

Machine Id
FREIGHTLINER 121
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (36 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | PC0083425 | PC0081952 | PC0071030 |
| Sample Date | | Client Info | | 19 Jun 2024 | 08 Dec 2023 | 17 May 2023 |
| Machine Age | kms | Client Info | | 413226 | 381177 | 348028 |
| Oil Age | kms | Client Info | | 32049 | 33149 | 28844 |
| Filter Age | kms | Client Info | | 32049 | 33149 | 28844 |
| 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) | >200 | 28 | 39 | 24 |
| Chromium | ppm | ASTM D5185(m) | >20 | 2 | 2 | 2 |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >30 | 3 | 4 | 3 |
| Lead | ppm | ASTM D5185(m) | >30 | 5 | 15 | 6 |
| Copper | ppm | ASTM D5185(m) | >30 | 2 | 2 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | 1 | 2 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

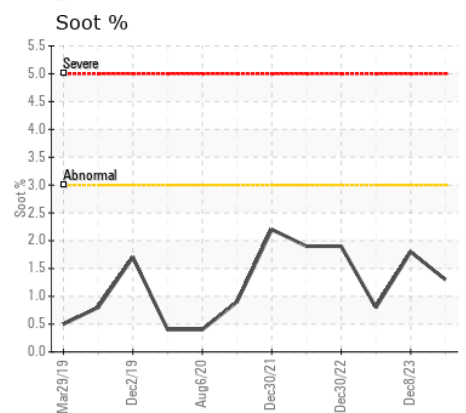
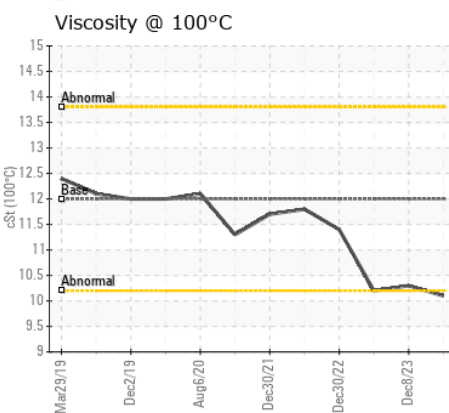
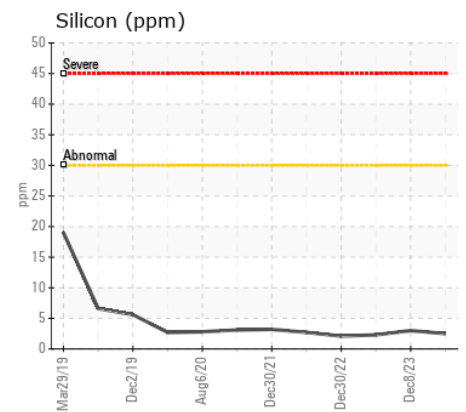
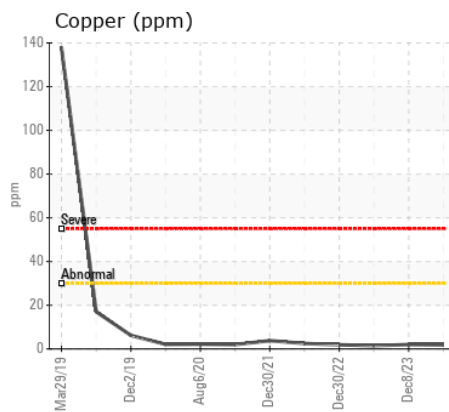
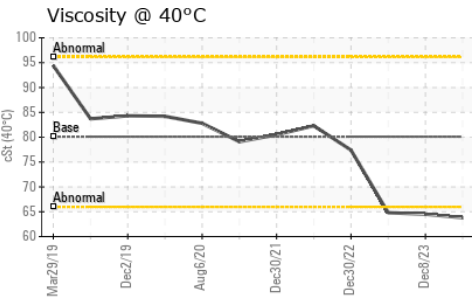
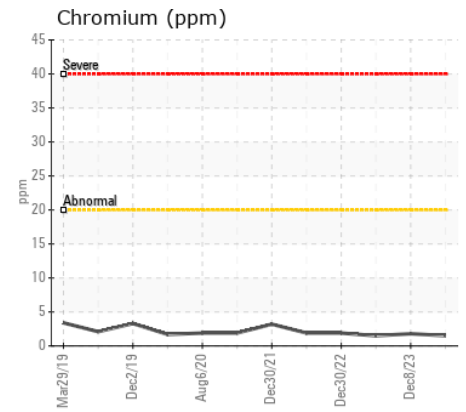
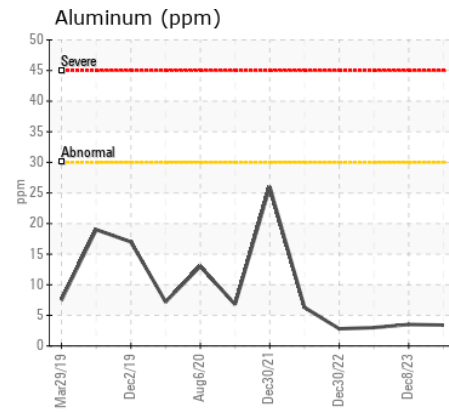
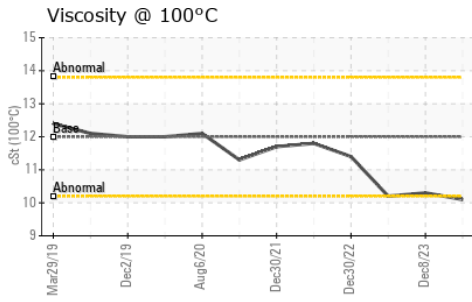
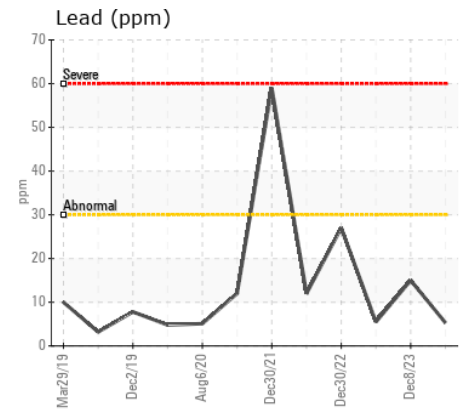
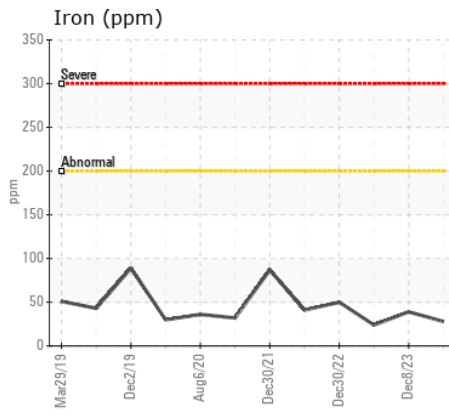
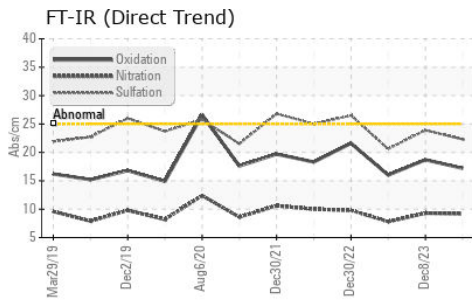
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185(m) | >30 | 2 | 3 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | 6 | 0 | 4 |
