

# OIL ANALYSIS REPORT

# VOLVO PENTA

**MANCHESTER 30 LEFT AG R812467M VOLVO PENTA 2013930005 - VARIABLE SPEED - PORT DIESEL ENGINE**

**Sample No:** VPA056730

**Oil Type:** VOLVO PENTA SAE 15W40

## SAMPLE INFORMATION

|               |                    |             |     |     |
|---------------|--------------------|-------------|-----|-----|
| Sample Number | <b>VPA056730</b>   | VPA048399   | --- | --- |
| Sample Date   | <b>15 Sep 2023</b> | 06 Oct 2022 | --- | --- |
| Machine Hours | <b>300</b>         | 203         | --- | --- |
| Oil Hours     | <b>97</b>          | 203         | --- | --- |
| Oil Changed   | <b>N/A</b>         | N/A         | --- | --- |
| Sample Status | <b>ATTENTION</b>   | ATTENTION   | --- | --- |

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## OIL CONDITION

|                  |          |               |        |     |     |
|------------------|----------|---------------|--------|-----|-----|
| Visc @ 100°C     | cSt      | <b>▲ 12.0</b> | ▲ 11.9 | --- | --- |
| Base Number (BN) | mg KOH/g | <b>■ 10.3</b> | ■ 11.3 | --- | --- |
| Oxidation (PA)   | %        | <b>71</b>     | 61     | --- | --- |

## CONTAMINATION

|                |     |                |       |     |     |
|----------------|-----|----------------|-------|-----|-----|
| Soot %         | %   | <b>■ 0</b>     | ■ 0.1 | --- | --- |
| Nitration (PA) | %   | <b>44</b>      | 52    | --- | --- |
| Sulfation (PA) | %   | <b>57</b>      | 55    | --- | --- |
| Glycol         | %   | <b>NEG</b>     | NEG   | --- | --- |
| Fuel           | %   | <b>&lt;1.0</b> | ▲ 2.2 | --- | --- |
| Silicon        | ppm | <b>■ 8</b>     | ■ 17  | --- | --- |
| Sodium         | ppm | <b>■ 2</b>     | ■ 0   | --- | --- |
| Potassium      | ppm | <b>■ 2</b>     | ■ 4   | --- | --- |

## Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## WEAR METALS

|            |     |                |      |     |     |
|------------|-----|----------------|------|-----|-----|
| Iron       | ppm | <b>■ 4</b>     | ■ 9  | --- | --- |
| Copper     | ppm | <b>■ 2</b>     | ■ 11 | --- | --- |
| Lead       | ppm | <b>■ 0</b>     | ■ <1 | --- | --- |
| Tin        | ppm | <b>■ &lt;1</b> | ■ 2  | --- | --- |
| Aluminum   | ppm | <b>■ &lt;1</b> | ■ 1  | --- | --- |
| Chromium   | ppm | <b>■ 0</b>     | ■ <1 | --- | --- |
| Molybdenum | ppm | <b>■ 44</b>    | ■ 59 | --- | --- |
| Nickel     | ppm | <b>■ 0</b>     | ■ 0  | --- | --- |
| Titanium   | ppm | <b>0</b>       | 0    | --- | --- |
| Silver     | ppm | <b>■ 0</b>     | ■ 0  | --- | --- |
| Manganese  | ppm | <b>■ &lt;1</b> | ■ 2  | --- | --- |
| Vanadium   | ppm | <b>0</b>       | 0    | --- | --- |

## ADDITIVES

|            |     |               |        |     |     |
|------------|-----|---------------|--------|-----|-----|
| Calcium    | ppm | <b>■ 1547</b> | ■ 1103 | --- | --- |
| Magnesium  | ppm | <b>■ 610</b>  | ■ 982  | --- | --- |
| Zinc       | ppm | <b>■ 993</b>  | ■ 1305 | --- | --- |
| Phosphorus | ppm | <b>■ 801</b>  | ■ 1066 | --- | --- |
| Barium     | ppm | <b>■ 0</b>    | ■ 0    | --- | --- |
| Boron      | ppm | <b>■ 57</b>   | ■ 1    | --- | --- |

**Depot:** VP153549  
**Unique No:** 10669750  
**Signed:** Sean Felton  
**Report Date:** 29 Sep 2023

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PENTA**

## GRAPHS

