

OIL ANALYSIS REPORT

**VOLVO
PENTA**

JOSHUA SMITH 533400 VOLVO PENTA A521692 - STARBOARD DIESEL ENGINE

Sample No: VPA036598

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

SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-----|-----|-----|
| Sample Number | VPA036598 | --- | --- | --- |
| Sample Date | 06 Oct 2023 | --- | --- | --- |
| Machine Hours | 315 | --- | --- | --- |
| Oil Hours | 100 | --- | --- | --- |
| Oil Changed | Not Changd | --- | --- | --- |
| Sample Status | MARGINAL | --- | --- | --- |

OIL CONDITION

| | | | | | |
|------------------|----------|---------|-----|-----|-----|
| Visc @ 100°C | cSt | █ 14.27 | --- | --- | --- |
| Base Number (BN) | mg KOH/g | █ 9.4 | --- | --- | --- |
| Oxidation (PA) | % | 69 | --- | --- | --- |

CONTAMINATION

| | | | | | |
|----------------|-----|-------|-----|-----|-----|
| Soot % | % | █ 0.3 | --- | --- | --- |
| Nitration (PA) | % | 69 | --- | --- | --- |
| Sulfation (PA) | % | 57 | --- | --- | --- |
| Glycol | % | NEG | --- | --- | --- |
| Fuel | % | <1.0 | --- | --- | --- |
| Silicon | ppm | █ 8 | --- | --- | --- |
| Sodium | ppm | █ 2 | --- | --- | --- |
| Potassium | ppm | █ 0 | --- | --- | --- |

WEAR METALS

| | | | | | |
|------------|-----|------|-----|-----|-----|
| Iron | ppm | █ 23 | --- | --- | --- |
| Copper | ppm | █ 7 | --- | --- | --- |
| Lead | ppm | █ 7 | --- | --- | --- |
| Tin | ppm | █ 1 | --- | --- | --- |
| Aluminum | ppm | ▲ 39 | --- | --- | --- |
| Chromium | ppm | █ 3 | --- | --- | --- |
| Molybdenum | ppm | █ 49 | --- | --- | --- |
| Nickel | ppm | █ 1 | --- | --- | --- |
| Titanium | ppm | █ <1 | --- | --- | --- |
| Silver | ppm | █ 0 | --- | --- | --- |
| Manganese | ppm | █ <1 | --- | --- | --- |
| Vanadium | ppm | 0 | --- | --- | --- |

ADDITIVES

| | | | | | |
|------------|-----|--------|-----|-----|-----|
| Calcium | ppm | █ 1212 | --- | --- | --- |
| Magnesium | ppm | █ 808 | --- | --- | --- |
| Zinc | ppm | █ 926 | --- | --- | --- |
| Phosphorus | ppm | █ 775 | --- | --- | --- |
| Barium | ppm | █ 0 | --- | --- | --- |
| Boron | ppm | █ 49 | --- | --- | --- |

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Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other 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.

Depot: VP152963

Unique No: 10686573

Signed: Doug Bogart

Report Date: 10 Oct 2023

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GRAPHS

