



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR LH40M MH-12 (S/N 142301)
Component
Splitter Box
Fluid
LIEBHERR GEAR BASIC 90 LS (10 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0272188 | LH0272197 | LH0258584 |
| Sample Date | | Client Info | | 01 Feb 2024 | 01 Feb 2024 | 30 Oct 2023 |
| Machine Age | hrs | Client Info | | 4277 | 4277 | 1195 |
| Oil Age | hrs | Client Info | | 1323 | 3082 | 1195 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | Changed | Changed |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |

WEAR

The iron level is abnormal. The copper level is abnormal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron | ppm | ASTM D5185m | >100 | ▲ 148 | 137 | 94 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | 2 | <1 |
| Lead | ppm | ASTM D5185m | >30 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | ▲ 22 | ▲ 61 | ▲ 103 |
| Tin | ppm | ASTM D5185m | >10 | 0 | ▲ 6 | ▲ 12 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

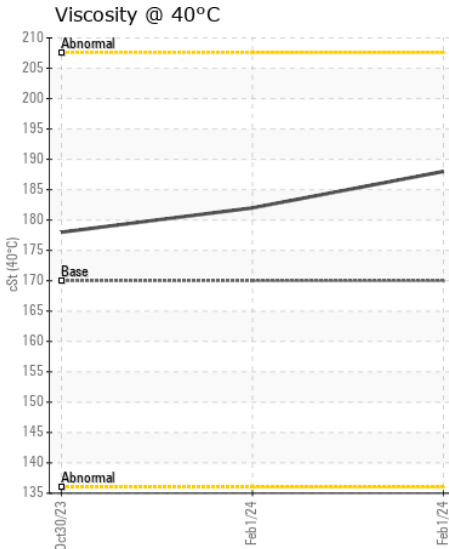
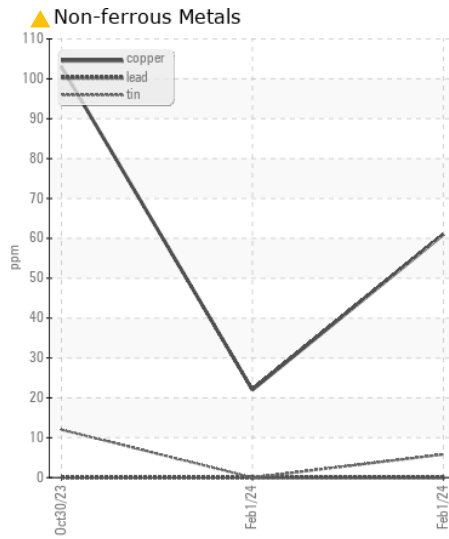
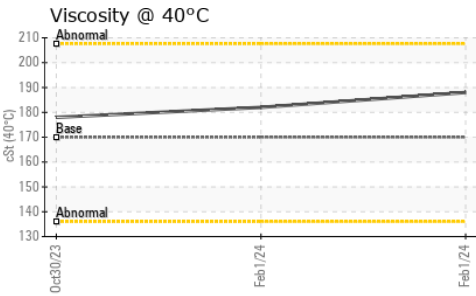
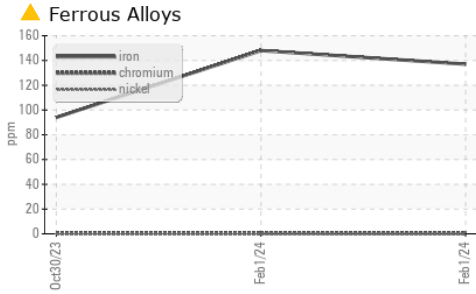
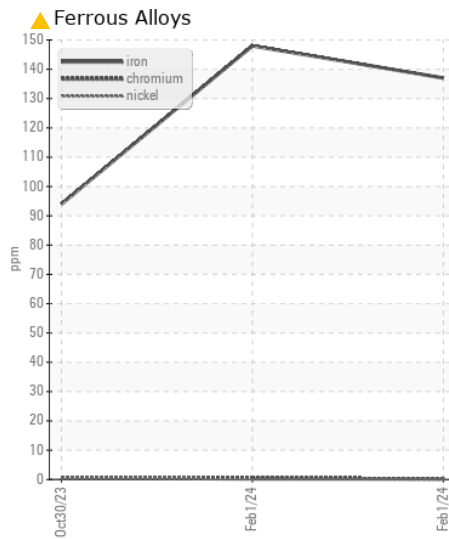
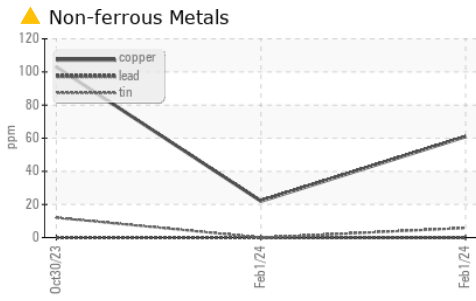
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >30 | <1 | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 1 | 1 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| 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 | >0.1 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|-------------|-----|-------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | >25 | 2 | 0 | 2 |
| Boron | ppm | ASTM D5185m | 0 | 0 | 5 | 2 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 5 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | <1 | 0 | 4 | 6 |
| Calcium | ppm | ASTM D5185m | <1 | 14 | 28 | 36 |
| Phosphorus | ppm | ASTM D5185m | 2143 | 2221 | 2178 | 2279 |
| Zinc | ppm | ASTM D5185m | <1 | 2 | 8 | 17 |
| Sulfur | ppm | ASTM D5185m | 23468 | 27599 | 27746 | 26726 |
| Visc @ 40°C | cSt | ASTM D445 | 170 | 188 | 182 | 178 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0272188
Lab Number : 06086333
Unique Number : 10873778
Test Package : CONST
Received : 12 Feb 2024
Tested : 13 Feb 2024
Diagnosed : 13 Feb 2024 - Sean Felton

JR VINAGRO
 2208 PLAINFIELD PIKE
 JOHNSTON, RI
 US 02919
 Contact: Service Manager

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)

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