



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR L580 049453-1464
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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 | | LH0289585 | LH0278907 | LH0247478 |
| Sample Date | | Client Info | | 16 Apr 2024 | 14 Nov 2023 | 27 Jan 2023 |
| Machine Age | hrs | Client Info | | 9909 | 9097 | 7157 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| PQ | UOM | Method | Limit/Abn | Current | History1 | History2 |
|--------------|--------|---------------|-----------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 20 | 22 | 13 |
| Chromium | ppm | ASTM D5185(m) | >10 | 2 | 2 | 1 |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >10 | 3 | 3 | 1 |
| Lead | ppm | ASTM D5185(m) | >10 | 2 | 3 | 3 |
| Copper | ppm | ASTM D5185(m) | >75 | 3 | 3 | 2 |
| Tin | ppm | ASTM D5185(m) | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |

CONTAMINATION

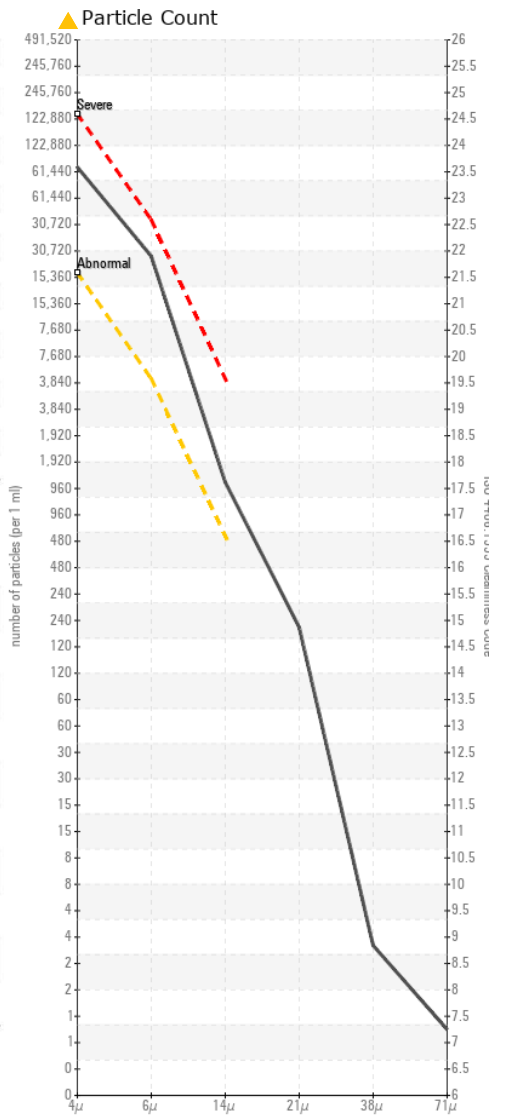
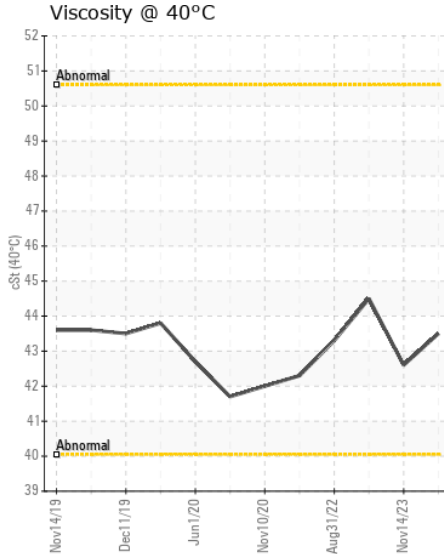
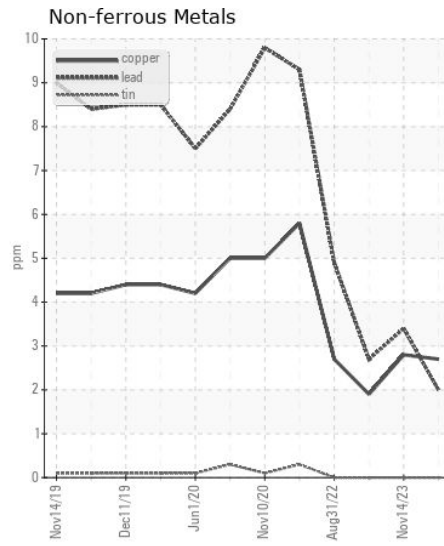
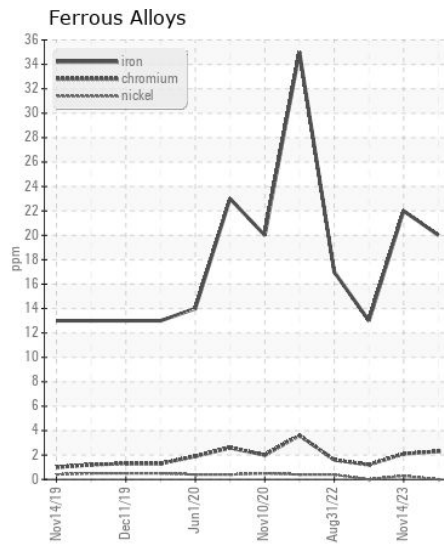
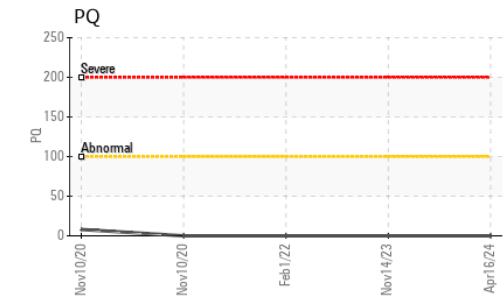
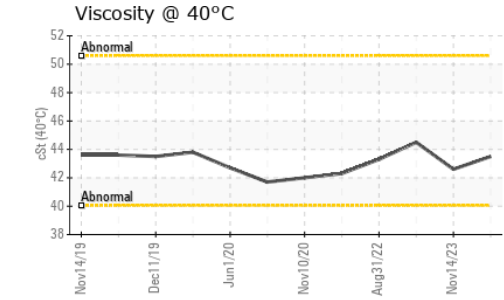
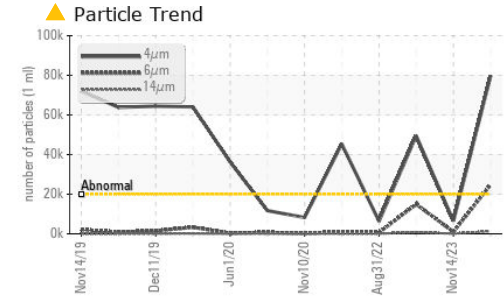
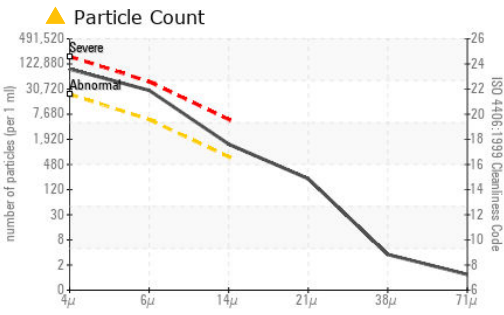
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

