



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR LH50M 137429
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | LH0284882 | --- | --- |
| Sample Date | | Client Info | | 01 Feb 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 8133 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Not Changd | --- | --- |
| Filter Changed | | Client Info | | N/A | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >60 | 3 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >40 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >5 | <1 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >5 | <1 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >15 | <1 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >5 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

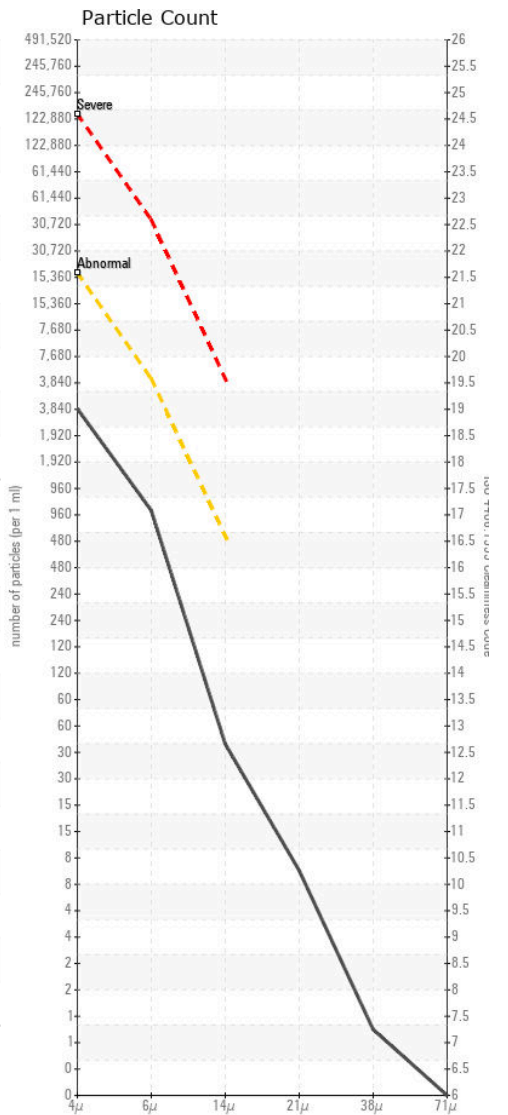
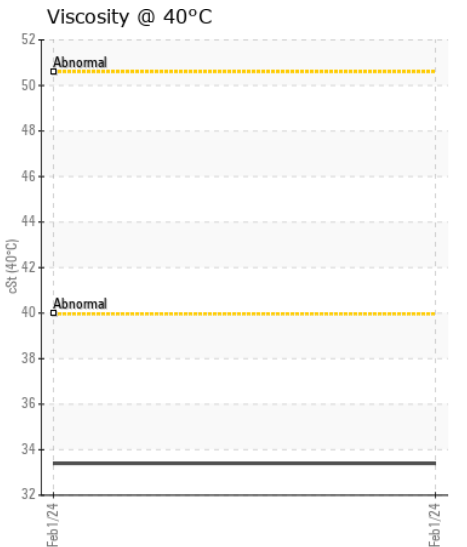
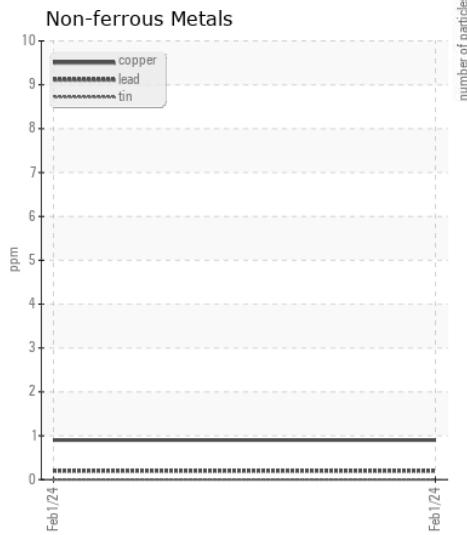
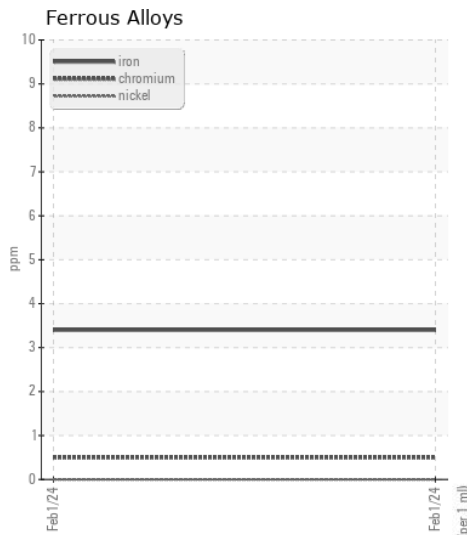
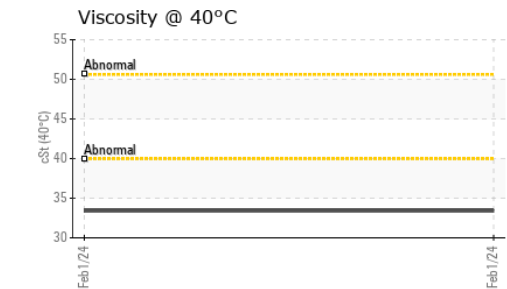
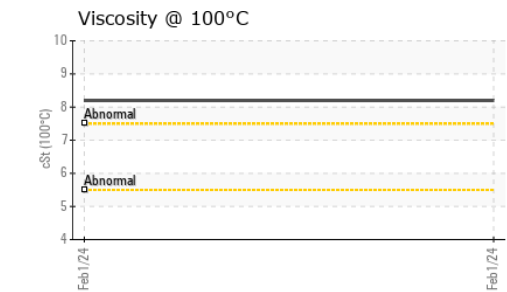
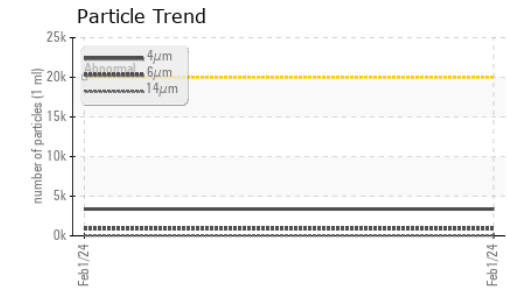
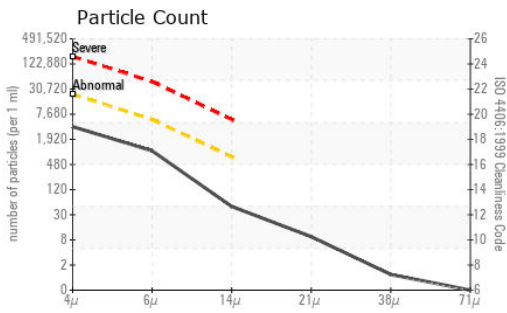
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

