



LIEBHERR

OIL ANALYSIS REPORT

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



Machine Id
LIEBHERR R936 047708-1780
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 10W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LH0290733 | LH0239079 | LH0227111 |
| Sample Date | | Client Info | | 28 Jun 2024 | 02 Sep 2022 | 13 Apr 2022 |
| Machine Age | hrs | Client Info | | 4148 | 3079 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >100 | 6 | 4 | 6 |
| Chromium | ppm | ASTM D5185(m) | >5 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 1 | <1 | <1 |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >15 | 1 | 1 | 1 |
| Lead | ppm | ASTM D5185(m) | >30 | 0 | <1 | 2 |
| Copper | ppm | ASTM D5185(m) | >125 | 6 | 7 | 37 |
| Tin | ppm | ASTM D5185(m) | >5 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

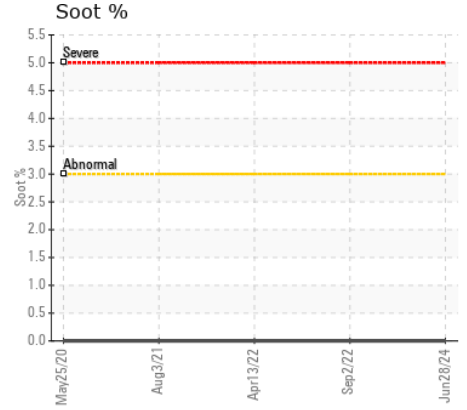
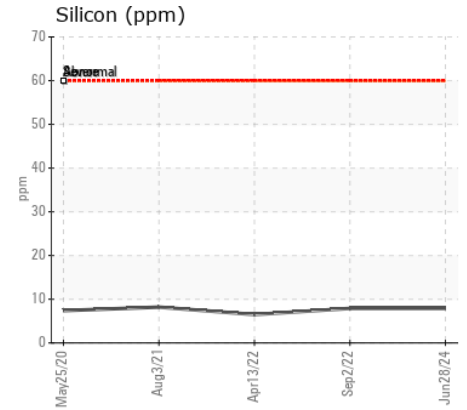
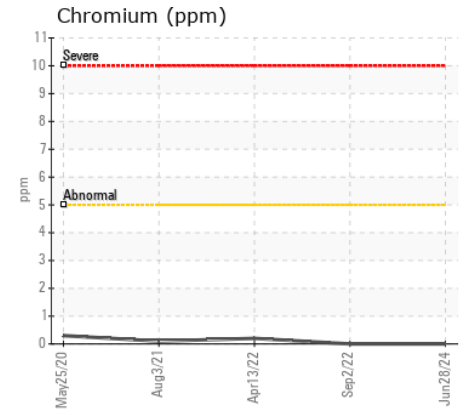
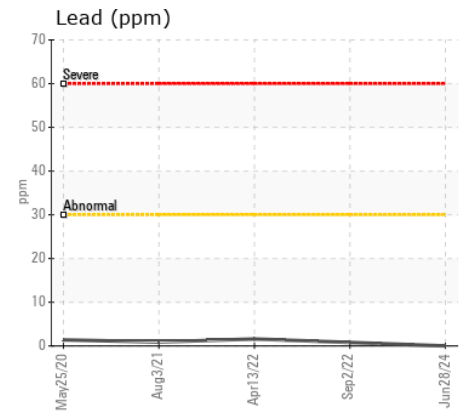
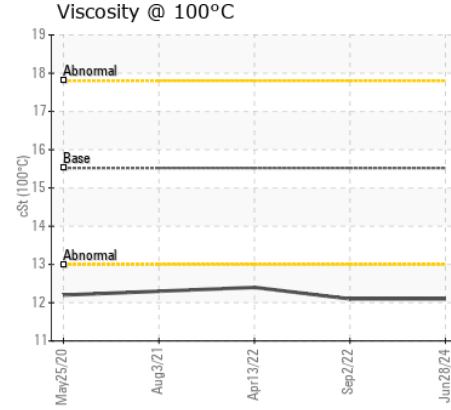
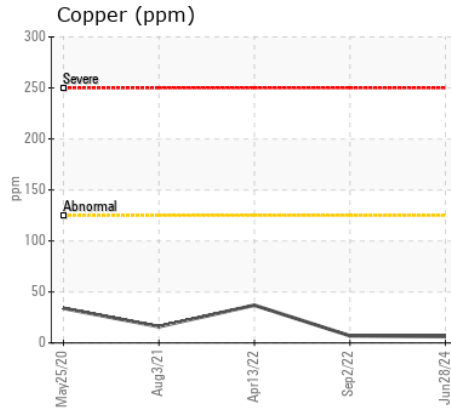
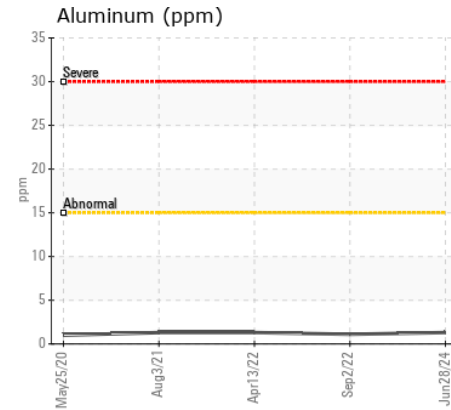
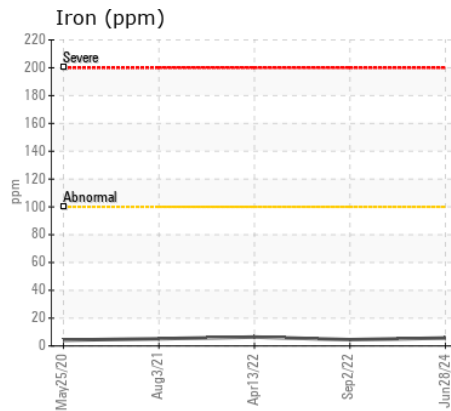
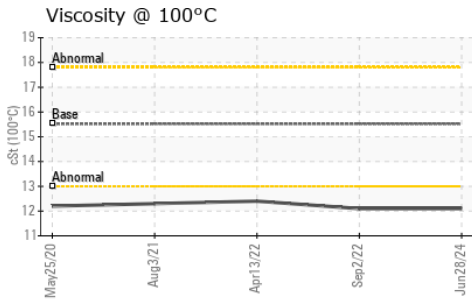
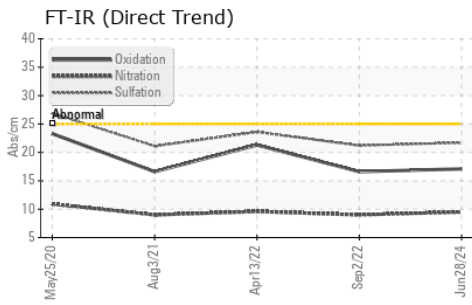
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >60 | 8 | 8 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | 2 | 3 | 8 |
| Fuel | | WC Method | >5 | <1.0 | 1.7 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | 0.0 |
| Soot % | % | ASTM D7844* | >3 | 0 | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 9.5 | 9.0 | 9.6 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 21.7 | 21.2 | 23.6 |
| 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) | | 3 | 3 | 6 |
| Boron | ppm | ASTM D5185(m) | 2 | 41 | 48 | 28 |
| Barium | ppm | ASTM D5185(m) | 0 | <1 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 4 | <1 | <1 |
| Manganese | ppm | ASTM D5185(m) | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 709 | 565 | 154 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 1269 | 1312 | 2002 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 949 | 985 | 1021 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1135 | 1022 | 1224 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 2973 | 3097 | 3266 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 17.1 | 16.6 | 21.3 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.52 | 12.1 | 12.1 | 12.4 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0290733
Lab Number : 02645744
Unique Number : 5803283
Test Package : MOB 1

EQUIPMENT ST-ARNEAULT
 350 RANG SUD
 STE-GENEVIEVE-DE-BATISCAN, QC
 CA G0X 1A0
 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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