

# OIL ANALYSIS REPORT

# VOLVO PENTA

## S3 MARINE DANIEL/502505 VOLVO PENTA A977272 - STARBOARD DIESEL ENGINE

Sample No: VPA059035

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

### SAMPLE INFORMATION

|               |             |     |     |     |
|---------------|-------------|-----|-----|-----|
| Sample Number | VPA059035   | --- | --- | --- |
| Sample Date   | 22 Nov 2023 | --- | --- | --- |
| Machine Hours | 208         | --- | --- | --- |
| Oil Hours     | 0           | --- | --- | --- |
| Oil Changed   | Changed     | --- | --- | --- |
| Sample Status | NORMAL      | --- | --- | --- |

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### OIL CONDITION

|                  |          |        |     |     |     |
|------------------|----------|--------|-----|-----|-----|
| Visc @ 100°C     | cSt      | █ 13.9 | --- | --- | --- |
| Base Number (BN) | mg KOH/g | █ 8.1  | --- | --- | --- |
| Oxidation (PA)   | %        | 49     | --- | --- | --- |

### 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          | %   | NEG   | --- | --- | --- |
| Soot %         | %   | █ 0.1 | --- | --- | --- |
| Nitration (PA) | %   | 59    | --- | --- | --- |
| Sulfation (PA) | %   | 48    | --- | --- | --- |
| Glycol         | %   | NEG   | --- | --- | --- |
| Fuel           | %   | <1.0  | --- | --- | --- |
| Silicon        | ppm | █ 4   | --- | --- | --- |
| Sodium         | ppm | █ 2   | --- | --- | --- |
| Potassium      | ppm | █ 0   | --- | --- | --- |

### WEAR METALS

|            |     |      |     |     |     |
|------------|-----|------|-----|-----|-----|
| Iron       | ppm | █ 12 | --- | --- | --- |
| Copper     | ppm | █ 5  | --- | --- | --- |
| Lead       | ppm | █ <1 | --- | --- | --- |
| Tin        | ppm | █ 0  | --- | --- | --- |
| Aluminum   | ppm | █ 2  | --- | --- | --- |
| Chromium   | ppm | █ 0  | --- | --- | --- |
| Molybdenum | ppm | █ 0  | --- | --- | --- |
| Nickel     | ppm | █ <1 | --- | --- | --- |
| Titanium   | ppm | █ 0  | --- | --- | --- |
| Silver     | ppm | █ 0  | --- | --- | --- |
| Manganese  | ppm | █ <1 | --- | --- | --- |
| Vanadium   | ppm | <1   | --- | --- | --- |

### ADDITIVES

|            |     |        |     |     |     |
|------------|-----|--------|-----|-----|-----|
| Calcium    | ppm | █ 1326 | --- | --- | --- |
| Magnesium  | ppm | █ 677  | --- | --- | --- |
| Zinc       | ppm | █ 780  | --- | --- | --- |
| Phosphorus | ppm | █ 716  | --- | --- | --- |
| Barium     | ppm | █ 0    | --- | --- | --- |
| Boron      | ppm | █ 95   | --- | --- | --- |

Depot: VP794951  
Unique No: 10765800  
Signed: Don Baldrige  
Report Date: 03 Dec 2023

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## GRAPHS

