

# OIL ANALYSIS REPORT

# VOLVO PENTA

## ALEX MARCOS DILLON VOLVO PENTA 2006007227 - STARBOARD DIESEL ENGINE

Sample No: VPA060462

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

### SAMPLE INFORMATION

|               |             |             |     |     |
|---------------|-------------|-------------|-----|-----|
| Sample Number | VPA060462   | VPA043499   | --- | --- |
| Sample Date   | 26 Apr 2024 | 01 Feb 2023 | --- | --- |
| Machine Hours | 461         | 1391        | --- | --- |
| Oil Hours     | 0           | 0           | --- | --- |
| Oil Changed   | Changed     | Changed     | --- | --- |
| Sample Status | NORMAL      | NORMAL      | --- | --- |

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### OIL CONDITION

|                  |          |        |        |     |     |
|------------------|----------|--------|--------|-----|-----|
| Visc @ 100°C     | cSt      | █ 13.4 | █ 13.6 | --- | --- |
| Base Number (BN) | mg KOH/g | █ 10.1 | █ 10.2 | --- | --- |
| Oxidation (PA)   | %        | 73     | 61     | --- | --- |

### 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 suitable for further service.

### CONTAMINATION

|                |     |       |       |     |     |
|----------------|-----|-------|-------|-----|-----|
| Water          | %   | NEG   | NEG   | --- | --- |
| Soot %         | %   | █ 0.2 | █ 0.2 | --- | --- |
| Nitration (PA) | %   | 58    | 61    | --- | --- |
| Sulfation (PA) | %   | 57    | 55    | --- | --- |
| Glycol         | %   | NEG   | NEG   | --- | --- |
| Fuel           | %   | <1.0  | <1.0  | --- | --- |
| Silicon        | ppm | █ 5   | █ 3   | --- | --- |
| Sodium         | ppm | █ 2   | █ 2   | --- | --- |
| Potassium      | ppm | █ 0   | █ 11  | --- | --- |

### WEAR METALS

|            |     |      |      |     |     |
|------------|-----|------|------|-----|-----|
| Iron       | ppm | █ 15 | █ 8  | --- | --- |
| Copper     | ppm | █ 4  | █ 2  | --- | --- |
| Lead       | ppm | █ <1 | █ 3  | --- | --- |
| Tin        | ppm | █ 0  | █ 1  | --- | --- |
| Aluminum   | ppm | █ 2  | █ 1  | --- | --- |
| Chromium   | ppm | █ <1 | █ <1 | --- | --- |
| Molybdenum | ppm | █ 53 | █ 38 | --- | --- |
| Nickel     | ppm | █ <1 | █ 1  | --- | --- |
| Titanium   | ppm | █ 0  | █ 0  | --- | --- |
| Silver     | ppm | █ 0  | █ <1 | --- | --- |
| Manganese  | ppm | █ <1 | █ <1 | --- | --- |
| Vanadium   | ppm | <1   | <1   | --- | --- |

### ADDITIVES

|            |     |        |       |     |     |
|------------|-----|--------|-------|-----|-----|
| Calcium    | ppm | █ 1584 | █ 610 | --- | --- |
| Magnesium  | ppm | 788    | █ 680 | --- | --- |
| Zinc       | ppm | █ 1142 | █ 889 | --- | --- |
| Phosphorus | ppm | █ 997  | █ 702 | --- | --- |
| Barium     | ppm | █ 0    | █ 0   | --- | --- |
| Boron      | ppm | █ 23   | █ 0   | --- | --- |

Depot: VP794951  
Unique No: 11007451  
Signed: Jonathan Hester  
Report Date: 06 May 2024

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## GRAPHS