| | | | | | | |
|------------------|--------|---------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >20 | 6 | 3 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | 1 | 0 | 0 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >20000 | 79682 | 6496 | 49476 |
| Particles >6µm | | ASTM D7647 | >5000 | 24842 | 977 | 14941 |
| Particles >14µm | | ASTM D7647 | >640 | 1290 | 66 | 769 |
| Particles >21µm | | ASTM D7647 | >160 | 193 | 13 | 93 |
| Particles >38µm | | ASTM D7647 | >40 | 3 | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >10 | 1 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | 23/22/17 | 20/17/13 | 23/21/17 |
| Silt | scalar | Visual* | NONE | VLITE | NONE | NONE |
| Debris | scalar | Visual* | NONE | VLITE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | VLITE |
| 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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| | | | | | | |
|-------------|-----|---------------|--|--------------|------|------|
| Sodium | ppm | ASTM D5185(m) | | 1 | 0 | <1 |
| Boron | ppm | ASTM D5185(m) | | 1 | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | 4 | 3 | 2 |
| Calcium | ppm | ASTM D5185(m) | | 209 | 241 | 257 |
| Phosphorus | ppm | ASTM D5185(m) | | 650 | 635 | 705 |
| Zinc | ppm | ASTM D5185(m) | | 826 | 797 | 821 |
| Sulfur | ppm | ASTM D5185(m) | | 1939 | 1746 | 1871 |
| Visc @ 40°C | cSt | ASTM D7279(m) | | 43.5 | 42.6 | 44.5 |



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289585
Lab Number : 02629736
Unique Number : 5762868
Test Package : MOB 1 (Additional Tests: PQ, PrtCount)

Received : 17 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 18 Apr 2024 - Kevin Marson

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.

Summit Aggregates
 2686 Greenfield Blvd.
 Ayr, ON
 CA N0B 1E0
 Contact: Bill .
 bill@summitagg.com
 T: (519)500-8146
 F: