CONSTRUCTION EQUIPMENT

LIEBHERR LH50M 1216-120131 - Diesel Engine

Sample No: LHMC99420

Oil Type: LB 15W40

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SAMPLE INFORMATION

| Sample Number | LHMC99420 | LH0206761 | LH0206747 | |
|---------------|-------------|-------------|-------------|--|
| Sample Date | 30 Jun 2023 | 28 Mar 2022 | 23 Jun 2021 | |
| Machine Hours | 2616 | 1500 | 506 | |
| Oil Hours | 966 | 0 | 0 | |
| Oil Changed | Changed | N/A | Not Changd | |
| Sample Status | ABNORMAL | ABNORMAL | ABNORMAL | |

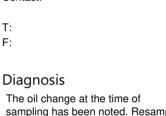
| Visc @ 100°C | cSt | <mark>()</mark> 11.2 | 0 11.7 | 12.0 | |
|------------------|----------|----------------------|--------|------|--|
| Base Number (BN) | mg KOH/g | 0 11.4 | 03.3 | | |
| Oxidation (PA) | % | 73 | 212 | 198 | |
| | | | | | |

| Soot % | % | 0.1 | 0.1 | 0.1 | |
|----------------|-----|--------------------|------|------|--|
| Nitration (PA) | % | 124 | 128 | 89 | |
| Sulfation (PA) | % | 55 | 114 | 111 | |
| Glycol | % | NEG | NEG | NEG | |
| Fuel | % | <mark>)</mark> 2.1 | <1.0 | <1.0 | |
| Silicon | ppm | 08 | 08 | 07 | |
| Sodium | ppm | 0 | 2 | 2 | |
| Potassium | ppm | 03 | 0 6 | 6 | |

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| Iron | ppm | 0 16 | 24 | 0 12 | |
|------------|-----|-------------|-------|-------|--|
| Copper | ppm | 51 | 0 349 | 0 449 | |
| Lead | ppm | 01 | 0 12 | 0 4 | |
| Tin | ppm | ○ <1 | 0 2 | 0 1 | |
| Aluminum | ppm | 04 | 2 | 0 | |
| Chromium | ppm | ○ <1 | 01 | ◯ <1 | |
| Molybdenum | ppm | 04 | 38 | 0 46 | |
| Nickel | ppm | 0 🔘 | 0 | 0 | |
| Titanium | ppm | <1 | <1 | <1 | |
| Silver | ppm | 0 🔘 | <1 | <1 | |
| Manganese | ppm | <1 | 2 | 2 | |
| Vanadium | ppm | 0 | 0 | 0 | |

ADDITIVES Calcium 0 4078 0 1430 ppm 0 1327 Magnesium 0 89 0 934 0 869 ppm Zinc 0 1146 0 976 0 879 ppm Phosphorus 0 1008 0 725 0 699 ppm Barium ppm ◯ <1 0 () 28 Boron 0 215 0 188 ppm 0 51



sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

ELGMCK 10559210 Wes Davis 17 Jul 2023



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