



LIEBHERR

OIL ANALYSIS REPORT

| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |



Machine Id
LIEBHERR LH110CP 134678-1228
Component
Swing Drive
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0244663 | LH0243292 | LH0217055 |
| Sample Date | | Client Info | | 11 Jan 2024 | 10 Jul 2023 | 31 May 2022 |
| Machine Age | hrs | Client Info | | 4973 | 3458 | 1000 |
| Oil Age | hrs | Client Info | | 0 | 0 | 1000 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Not Changd | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >750 | 56 | 28 | 49 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >250 | 80 | 62 | 16 |
| Tin | ppm | ASTM D5185m | >10 | 15 | 8 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

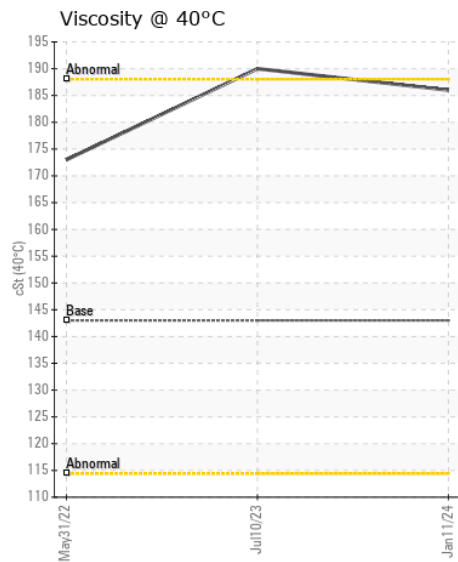
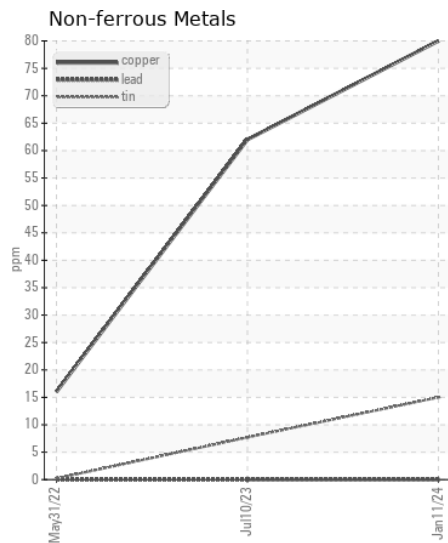
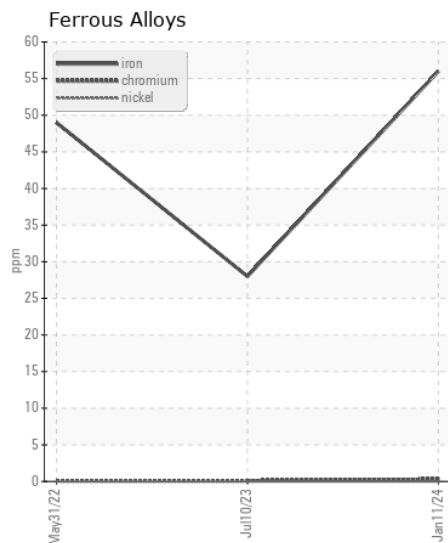
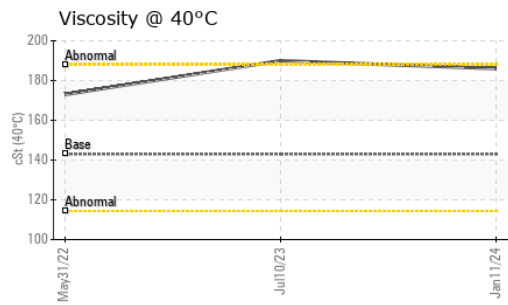
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >15 | 1 | 2 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| | | | | | | |
|-------------|-----|-------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | >170 | 0 | 1 | <1 |
| Boron | ppm | ASTM D5185m | 400 | 2 | 5 | 3 |
| Barium | ppm | ASTM D5185m | 200 | 0 | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m | 12 | <1 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 12 | 0 | 2 | <1 |
| Calcium | ppm | ASTM D5185m | 150 | 12 | 9 | 22 |
| Phosphorus | ppm | ASTM D5185m | 1650 | 2334 | 2547 | 2253 |
| Zinc | ppm | ASTM D5185m | 125 | 0 | 10 | 19 |
| Sulfur | ppm | ASTM D5185m | 22500 | 30500 | 35260 | 32354 |
| Visc @ 40°C | cSt | ASTM D445 | 143 | 186 | 190 | 173 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0244663 **Recieved** : 16 Jan 2024
Lab Number : 06061544 **Diagnosed** : 17 Jan 2024
Unique Number : 10832926 **Diagnostician** : Don Baldrige
Test Package : CONST

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)