

OIL ANALYSIS REPORT



CHRIS WILSON 1146964 VOLVO PENTA A1118524 - CENTER DIESEL ENGINE

Sample No: VPA054932
Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-----|
| Sample Number | VPA054932 | VPA034147 | VPA037794 | --- |
| Sample Date | 22 Apr 2024 | 13 Sep 2022 | 22 Apr 2021 | --- |
| Machine Hours | 179 | 128 | 21 | --- |
| Oil Hours | 51 | 103 | 21 | --- |
| Oil Changed | Changed | Changed | Not Changd | --- |
| Sample Status | NORMAL | ATTENTION | NORMAL | --- |

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OIL CONDITION

| | | | | | |
|------------------|----------|-------------|------|------|-----|
| Visc @ 100°C | cSt | 13.1 | 12.8 | 13.1 | --- |
| Base Number (BN) | mg KOH/g | 9.7 | 11 | --- | --- |
| Oxidation (PA) | % | 58 | 86 | 83 | --- |

CONTAMINATION

| | | | | | |
|----------------|-----|----------------|------|------|-----|
| Water | % | NEG | NEG | NEG | --- |
| Soot % | % | 0.3 | 0.4 | 0.1 | --- |
| Nitration (PA) | % | 43 | 55 | 41 | --- |
| Sulfation (PA) | % | 53 | 67 | 64 | --- |
| Glycol | % | NEG | NEG | NEG | --- |
| Fuel | % | <1.0 | <1.0 | <1.0 | --- |
| Silicon | ppm | 9 | 29 | 23 | --- |
| Sodium | ppm | 2 | 4 | 4 | --- |
| Potassium | ppm | 0 | 4 | 7 | --- |

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.

WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|-----|
| Iron | ppm | 32 | 51 | 10 | --- |
| Copper | ppm | 4 | 15 | 7 | --- |
| Lead | ppm | 2 | 5 | 2 | --- |
| Tin | ppm | 0 | 3 | 0 | --- |
| Aluminum | ppm | 13 | 45 | 22 | --- |
| Chromium | ppm | 1 | 4 | 2 | --- |
| Molybdenum | ppm | 56 | 42 | 37 | --- |
| Nickel | ppm | <1 | 3 | <1 | --- |
| Titanium | ppm | 0 | 0 | <1 | --- |
| Silver | ppm | 0 | 0 | 0 | --- |
| Manganese | ppm | <1 | 2 | 1 | --- |
| Vanadium | ppm | 0 | 0 | 0 | --- |

ADDITIVES

| | | | | | |
|------------|-----|-------------|------|------|-----|
| Calcium | ppm | 1198 | 1630 | 1583 | --- |
| Magnesium | ppm | 922 | 514 | 492 | --- |
| Zinc | ppm | 1248 | 1103 | 1024 | --- |
| Phosphorus | ppm | 1079 | 953 | 829 | --- |
| Barium | ppm | 0 | 0 | 0 | --- |
| Boron | ppm | 14 | 53 | 59 | --- |

Depot: VP99031103
Unique No: 11006046
Signed: Don Baldrige
Report Date: 03 May 2024

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GRAPHS

