

OIL ANALYSIS REPORT



ENCORE I (S/N 3940023264) - PORT MAIN ENGINE

Sample No: VPA042626
Oil Type: DURON 15W30

SAMPLE INFORMATION

| Sample Number | VPA042626 | VPA039850 | VPA035188 | VPA026452 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 05 Apr 2023 | 02 Aug 2022 | 16 Sep 2021 | 14 Jul 2021 |
| Machine Hours | 5186 | 4387 | 0 | 3717 |
| Oil Hours | 225 | 215 | 200 | 200 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | NORMAL | ATTENTION | ATTENTION | NORMAL |

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OIL CONDITION

| Visc @ 100°C | cSt | 13.8 | 14.3 | 10.4 | 14.2 |
|------------------|----------|------|------|------|------|
| Base Number (BN) | mg KOH/g | 9.6 | 9.2 | --- | --- |
| Oxidation (PA) | % | 52 | 55 | 45 | 66 |

CONTAMINATION

| Water | % | NEG | NEG | NEG | NEG |
|----------------|-----|------|------|-----|------|
| Soot % | % | 0.1 | 0.1 | 0.1 | 0.1 |
| Nitration (PA) | % | 46 | 49 | 41 | 55 |
| Sulfation (PA) | % | 47 | 49 | 47 | 56 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | 0.1 | <1.0 |
| Silicon | ppm | 4 | 3 | 2 | 3 |
| Sodium | ppm | 0 | 1 | 2 | 2 |
| Potassium | ppm | 1 | 1 | 3 | 6 |

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.

WEAR METALS

| | | | | | |
|------------|-----|----|----|----|----|
| Iron | ppm | 2 | 7 | 4 | 5 |
| Copper | ppm | 2 | 2 | 2 | 2 |
| Lead | ppm | <1 | <1 | <1 | <1 |
| Tin | ppm | <1 | <1 | <1 | <1 |
| Aluminum | ppm | 1 | 19 | <1 | 1 |
| Chromium | ppm | <1 | 1 | <1 | <1 |
| Molybdenum | ppm | 58 | 43 | 3 | 3 |
| Nickel | ppm | <1 | <1 | 0 | 0 |
| Titanium | ppm | <1 | 0 | 0 | <1 |
| Silver | ppm | <1 | 0 | 0 | 0 |
| Manganese | ppm | <1 | <1 | <1 | <1 |
| Vanadium | ppm | <1 | 0 | 0 | 0 |

ADDITIVES

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 1011 | 1495 | 1237 | 2112 |
| Magnesium | ppm | 851 | 691 | 31 | 28 |
| Zinc | ppm | 1087 | 1151 | 874 | 1145 |
| Phosphorus | ppm | 916 | 1007 | 717 | 975 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 26 | 53 | 143 | 248 |

Depot: VPBAYBOS
Unique No: 10885084
Signed: Jonathan Hester
Report Date: 20 Feb 2024

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**VOLVO
PENTA**

GRAPHS

