



CONSTRUCTION EQUIPMENT

SPM607851 AMG RES LIEBHERR LH40 121384-1215 - DIESEL ENGINE



Sample No: VCP415190
Oil Type: DIESEL ENGINE OIL SAE 15W40
Job No: SPM607851 AMG RES



SAMPLE INFORMATION

| | | | | |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | VCP415190 | VCP420689 | VCP404144 | VCP387419 |
| Sample Date | 12 Oct 2023 | 15 Aug 2023 | 06 Feb 2023 | 17 Nov 2022 |
| Machine Hours | 9922 | 9240 | 7852 | 7016 |
| Oil Hours | 0 | 0 | 0 | 0 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | NORMAL | SEVERE | NORMAL | ATTENTION |

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OIL CONDITION

| | | | | | |
|------------------|----------|-------------|-----|------|------|
| Visc @ 100°C | cSt | 13.9 | 5.5 | 12.4 | 10.9 |
| Base Number (BN) | mg KOH/g | 7.5 | 8.0 | 6.9 | 7.9 |
| Oxidation (PA) | % | 58 | 49 | 84 | 96 |



CONTAMINATION

| | | | | | |
|----------------|-----|------------|------|------|-----|
| Soot % | % | 0.1 | 0.1 | 0.1 | 0.1 |
| Nitration (PA) | % | 73 | 73 | 88 | 97 |
| Sulfation (PA) | % | 55 | 44 | 60 | 65 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | 1.9 | 51.7 | <1.0 | 2.5 |
| Silicon | ppm | 8 | 6 | 6 | 5 |
| Sodium | ppm | 4 | 2 | 0 | 4 |
| Potassium | ppm | 4 | 6 | 2 | <1 |



WEAR METALS

| | | | | | |
|------------|-----|--------------|----|----|----|
| Iron | ppm | 5 | 4 | 6 | 4 |
| Copper | ppm | 1 | 1 | 3 | 2 |
| Lead | ppm | <1 | 2 | 2 | 2 |
| Tin | ppm | <1 | 0 | <1 | <1 |
| Aluminum | ppm | 2 | 1 | 2 | <1 |
| Chromium | ppm | <1 | <1 | 0 | <1 |
| Molybdenum | ppm | 17 | 33 | 63 | 60 |
| Nickel | ppm | <1 | 0 | 0 | <1 |
| Titanium | ppm | <1 | 0 | 0 | 0 |
| Silver | ppm | 0 | 0 | 0 | <1 |
| Manganese | ppm | 0 | <1 | <1 | <1 |
| Vanadium | ppm | <1 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|-------------|-----|------|------|
| Calcium | ppm | 1113 | 583 | 1059 | 815 |
| Magnesium | ppm | 707 | 555 | 919 | 1078 |
| Zinc | ppm | 891 | 716 | 1223 | 1264 |
| Phosphorus | ppm | 788 | 572 | 982 | 953 |
| Barium | ppm | 0 | 0 | <1 | 0 |
| Boron | ppm | 46 | 0 | <1 | 21 |

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected 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: VOLVO8885
Unique No: 10712815
Signed: Wes Davis
Report Date: 30 Oct 2023



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GRAPHS

