

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR PR766 027905-1681 - Left Final Drive

Sample No: LH0254543

Oil Type: GEAR OIL SAE 80W140



HEAVY MACHINES INC.
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Sample Information

| Sample Number | LH0254543 | LH0254554 | LH0254252 | LH0254464 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 21 Jun 2024 | 09 Apr 2024 | 14 Mar 2024 | 15 Feb 2024 |
| Machine Hours | 3093 | 1627 | 1016 | 301 |
| Oil Hours | 703 | 1627 | 1016 | 301 |
| Oil Changed | Not Changd | Not Changd | Not Changd | Not Changd |
| Sample Status | SEVERE | ABNORMAL | ABNORMAL | NORMAL |



Oil Condition

| Visc @ 40°C | cSt | 344 | 263 | 268 | 273 |
|-------------|-----|-----|-----|-----|-----|
| | | | | | |



Contamination

| Water | % | NEG | NEG | NEG | NEG |
|-----------|-----|-----|-----|-----|-----|
| Silicon | ppm | 3 | 15 | 16 | 14 |
| Sodium | ppm | 2 | 4 | 3 | 4 |
| Potassium | ppm | 2 | <1 | 3 | <1 |



Wear Metals

| | | | | | |
|------------|-----|-----|-----|-----|----|
| Iron | ppm | 57 | 147 | 87 | 96 |
| Copper | ppm | 497 | 450 | 122 | 54 |
| Lead | ppm | 3 | 0 | <1 | 1 |
| Tin | ppm | 10 | 10 | 4 | 1 |
| Aluminum | ppm | <1 | 2 | 3 | 3 |
| Chromium | ppm | <1 | 1 | 2 | 1 |
| Molybdenum | ppm | 2 | 10 | 10 | 8 |
| Nickel | ppm | 0 | <1 | <1 | 0 |
| Titanium | ppm | 0 | <1 | <1 | <1 |
| Silver | ppm | 0 | 0 | 0 | 0 |
| Manganese | ppm | <1 | 2 | 2 | 2 |
| Vanadium | ppm | 0 | 0 | <1 | <1 |



Additives

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 20 | 92 | 93 | 85 |
| Magnesium | ppm | 2 | 3 | 3 | <1 |
| Zinc | ppm | 29 | 72 | 59 | 37 |
| Phosphorus | ppm | 1239 | 1216 | 1002 | 1162 |
| Barium | ppm | 21 | 128 | 125 | 143 |
| Boron | ppm | <1 | 2 | 2 | <1 |

Diagnosis

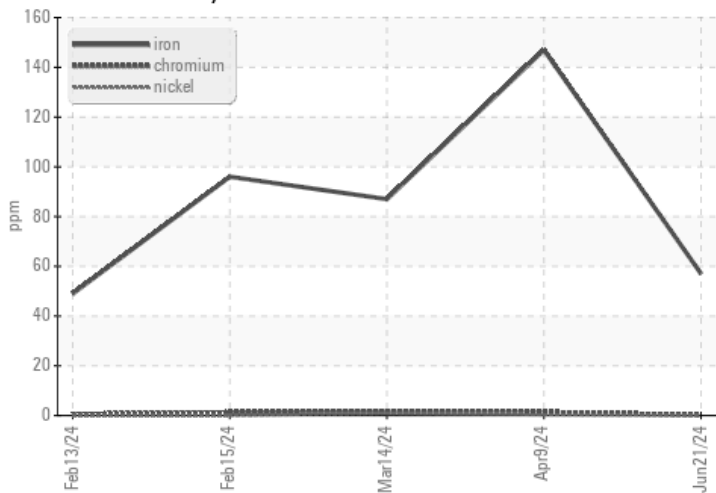
We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The copper level is severe. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

Depot: LEC0051
 Unique No: 11127073
 Signed: Sean Felton
 Report Date: 18 Jul 2024

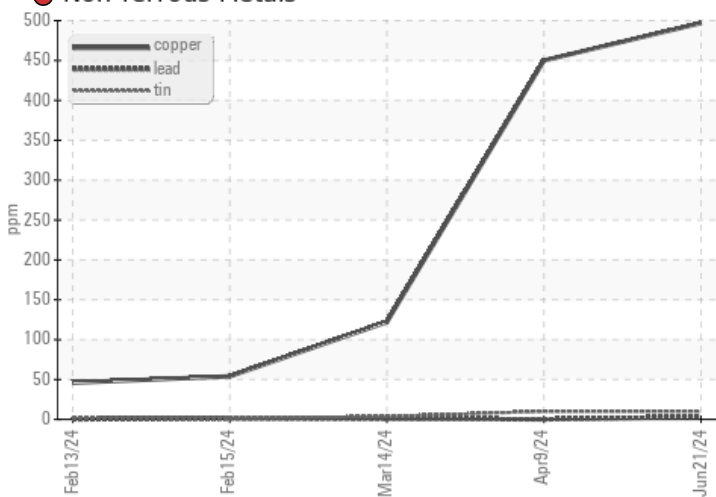


Graphs

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C

