

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR PR766 027905-1681 - Diesel Engine

Sample No: LH0254475

Oil Type: LIEBHERR MOTOROIL 5W30



Sample Information

| Sample Number | LH0254475 | LH0254558 | LH0254251 | LH0254468 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 22 May 2024 | 09 Apr 2024 | 19 Mar 2024 | 15 Feb 2024 |
| Machine Hours | 2389 | 1627 | 1016 | 301 |
| Oil Hours | 762 | 611 | 566 | 301 |
| Oil Changed | Changed | Changed | Changed | Changed |
| Sample Status | NORMAL | ABNORMAL | NORMAL | NORMAL |

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Oil Condition

| Visc @ 100°C | cSt | 10.9 | 11.0 | 11.3 | 11.9 |
|------------------|----------|------|------|------|------|
| Base Number (BN) | mg KOH/g | 6.5 | 6.6 | 6.4 | 6.0 |
| Oxidation (PA) | % | 56 | 61 | 80 | 196 |



Contamination

| Water | % | NEG | NEG | NEG | NEG |
|----------------|-----|------|------|------|------|
| Soot % | % | 0.1 | 0.1 | 0.1 | 0.1 |
| Nitration (PA) | % | 76 | 73 | 75 | 83 |
| Sulfation (PA) | % | 53 | 53 | 61 | 107 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | 4 | 3 | 4 | 9 |
| Sodium | ppm | 2 | 2 | 2 | 0 |
| Potassium | ppm | 4 | 5 | 3 | 4 |



Wear Metals

| | | | | | |
|------------|-----|-----|-----|----|----|
| Iron | ppm | 5 | 3 | 5 | 14 |
| Copper | ppm | 110 | 131 | 49 | 27 |
| Lead | ppm | 3 | <1 | 2 | 0 |
| Tin | ppm | 1 | 0 | <1 | <1 |
| Aluminum | ppm | 1 | 0 | <1 | 2 |
| Chromium | ppm | 0 | 0 | 0 | <1 |
| Molybdenum | ppm | 1 | <1 | 7 | 49 |
| Nickel | ppm | 0 | 0 | 0 | 0 |
| Titanium | ppm | <1 | 0 | 0 | <1 |
| Silver | ppm | 0 | 0 | 0 | 0 |
| Manganese | ppm | <1 | 0 | <1 | 6 |
| Vanadium | ppm | <1 | 0 | 0 | 0 |



Additives

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 1492 | 1526 | 1328 | 1232 |
| Magnesium | ppm | 774 | 720 | 729 | 857 |
| Zinc | ppm | 918 | 838 | 849 | 858 |
| Phosphorus | ppm | 812 | 794 | 754 | 758 |
| Barium | ppm | 1 | <1 | 6 | 28 |
| Boron | ppm | 45 | 73 | 63 | 129 |

Diagnosis

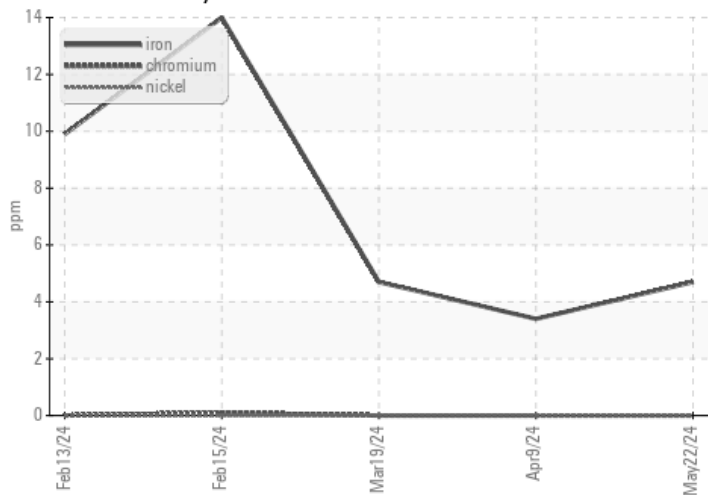
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: LEC0051
Unique No: 11095992
Signed: Don Baldrige
Report Date: 25 Jun 2024

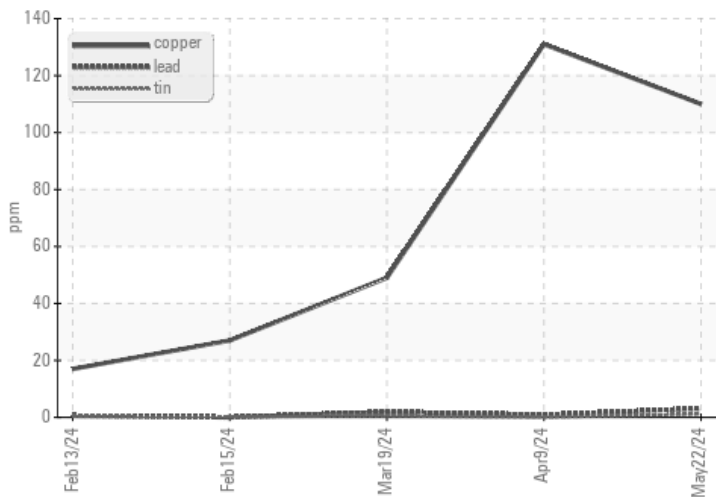


Graphs

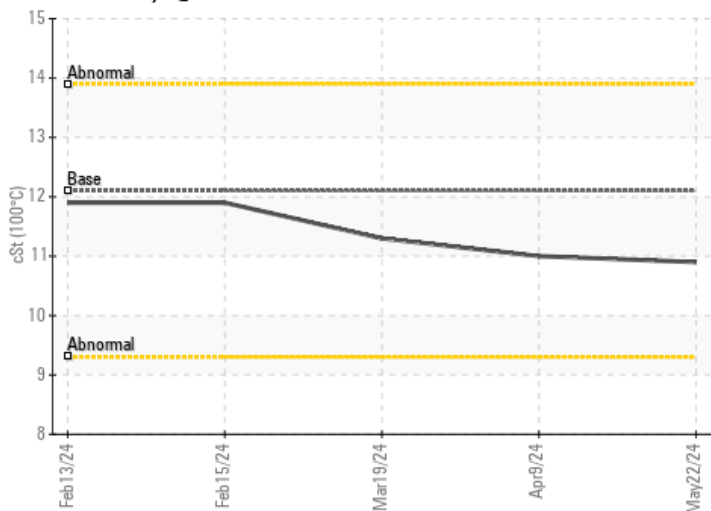
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

