



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR R920 056505-1705
Component
Right Final Drive
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.
Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | LH0281017 | --- | --- |
| Sample Date | | Client Info | | 08 Feb 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 528 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | N/A | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >500 | 113 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >10 | 2 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >10 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >25 | 1 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >25 | 0 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >50 | <1 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >10 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

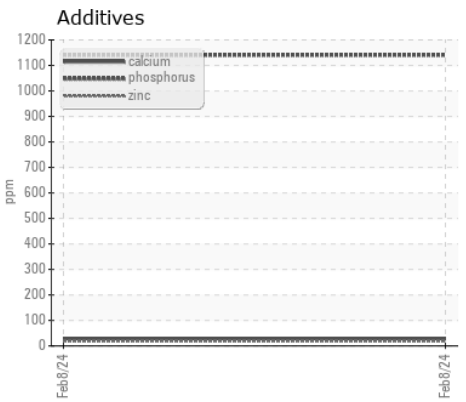
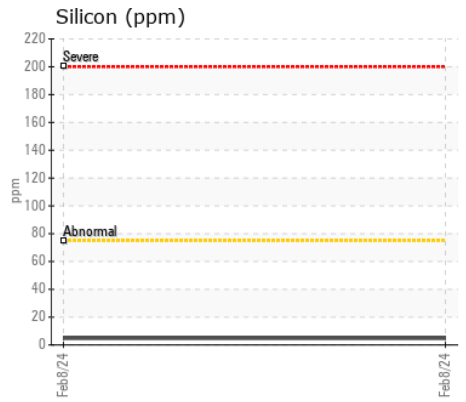
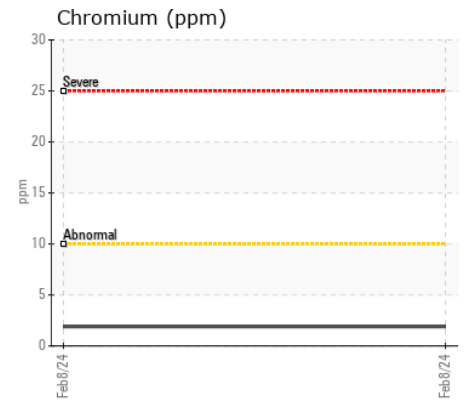
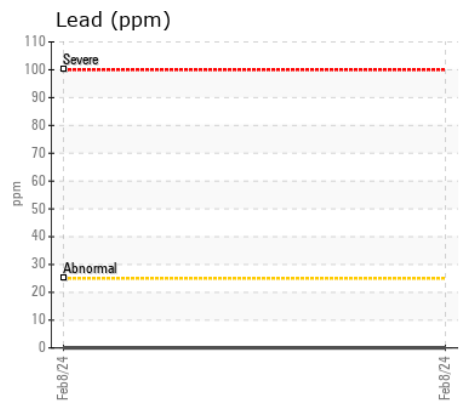
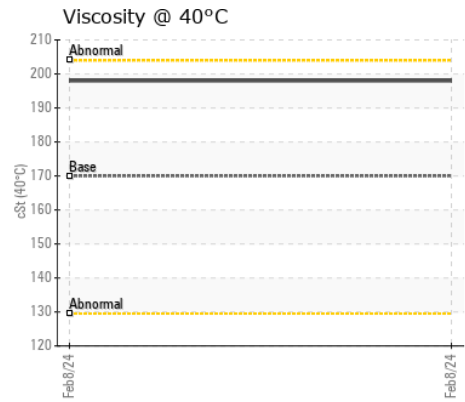
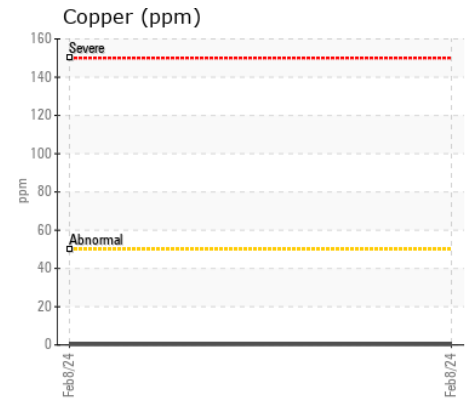
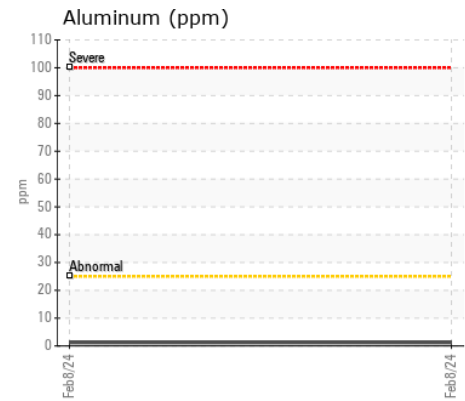
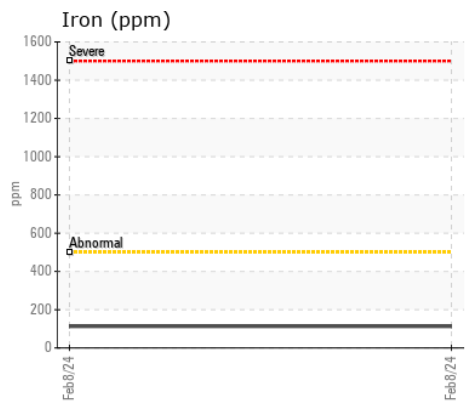
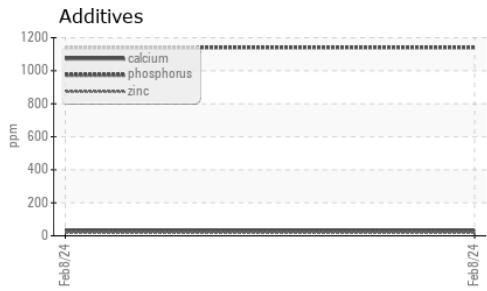
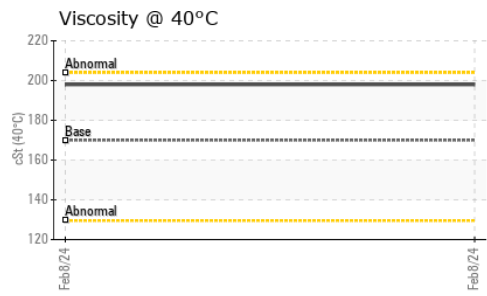
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|---------------|-------|--------------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >75 | 5 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 3 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| 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* | >0.2 | NEG | --- | --- |

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.
The condition of the oil is acceptable for the time in service.

| | | | | | | |
|-------------|-----|---------------|-------|--------------|-----|-----|
| Sodium | ppm | ASTM D5185(m) | | 5 | --- | --- |
| Boron | ppm | ASTM D5185(m) | 0 | 5 | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0 | 24 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | <1 | 1 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | <1 | 29 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 2143 | 1141 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | <1 | 19 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 23468 | 25223 | --- | --- |
| Visc @ 40°C | cSt | ASTM D7279(m) | 170 | 198 | --- | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0281017
Lab Number : 02616789
Unique Number : 5733899
Test Package : MOB 1
Received : 20 Feb 2024
Tested : 20 Feb 2024
Diagnosed : 20 Feb 2024 - Wes Davis

HAYSHAKERS BOBCAT SERVICES
 501 761 HWY
 LESLIEVILLE, AB
 CA T0M 1H0
 Contact: Service Manager

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.

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F: