

OIL ANALYSIS REPORT

VOLVO PENTA

OK034987 - STARBOARD DIESEL ENGINE

Sample No: VPA061289

Oil Type: CHEVRON DELO 400 MULTIGRADE 15W40

SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-----|-----|-----|
| Sample Number | VPA061289 | --- | --- | --- |
| Sample Date | 01 Jul 2024 | --- | --- | --- |
| Machine Hours | 328 | --- | --- | --- |
| Oil Hours | 0 | --- | --- | --- |
| Oil Changed | Not Changd | --- | --- | --- |
| Sample Status | SEVERE | --- | --- | --- |

OIL CONDITION

| | | | | | |
|------------------|----------|--------|-----|-----|-----|
| Visc @ 100°C | cSt | ● 11.9 | --- | --- | --- |
| Base Number (BN) | mg KOH/g | ■ 8.4 | --- | --- | --- |
| Oxidation (PA) | % | 60 | --- | --- | --- |

CONTAMINATION

| | | | | | |
|----------------|-----|-------|-----|-----|-----|
| Water | % | NEG | --- | --- | --- |
| Soot % | % | ■ 0.1 | --- | --- | --- |
| Nitration (PA) | % | 103 | --- | --- | --- |
| Sulfation (PA) | % | 58 | --- | --- | --- |
| Glycol | % | NEG | --- | --- | --- |
| Fuel | % | ▲ 2.2 | --- | --- | --- |
| Silicon | ppm | ▲ 114 | --- | --- | --- |
| Sodium | ppm | ▲ 824 | --- | --- | --- |
| Potassium | ppm | ▲ 60 | --- | --- | --- |

WEAR METALS

| | | | | | |
|------------|-----|--------|-----|-----|-----|
| Iron | ppm | ▲ 1085 | --- | --- | --- |
| Copper | ppm | ■ 42 | --- | --- | --- |
| Lead | ppm | ■ 18 | --- | --- | --- |
| Tin | ppm | ■ 14 | --- | --- | --- |
| Aluminum | ppm | ● 45 | --- | --- | --- |
| Chromium | ppm | ▲ 36 | --- | --- | --- |
| Molybdenum | ppm | ■ 34 | --- | --- | --- |
| Nickel | ppm | ■ 2 | --- | --- | --- |
| Titanium | ppm | ■ <1 | --- | --- | --- |
| Silver | ppm | ■ 0 | --- | --- | --- |
| Manganese | ppm | ■ 13 | --- | --- | --- |
| Vanadium | ppm | <1 | --- | --- | --- |

ADDITIVES

| | | | | | |
|------------|-----|--------|-----|-----|-----|
| Calcium | ppm | ■ 1375 | --- | --- | --- |
| Magnesium | ppm | ■ 747 | --- | --- | --- |
| Zinc | ppm | ■ 852 | --- | --- | --- |
| Phosphorus | ppm | ■ 827 | --- | --- | --- |
| Barium | ppm | ■ 0 | --- | --- | --- |
| Boron | ppm | ■ 65 | --- | --- | --- |

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Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Piston, ring and cylinder wear is indicated. Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Light fuel dilution occurring. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: VPBAYSAU
Unique No: 11114669
Signed: Jonathan Hester
Report Date: 15 Jul 2024

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GRAPHS

