

# OIL ANALYSIS REPORT

# VOLVO PENTA

## JOHNSON 4221 VOLVO PENTA A545943 - STARBOARD DIESEL ENGINE

Sample No: VPA060519

Oil Type: DIESEL ENGINE OIL SAE 15W40

### SAMPLE INFORMATION

|               |             |     |     |     |
|---------------|-------------|-----|-----|-----|
| Sample Number | VPA060519   | --- | --- | --- |
| Sample Date   | 22 Feb 2024 | --- | --- | --- |
| Machine Hours | 760         | --- | --- | --- |
| Oil Hours     | 0           | --- | --- | --- |
| Oil Changed   | Not Changd  | --- | --- | --- |
| Sample Status | NORMAL      | --- | --- | --- |

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### OIL CONDITION

|                  |          |        |     |     |     |
|------------------|----------|--------|-----|-----|-----|
| Visc @ 100°C     | cSt      | █ 13.4 | --- | --- | --- |
| Base Number (BN) | mg KOH/g | █ 9.6  | --- | --- | --- |
| Oxidation (PA)   | %        | 55     | --- | --- | --- |

### 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 %         | %   | █ 0.2 | --- | --- | --- |
| Nitration (PA) | %   | 45    | --- | --- | --- |
| Sulfation (PA) | %   | 52    | --- | --- | --- |
| Glycol         | %   | NEG   | --- | --- | --- |
| Fuel           | %   | < 1.0 | --- | --- | --- |
| Silicon        | ppm | █ 4   | --- | --- | --- |
| Sodium         | ppm | █ 2   | --- | --- | --- |
| Potassium      | ppm | █ 4   | --- | --- | --- |

### WEAR METALS

|            |     |      |     |     |     |
|------------|-----|------|-----|-----|-----|
| Iron       | ppm | █ 0  | --- | --- | --- |
| Copper     | ppm | █ 2  | --- | --- | --- |
| Lead       | ppm | █ 2  | --- | --- | --- |
| Tin        | ppm | █ 0  | --- | --- | --- |
| Aluminum   | ppm | █ 2  | --- | --- | --- |
| Chromium   | ppm | █ <1 | --- | --- | --- |
| Molybdenum | ppm | █ 66 | --- | --- | --- |
| Nickel     | ppm | █ <1 | --- | --- | --- |
| Titanium   | ppm | █ 0  | --- | --- | --- |
| Silver     | ppm | █ 0  | --- | --- | --- |
| Manganese  | ppm | █ <1 | --- | --- | --- |
| Vanadium   | ppm | < 1  | --- | --- | --- |

### ADDITIVES

|            |     |        |     |     |     |
|------------|-----|--------|-----|-----|-----|
| Calcium    | ppm | █ 1199 | --- | --- | --- |
| Magnesium  | ppm | █ 936  | --- | --- | --- |
| Zinc       | ppm | █ 1324 | --- | --- | --- |
| Phosphorus | ppm | █ 1135 | --- | --- | --- |
| Barium     | ppm | █ 0    | --- | --- | --- |
| Boron      | ppm | █ 90   | --- | --- | --- |

Depot: VP426065

Unique No: 10898870

Signed: Sean Felton

Report Date: 28 Feb 2024

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## GRAPHS