| | | | | | | |
|------------------|----------|---------------|-----------|-----------------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >15 | <1 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | --- | --- |
| Water | | WC Method | >0.1 | NEG | --- | --- |
| Soot % | % | ASTM D7844* | | 0 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | | 2.2 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | | 34.6 | --- | --- |
| Particles >4µm | | ASTM D7647 | >20000 | 3380 | --- | --- |
| Particles >6µm | | ASTM D7647 | >5000 | 891 | --- | --- |
| Particles >14µm | | ASTM D7647 | >640 | 42 | --- | --- |
| Particles >21µm | | ASTM D7647 | >160 | 8 | --- | --- |
| Particles >38µm | | ASTM D7647 | >40 | 1 | --- | --- |
| Particles >71µm | | ASTM D7647 | >10 | 0 | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | 19/17/13 | --- | --- |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | --- | --- |
| Emulsified Water | scalar | Visual* | >0.1 | NEG | --- | --- |

FLUID CONDITION

Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|----------------------|----------|---------------|--|--------------|-----|-----|
| Sodium | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Boron | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | | 1 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | | 164 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 630 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | | 791 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | | 1721 | --- | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | | 27.0 | --- | --- |
| Visc @ 40°C | cSt | ASTM D7279(m) | | 33.4 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | | 8.2 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | | 234 | --- | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0284882 **Received** : 16 Feb 2024
Lab Number : 02616290 **Tested** : 20 Feb 2024
Unique Number : 5733400 **Diagnosed** : 20 Feb 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FT-IR, KV100, PrtCount, VI)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.