



OIL ANALYSIS REPORT

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

Machine Id
FREIGHTLINER 52904
Component
Diesel Engine
Fluid
PETRO CANADA DURON SAE 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0909574 | WC0892039 | WC0863980 |
| Sample Date | | Client Info | | 14 Mar 2024 | 12 Jan 2024 | 07 Oct 2023 |
| Machine Age | kms | Client Info | | 373263 | 551849 | 0 |
| Oil Age | kms | Client Info | | 30361 | 0 | 0 |
| Filter Age | kms | Client Info | | 30361 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|-----------|----|----|
| Iron | ppm | ASTM D5185(m) | >65 | 14 | 11 | 19 |
| Chromium | ppm | ASTM D5185(m) | >5 | 1 | <1 | 2 |
| Nickel | ppm | ASTM D5185(m) | >3 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >35 | 8 | 6 | 9 |
| Lead | ppm | ASTM D5185(m) | >10 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >180 | 4 | 5 | 6 |
| Tin | ppm | ASTM D5185(m) | >8 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

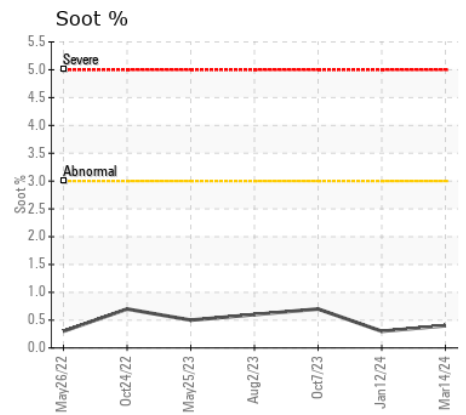
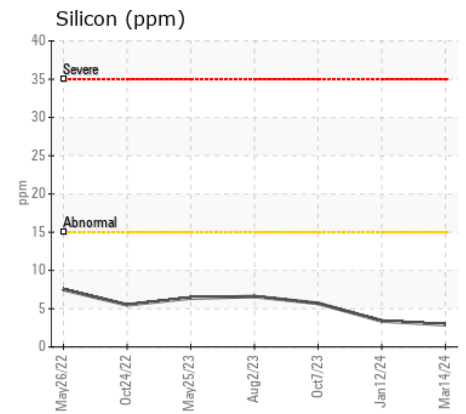
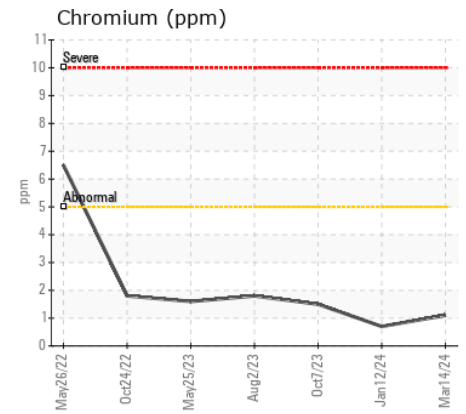
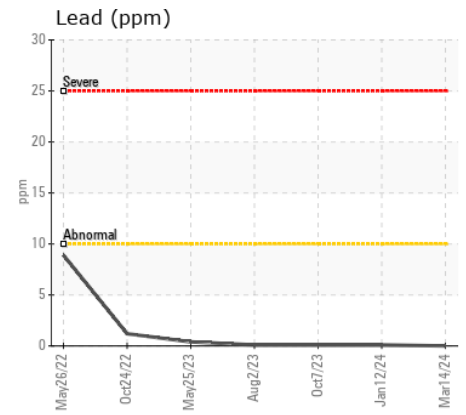
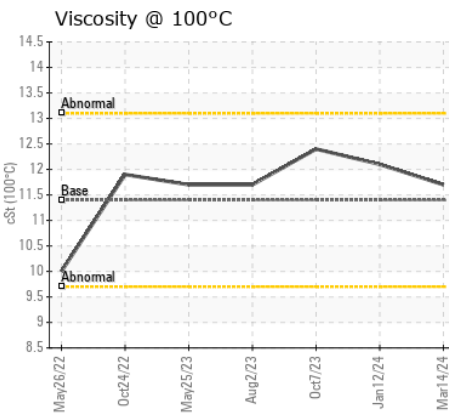
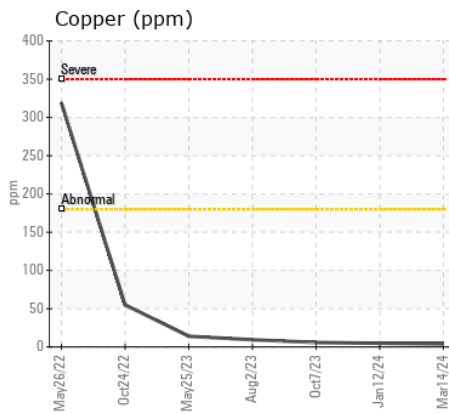
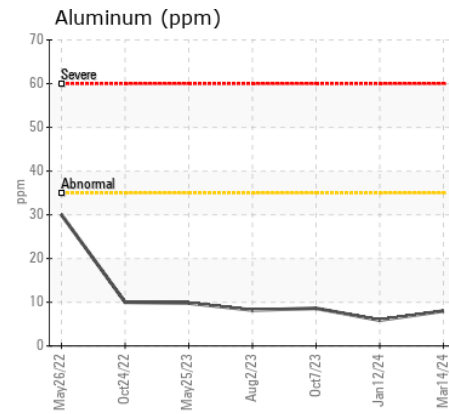
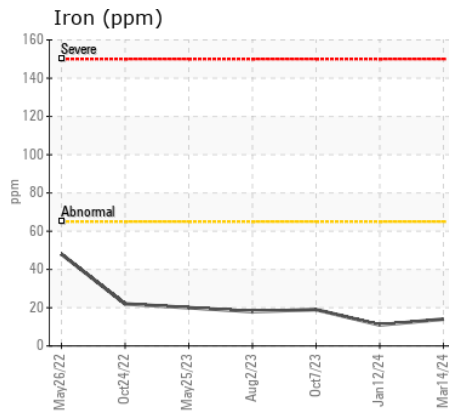
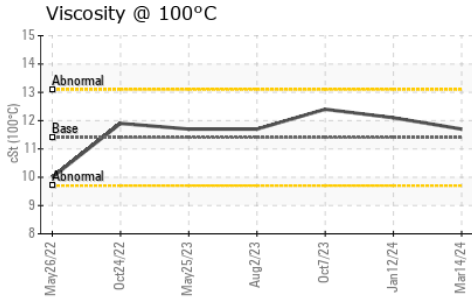
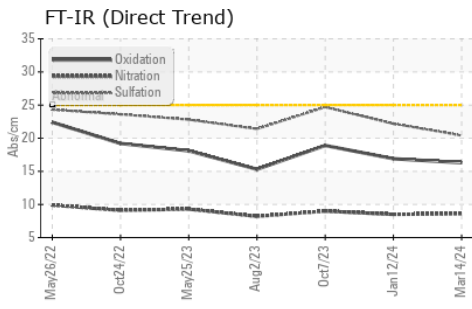
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >15 | 3 | 3 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | 10 | 10 | 8 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0.4 | 0.3 | 0.7 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.6 | 8.5 | 9.0 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.4 | 22.2 | 24.7 |
| 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) | | 4 | 2 | 8 |
| Boron | ppm | ASTM D5185(m) | 1 | 9 | 88 | 34 |
| Barium | ppm | ASTM D5185(m) | 1 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 1 | 52 | 9 | 10 |
| Manganese | ppm | ASTM D5185(m) | 1 | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 10 | 859 | 118 | 135 |
| Calcium | ppm | ASTM D5185(m) | 2942 | 1219 | 2005 | 2105 |
| Phosphorus | ppm | ASTM D5185(m) | 1102 | 988 | 922 | 903 |
| Zinc | ppm | ASTM D5185(m) | 1351 | 1173 | 1084 | 1179 |
| Sulfur | ppm | ASTM D5185(m) | 3903 | 2502 | 2863 | 2637 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 16.3 | 16.9 | 18.9 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 11.4 | 11.7 | 12.1 | 12.4 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0909574 **Received** : 05 Apr 2024
Lab Number : 02626953 **Tested** : 05 Apr 2024
Unique Number : 5760085 **Diagnosed** : 05 Apr 2024 - Wes Davis
Test Package : MOB 1

MANITOU LIN TRANSPORT
 75 MUMFORD ROAD
 LIVELY, ON
 CA P3Y 1L1
 Contact: Todd Smith
 tosmith@manitoulintransport.com
 T: (705)562-3302
 F: x:

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.