



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR LH50M 1216-98210
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0289810 | LHMC103024 | LHMC103994 |
| Sample Date | | Client Info | | 27 May 2024 | 16 May 2019 | 26 Feb 2019 |
| Machine Age | hrs | Client Info | | 1000 | 3524 | 2940 |
| Oil Age | hrs | Client Info | | 0 | 0 | 500 |
| Filter Age | hrs | Client Info | | 0 | 0 | 500 |
| Oil Changed | | Client Info | | Changed | N/A | Changed |
| Filter Changed | | Client Info | | Changed | N/A | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >100 | 6 | 4 | 4 |
| Chromium | ppm | ASTM D5185(m) | >5 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | <1 | <1 | 8 |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | <1 | 2 | 1 |
| Lead | ppm | ASTM D5185(m) | >30 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >125 | 3 | 1 | <1 |
| Tin | ppm | ASTM D5185(m) | >5 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

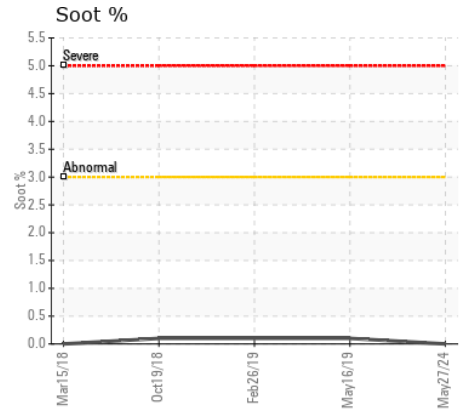
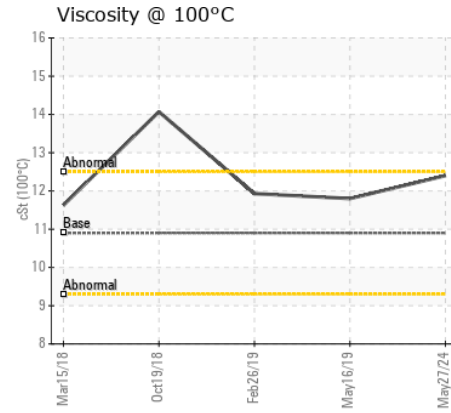
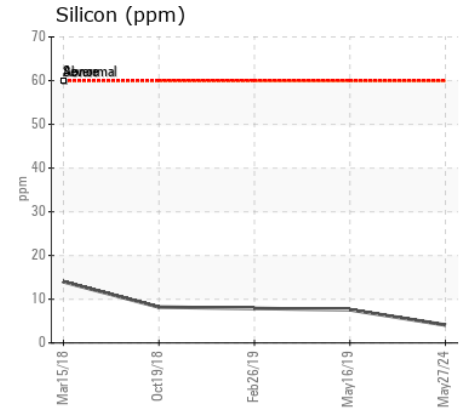
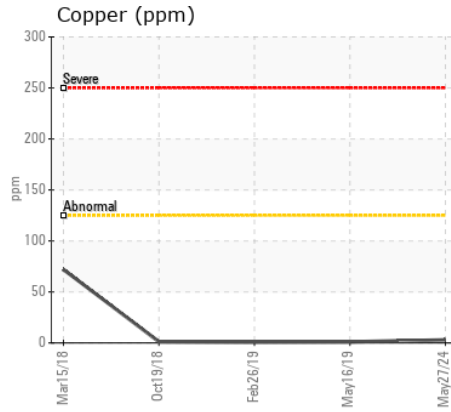
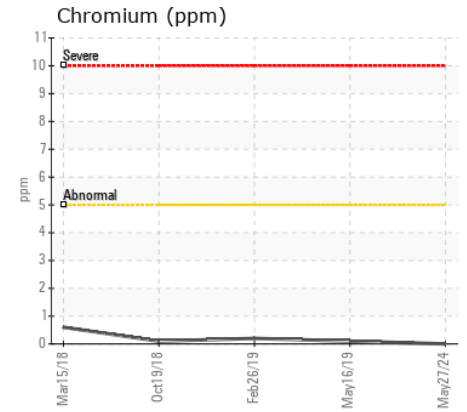
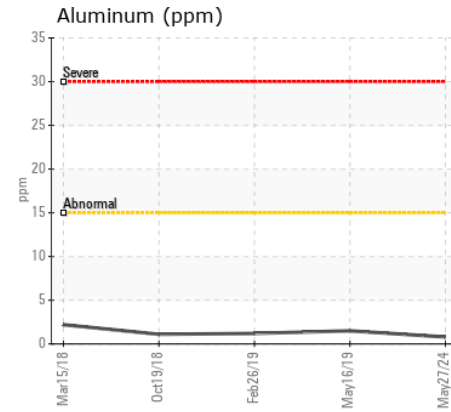
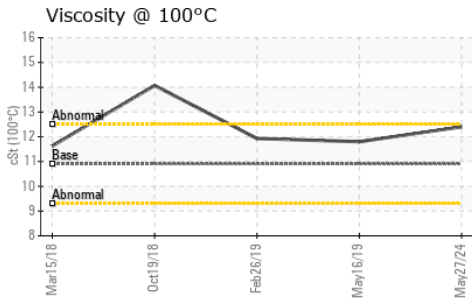
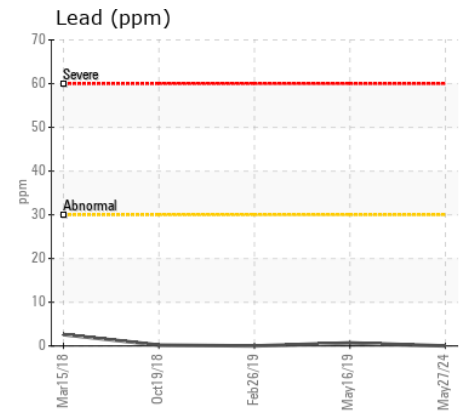
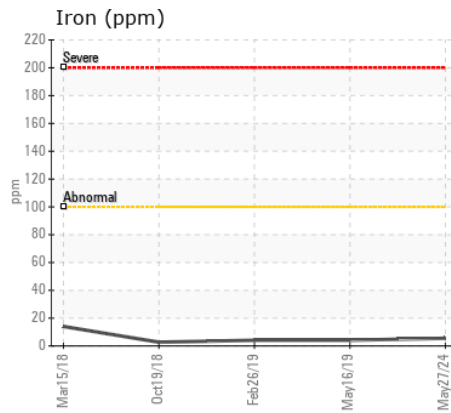
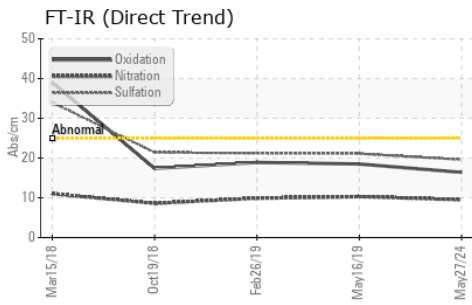
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >60 | 4 | 8 | 8 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 4 | 0 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0 | 0.1 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 9.5 | 10.3 | 9.9 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 19.6 | 21.1 | 21.2 |
| 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 | 5 | 4 |
| Boron | ppm | ASTM D5185(m) | 250 | 2 | 80 | 92 |
| Barium | ppm | ASTM D5185(m) | 10 | <1 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | 57 | 2 | <1 |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 450 | 945 | 673 | 683 |
| Calcium | ppm | ASTM D5185(m) | 3000 | 1051 | 1186 | 1281 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 953 | 643 | 698 |
| Zinc | ppm | ASTM D5185(m) | 1350 | 1149 | 733 | 768 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | 2557 | 2049 | 2327 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 16.4 | 18.5 | 18.9 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 10.9 | 12.4 | 11.8 | 11.93 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289810
Lab Number : 02639567
Unique Number : 5788729
Test Package : MOB 1
Received : 04 Jun 2024
Tested : 05 Jun 2024
Diagnosed : 05 Jun 2024 - Wes Davis

SIMS BROTHERS
 1011 S. PROSPECT ST
 MARION, OH
 US 43302
 Contact: BOB LANCE

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: