



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR LH50M 124550-1216

Component
Swing Drive

Fluid
PETRO CANADA TRAXON SYNTHETIC 75W90 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0278895 | LH0270581 | LH0265847 |
| Sample Date | | Client Info | | 09 Jan 2024 | 01 Aug 2023 | 11 Jun 2023 |
| Machine Age | hrs | Client Info | | 13772 | 11935 | 11340 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Chngd | Changed | Changed |
| Filter Changed | | Client Info | | None | None | None |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|-------|--------------|-------|------|
| Iron | ppm | ASTM D5185(m) | >1450 | <1 | 222 | 230 |
| Chromium | ppm | ASTM D5185(m) | >11 | 0 | 3 | 2 |
| Nickel | ppm | ASTM D5185(m) | >3 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >4 | <1 | <1 | 0 |
| Lead | ppm | ASTM D5185(m) | >4 | 0 | <1 | 1 |
| Copper | ppm | ASTM D5185(m) | >542 | 0 | 38 | 46 |
| Tin | ppm | ASTM D5185(m) | >38 | 0 | <1 | 2 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | NONE | VLITE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |

CONTAMINATION

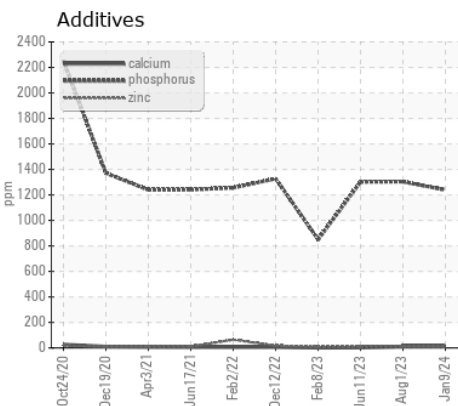
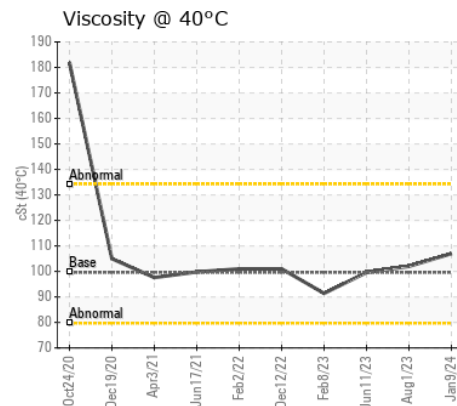
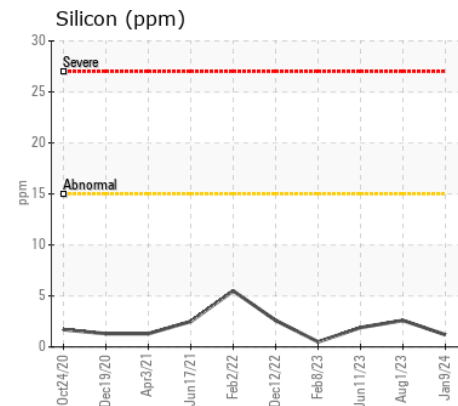
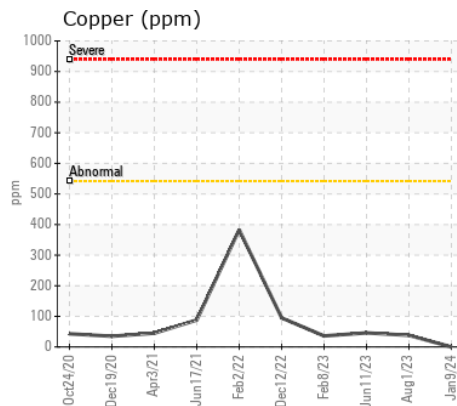
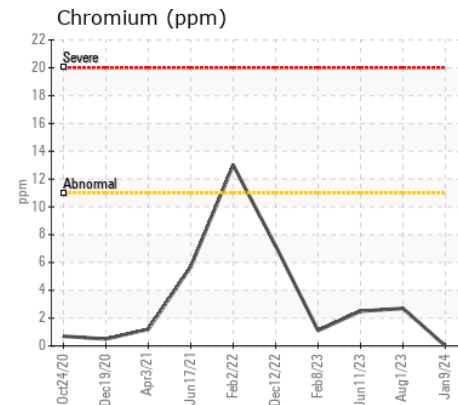
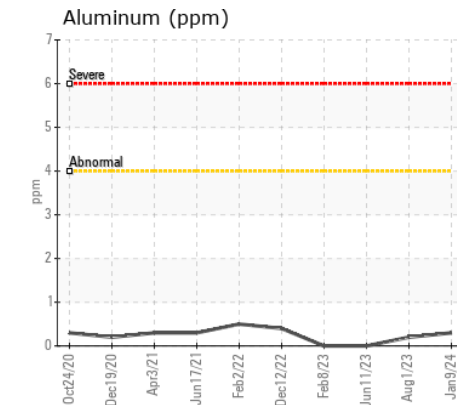
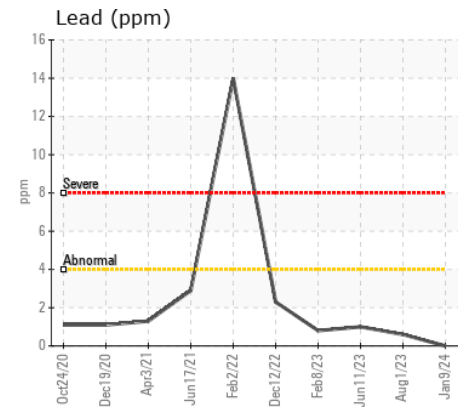
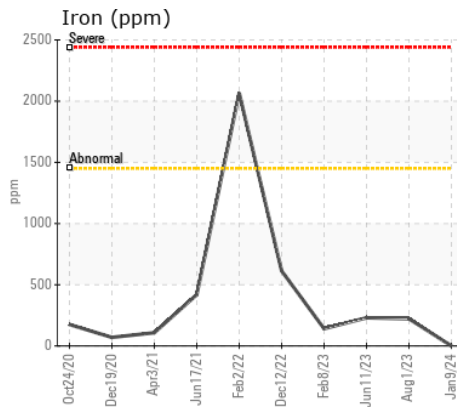
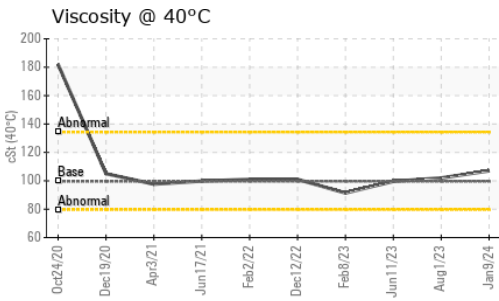
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|---------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185(m) | >15 | 1 | 3 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | <1 | <1 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Silt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | VLITE | 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* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|-------------|-----|---------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |
| Boron | ppm | ASTM D5185(m) | 328 | 300 | 302 | 269 |
| Barium | ppm | ASTM D5185(m) | 1 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185(m) | | 0 | 2 | 2 |
| Magnesium | ppm | ASTM D5185(m) | 1 | 1 | 2 | 1 |
| Calcium | ppm | ASTM D5185(m) | 7 | 13 | 12 | 3 |
| Phosphorus | ppm | ASTM D5185(m) | 1145 | 1239 | 1304 | 1302 |
| Zinc | ppm | ASTM D5185(m) | 3 | 9 | 11 | 8 |
| Sulfur | ppm | ASTM D5185(m) | 17909 | 20718 | 20842 | 21914 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 99.6 | 107 | 102 | 99.6 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 COMBINED METAL INDUSTRIES-PUBLIC YARD
Sample No. : LH0278895 **Received** : 16 Jan 2024
Lab Number : 02609115 **Diagnosed** : 16 Jan 2024
Unique Number : 5710201 **Diagnostician** : Kevin Marson
Test Package : MOB 1

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.

129 FENMAR DR
 TORONTO, ON
 CA M9L 1M7
 Contact: Greg Sacher
 gsacher@combinedmetal.com
 T: (416)642-7262
 F: x: