

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R920 043304-1705 - Right Final Drive

Sample No: LH0254111

Oil Type: LIEBHERR GEAR BASIC 90 LS



SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-------------|-------------|-------------|
| Sample Number | LH0254111 | LH0207419 | LHMC129104 | LHMC121337 |
| Sample Date | 20 Apr 2023 | 15 Jul 2022 | 28 Jun 2018 | 18 Sep 2017 |
| Machine Hours | 3738 | 3190 | 1040 | 516 |
| Oil Hours | 548 | 0 | 505 | 516 |
| Oil Changed | Changed | Not Chngd | Changed | Changed |
| Sample Status | SEVERE | ABNORMAL | SEVERE | NORMAL |

ACECO

10119 RESIDENCY ROAD
MANASSAS, VA
US 20110
Contact: RON BROCK



OIL CONDITION

| | | | | | |
|-------------|-----|-----|-----|-------|-------|
| Visc @ 40°C | cSt | 349 | 359 | 198.6 | 192.9 |
|-------------|-----|-----|-----|-------|-------|

T: (703)392-0111
F: (703)331-5604



CONTAMINATION

| | | | | | |
|-----------|-----|-----|----|-----|----|
| Silicon | ppm | 445 | 92 | 634 | 15 |
| Sodium | ppm | 4 | 2 | 8 | 3 |
| Potassium | ppm | 23 | 8 | 51 | 2 |

Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is higher than normal. Confirm oil type. The oil is no longer serviceable due to the presence of contaminants.



WEAR METALS

| | | | | | |
|------------|-----|------|-----|-----|----|
| Iron | ppm | 1315 | 355 | 789 | 73 |
| Copper | ppm | <1 | <1 | <1 | <1 |
| Lead | ppm | 0 | <1 | 0 | 0 |
| Tin | ppm | 0 | 0 | 0 | 0 |
| Aluminum | ppm | 89 | 32 | 260 | 6 |
| Chromium | ppm | 16 | 4 | 8 | 1 |
| Molybdenum | ppm | 1 | <1 | 0 | 0 |
| Nickel | ppm | 4 | <1 | 2 | 0 |
| Titanium | ppm | 7 | 2 | 15 | <1 |
| Silver | ppm | 0 | <1 | 0 | 0 |
| Manganese | ppm | 15 | 4 | 6 | 1 |
| Vanadium | ppm | <1 | 0 | <1 | 0 |



ADDITIVES

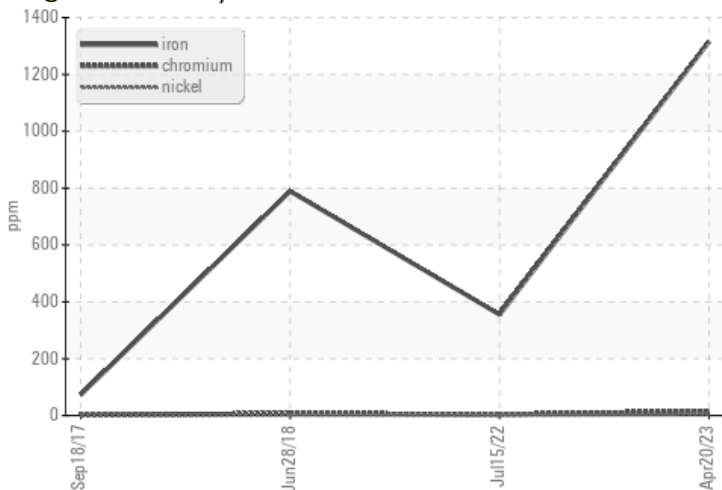
| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 40 | 89 | 42 | 11 |
| Magnesium | ppm | 11 | 4 | 21 | 5 |
| Zinc | ppm | 20 | 36 | 14 | 9 |
| Phosphorus | ppm | 1342 | 1175 | 2002 | 2047 |
| Barium | ppm | 0 | 0 | 2 | 1 |
| Boron | ppm | 0 | 4 | 2 | 5 |

Depot: ACEMAN
Unique No: 10550487
Signed: Sean Felton
Report Date: 12 Jul 2023

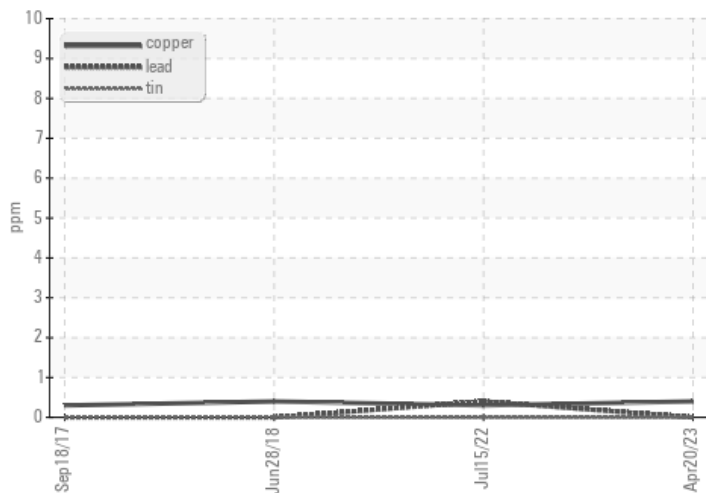


GRAPHS

● Ferrous Alloys



Non-ferrous Metals



● Viscosity @ 40°C

