

# OIL ANALYSIS REPORT



**RICK MYERS DANIEL 502689 VOLVO PENTA D6-435D-A 2006011030 - PORT DIESEL ENGINE**

**Sample No:** VPA059613

**Oil Type:** DIESEL ENGINE OIL SAE 15W40

## SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VPA059613</b>   | VPA047438   | VPA029158   | VPA011766   |
| Sample Date   | <b>23 Jan 2024</b> | 01 May 2023 | 03 Oct 2019 | 10 Aug 2016 |
| Machine Hours | <b>987</b>         | 954         | 790         | 557         |
| Oil Hours     | <b>0</b>           | 0           | 0           | 30          |
| Oil Changed   | <b>Changed</b>     | Changed     | N/A         | N/A         |
| Sample Status | <b>NORMAL</b>      | NORMAL      | NORMAL      | NORMAL      |

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## OIL CONDITION

|                  |          |             |      |      |      |
|------------------|----------|-------------|------|------|------|
| Visc @ 100°C     | cSt      | <b>12.9</b> | 13.5 | 14.2 | 14.4 |
| Base Number (BN) | mg KOH/g | <b>10.2</b> | 8.5  | ---  | ---  |
| Oxidation (PA)   | %        | <b>60</b>   | 62   | 51   | 44   |

## CONTAMINATION

|                |     |                |      |      |      |
|----------------|-----|----------------|------|------|------|
| Water          | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Soot %         | %   | <b>0.1</b>     | 0.1  | 0.1  | 0    |
| Nitration (PA) | %   | <b>56</b>      | 63   | 63   | 42   |
| Sulfation (PA) | %   | <b>52</b>      | 52   | 50   | 42   |
| Glycol         | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Fuel           | %   | <b>&lt;1.0</b> | <1.0 | <1.0 | <1.0 |
| Silicon        | ppm | <b>3</b>       | 4    | 4    | 5    |
| Sodium         | ppm | <b>0</b>       | <1   | 3    | 5    |
| Potassium      | ppm | <b>0</b>       | 2    | 15   | 2    |

## 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.

## WEAR METALS

|            |     |              |    |    |    |
|------------|-----|--------------|----|----|----|
| Iron       | ppm | <b>3</b>     | 10 | 6  | 3  |
| Copper     | ppm | <b>4</b>     | 7  | 1  | 2  |
| Lead       | ppm | <b>&lt;1</b> | 0  | 0  | <1 |
| Tin        | ppm | <b>&lt;1</b> | <1 | 0  | 0  |
| Aluminum   | ppm | <b>9</b>     | 33 | <1 | 2  |
| Chromium   | ppm | <b>&lt;1</b> | 1  | <1 | <1 |
| Molybdenum | ppm | <b>59</b>    | 51 | <1 | 44 |
| Nickel     | ppm | <b>0</b>     | <1 | <1 | <1 |
| Titanium   | ppm | <b>0</b>     | 0  | <1 | 0  |
| Silver     | ppm | <b>0</b>     | 0  | 0  | <1 |
| Manganese  | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Vanadium   | ppm | <b>0</b>     | 0  | 0  | 0  |

## ADDITIVES

|            |     |              |      |      |      |
|------------|-----|--------------|------|------|------|
| Calcium    | ppm | <b>1046</b>  | 1061 | 1301 | 1145 |
| Magnesium  | ppm | <b>968</b>   | 945  | 747  | 760  |
| Zinc       | ppm | <b>1254</b>  | 1261 | 728  | 1118 |
| Phosphorus | ppm | <b>1067</b>  | 992  | 644  | 1011 |
| Barium     | ppm | <b>0</b>     | 0    | 0    | 0    |
| Boron      | ppm | <b>&lt;1</b> | 8    | 86   | 24   |

**Depot:** VP794951  
**Unique No:** 10925650  
**Signed:** Don Baldrige  
**Report Date:** 14 Mar 2024

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# VOLVO PENTA

## GRAPHS

