



LIEBHERR

OIL ANALYSIS REPORT



Area

(336343)

Machine Id

LIEBHERR LH50M 124905-1216

Component

Rear Differential

Fluid

GEAR OIL SAE 75W90 (--- GAL)

WEAR
CONTAMINATION
FLUID CONDITION

NORMAL

NORMAL

ABNORMAL

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 | | LH0225001 | LH0182502 | LH |
| Sample Date | | Client Info | | 27 Jun 2024 | 01 Jun 2021 | 05 May 2021 |
| Machine Age | hrs | Client Info | | 22074 | 4702 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | N/A |
| Filter Changed | | Client Info | | None | None | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|-------|------|-------|
| Iron | ppm | ASTM D5185(m) | >190 | 79 | 20 | 122 |
| Chromium | ppm | ASTM D5185(m) | >2 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | <1 | 1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >5 | 1 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >15 | 0 | <1 | 1 |
| Copper | ppm | ASTM D5185(m) | >70 | 3 | 4 | 15 |
| Tin | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | LIGHT | NONE | LIGHT |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

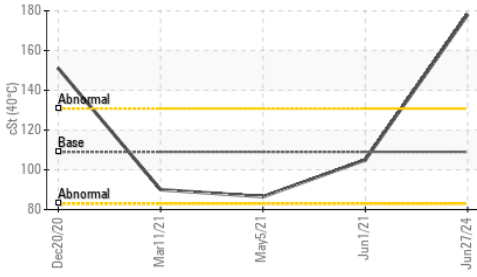
| | | | | | | |
|------------------|--------|---------------|-------|-------|-------|-------|
| Silicon | ppm | ASTM D5185(m) | >20 | 14 | 2 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | <1 | <1 |
| Water | | WC Method | >.2 | NEG | NEG | NEG |
| Silt | scalar | Visual* | NONE | VLITE | NONE | 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* | >.2 | NEG | NEG | NEG |

FLUID CONDITION

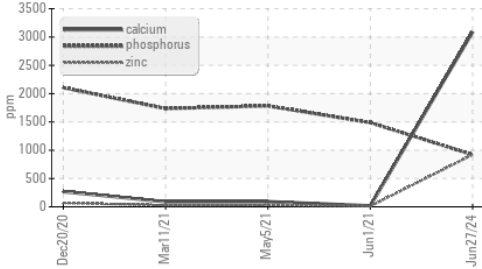
Viscosity of sample indicates oil is within SAE 50 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|-------------|-----|---------------|-------|-------|-------|-------|
| Sodium | ppm | ASTM D5185(m) | | <1 | 1 | 9 |
| Boron | ppm | ASTM D5185(m) | 400 | 37 | 255 | 13 |
| Barium | ppm | ASTM D5185(m) | 200 | <1 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 12 | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185(m) | | <1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185(m) | 12 | 12 | 1 | <1 |
| Calcium | ppm | ASTM D5185(m) | 150 | 3090 | 18 | 91 |
| Phosphorus | ppm | ASTM D5185(m) | 1650 | 920 | 1487 | 1783 |
| Zinc | ppm | ASTM D5185(m) | 125 | 921 | 10 | 31 |
| Sulfur | ppm | ASTM D5185(m) | 22500 | 11173 | 23357 | 30974 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 109 | 178 | 105 | 86.5 |

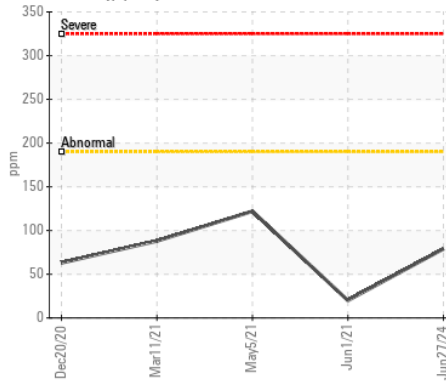
▲ Viscosity @ 40°C



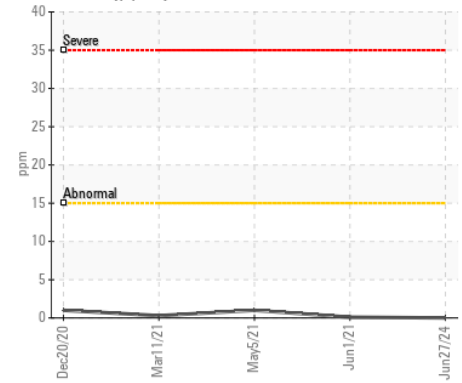
● Additives



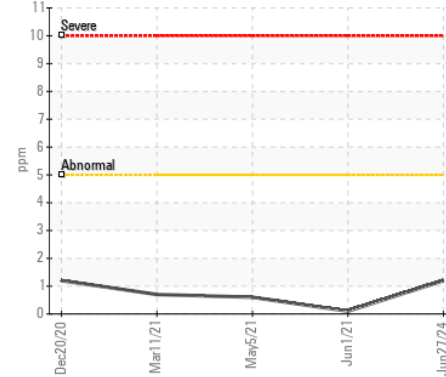
Iron (ppm)



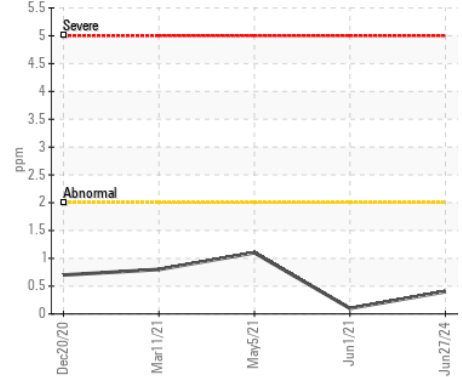
Lead (ppm)



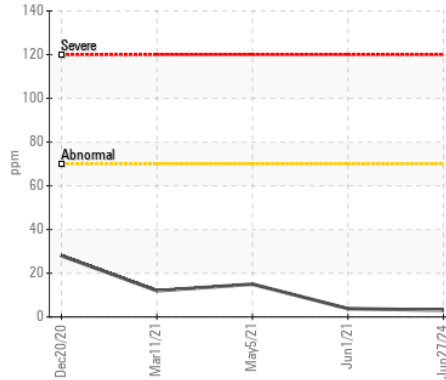
Aluminum (ppm)



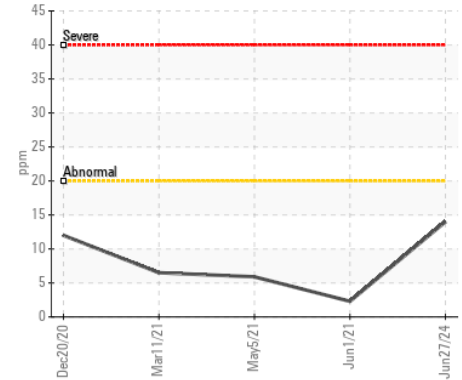
Chromium (ppm)



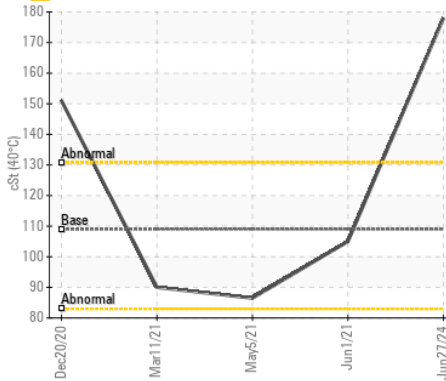
Copper (ppm)



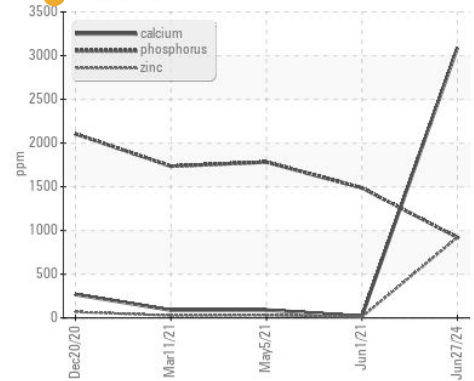
Silicon (ppm)



▲ Viscosity @ 40°C



● Additives



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : LH0225001

Lab Number : 02645550

Unique Number : 5803089

Test Package : MOB 1

Received : 04 Jul 2024

Tested : 04 Jul 2024

Diagnosed : 05 Jul 2024 - Kevin Marson

CANFOR
101-161 E 4TH AVE
VANCOUVER, BC
CA V5T 3C1
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.

T:
F: