

LIEBHERR

CONSTRUCTION EQUIPMENT



U23.04.90019 - Diesel Engine

Sample No: LH0266059

Oil Type: LIEBHERR MOTOROIL 5W30



SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-------------|-----|-----|
| Sample Number | LH0266059 | LH0266058 | --- | --- |
| Sample Date | 30 Jan 2024 | 07 Jan 2024 | --- | --- |
| Machine Hours | 9829 | 0 | --- | --- |
| Oil Hours | 0 | 0 | --- | --- |
| Oil Changed | N/A | N/A | --- | --- |
| Sample Status | NORMAL | NORMAL | --- | --- |

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OIL CONDITION

| | | | | | |
|------------------|----------|------|------|-----|-----|
| Visc @ 100°C | cSt | 13.6 | 13.7 | --- | --- |
| Base Number (BN) | mg KOH/g | 9.8 | 9.9 | --- | --- |
| Oxidation (PA) | % | 72 | 67 | --- | --- |

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.



CONTAMINATION

| | | | | | |
|----------------|-----|------|------|-----|-----|
| Water | % | NEG | NEG | --- | --- |
| Soot % | % | 0.3 | 0.1 | --- | --- |
| Nitration (PA) | % | 83 | 63 | --- | --- |
| Sulfation (PA) | % | 52 | 50 | --- | --- |
| Glycol | % | NEG | NEG | --- | --- |
| Fuel | % | <1.0 | <1.0 | --- | --- |
| Silicon | ppm | 10 | 10 | --- | --- |
| Sodium | ppm | 29 | 22 | --- | --- |
| Potassium | ppm | <1 | 2 | --- | --- |



WEAR METALS

| | | | | | |
|------------|-----|----|----|-----|-----|
| Iron | ppm | 29 | 8 | --- | --- |
| Copper | ppm | 32 | 18 | --- | --- |
| Lead | ppm | 3 | 5 | --- | --- |
| Tin | ppm | 4 | 2 | --- | --- |
| Aluminum | ppm | 3 | 2 | --- | --- |
| Chromium | ppm | <1 | <1 | --- | --- |
| Molybdenum | ppm | 5 | 4 | --- | --- |
| Nickel | ppm | 0 | 0 | --- | --- |
| Titanium | ppm | 0 | 0 | --- | --- |
| Silver | ppm | <1 | 0 | --- | --- |
| Manganese | ppm | 1 | <1 | --- | --- |
| Vanadium | ppm | 0 | 0 | --- | --- |



ADDITIVES

| | | | | | |
|------------|-----|------|------|-----|-----|
| Calcium | ppm | 1562 | 1699 | --- | --- |
| Magnesium | ppm | 640 | 678 | --- | --- |
| Zinc | ppm | 807 | 943 | --- | --- |
| Phosphorus | ppm | 777 | 874 | --- | --- |
| Barium | ppm | 33 | 27 | --- | --- |
| Boron | ppm | 152 | 176 | --- | --- |

Depot: REMAN
Unique No: 10896463
Signed: Don Baldrige
Report Date: 26 Feb 2024



GRAPHS