| 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 | 1.3 | 1.8 | 0.8 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 9.2 | 9.3 | 7.8 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 22.3 | 23.9 | 20.6 |
| Silt | scalar | Visual* | NONE | VLITE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | 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) | | 2 | 2 | 2 |
| Boron | ppm | ASTM D5185(m) | 2 | 3 | 2 | 2 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 50 | 58 | 56 | 60 |
| Manganese | ppm | ASTM D5185(m) | 0 | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 950 | 914 | 900 | 949 |
| Calcium | ppm | ASTM D5185(m) | 1050 | 1040 | 1015 | 1063 |
| Phosphorus | ppm | ASTM D5185(m) | 995 | 961 | 959 | 1074 |
| Zinc | ppm | ASTM D5185(m) | 1180 | 1145 | 1128 | 1169 |
| Sulfur | ppm | ASTM D5185(m) | 2600 | 2438 | 2558 | 2630 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 17.2 | 18.7 | 16.0 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 80.1 | 63.8 | 64.5 | 64.8 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 12.00 | 10.1 | 10.3 | 10.2 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 144 | 144 | 147 | 143 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0083425 **Received** : 24 Jun 2024
Lab Number : 02643689 **Tested** : 24 Jun 2024
Unique Number : 5801228 **Diagnosed** : 24 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

ROSS TOWING & TRANSPORTATION SERVICES INC
 995 POND MILLS RD
 LONDON, ON
 CA N6N 1C3
 Contact: Dave Ross
 chris@rosstowing.ca
 T: (519)685-1212
 F: (519)668-5790

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.