



CONSTRUCTION EQUIPMENT

VOLVO A45G 79 (S/N 342558) - DIESEL ENGINE



Sample No: VC06152512
Oil Type: SHELL ROTELLA T 15W40
Job No:



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VC06152512 | VCP06115622 | VCP405326 | VCP423719 |
| Sample Date | 02 Apr 2024 | 04 Dec 2023 | 01 Oct 2023 | 01 Jun 2023 |
| Machine Hours | 0 | 0 | 12523 | 0 |
| Oil Hours | 0 | 0 | 500 | 0 |
| Oil Changed | N/A | N/A | Changed | Changed |
| Sample Status | SEVERE | SEVERE | NORMAL | NORMAL |

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OIL CONDITION

| | | | | | |
|------------------|----------|-------------|------|------|------|
| Visc @ 100°C | cSt | 12.4 | 13.1 | 13.0 | 12.9 |
| Base Number (BN) | mg KOH/g | 6.0 | 5.7 | 5.5 | 6.1 |
| Oxidation (PA) | % | 58 | 69 | 75 | 78 |

Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. Fuel content negligible. There is a high concentration of glycol present in the oil. The oil viscosity is lower than normal. Confirm oil type. The oil is no longer serviceable.



CONTAMINATION

| | | | | | |
|----------------|-----|-------------|------|------|------|
| Water | % | NEG | NEG | NEG | NEG |
| Soot % | % | 1 | 1.2 | 1.5 | 1.6 |
| Nitration (PA) | % | 86 | 93 | 90 | 101 |
| Sulfation (PA) | % | 71 | 72 | 73 | 73 |
| Glycol | % | 0.20 | 0.10 | NEG | NEG |
| Fuel | % | 0.4 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | 14 | 7 | 5 | 5 |
| Sodium | ppm | 543 | 273 | 14 | 10 |
| Potassium | ppm | 1445 | 422 | 11 | 13 |



WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|----|
| Iron | ppm | 53 | 25 | 30 | 33 |
| Copper | ppm | 4 | 2 | 2 | 5 |
| Lead | ppm | 4 | 1 | 2 | 4 |
| Tin | ppm | 2 | 0 | <1 | <1 |
| Aluminum | ppm | 8 | 8 | 9 | 13 |
| Chromium | ppm | 3 | <1 | 1 | 2 |
| Molybdenum | ppm | 57 | 43 | 32 | 64 |
| Nickel | ppm | 4 | 2 | 2 | 5 |
| Titanium | ppm | <1 | 0 | 0 | <1 |
| Silver | ppm | <1 | 0 | 0 | 0 |
| Manganese | ppm | 2 | <1 | <1 | <1 |
| Vanadium | ppm | <1 | 0 | 0 | <1 |



ADDITIVES

| | | | | | |
|------------|-----|-------------|------|------|------|
| Calcium | ppm | 3115 | 2169 | 1988 | 1791 |
| Magnesium | ppm | 110 | 88 | 205 | 368 |
| Zinc | ppm | 1539 | 1035 | 1223 | 1231 |
| Phosphorus | ppm | 1412 | 904 | 961 | 1069 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 22 | 13 | 19 | 18 |

Depot: JMHMAR
Unique No: 10982590
Signed: Don Baldrige
Report Date: 22 Apr 2024



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GRAPHS

