	VPA056226	VPA034315	---
Sample Date	<b>23 Jan 2024</b>	01 Mar 2023	22 Jun 2022	---
Machine Hours	<b>636</b>	310	54	---
Oil Hours	<b>325</b>	250	54	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

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### OIL CONDITION

Visc @ 40°C	cSt	<b>104</b>	103	103	---
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### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Silicon	ppm	<b>&lt;1</b>	3	3	---
Sodium	ppm	<b>5</b>	2	6	---
Potassium	ppm	<b>4</b>	5	8	---

### 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 condition of the oil is acceptable for the time in service.

### WEAR METALS

PQ		<b>20</b>	20	21	---
Iron	ppm	<b>94</b>	49	24	---
Copper	ppm	<b>&lt;1</b>	2	<1	---
Lead	ppm	<b>0</b>	1	0	---
Tin	ppm	<b>0</b>	0	0	---
Aluminum	ppm	<b>2</b>	<1	1	---
Chromium	ppm	<b>&lt;1</b>	<1	<1	---
Molybdenum	ppm	<b>&lt;1</b>	<1	<1	---
Nickel	ppm	<b>&lt;1</b>	<1	0	---
Titanium	ppm	<b>&lt;1</b>	0	0	---
Silver	ppm	<b>0</b>	<1	0	---
Manganese	ppm	<b>2</b>	3	7	---
Vanadium	ppm	<b>0</b>	0	0	---

### ADDITIVES

Calcium	ppm	<b>7</b>	22	16	---
Magnesium	ppm	<b>11</b>	44	628	---
Zinc	ppm	<b>0</b>	2	6	---
Phosphorus	ppm	<b>1308</b>	1286	1500	---
Barium	ppm	<b>0</b>	0	<1	---
Boron	ppm	<b>297</b>	294	485	---

**Depot:** VP179089  
**Unique No:** 10859289  
**Signed:** Don Baldrige  
**Report Date:** 03 Feb 2024

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**VOLVO  
PENTA**

## GRAPHS

