



OIL ANALYSIS REPORT

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

Machine Id
INTERNATIONAL 51988
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 | | WC0930273 | --- | --- |
| Sample Date | | Client Info | | 05 Jun 2024 | --- | --- |
| Machine Age | mls | Client Info | | 67786 | --- | --- |
| Oil Age | mls | Client Info | | 31487 | --- | --- |
| Filter Age | mls | Client Info | | 31487 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|---------------|------|-------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >100 | 36 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 2 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 29 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >40 | 1 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >330 | 5 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| White Metal | scalar | Visual* | NONE | VLITE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

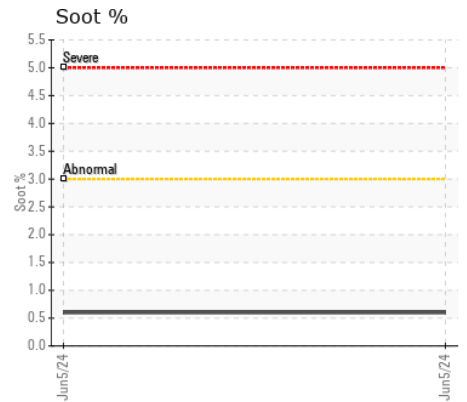
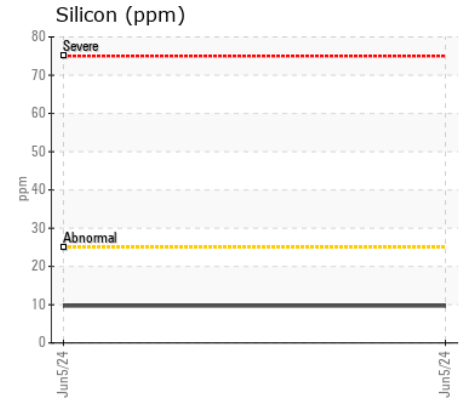
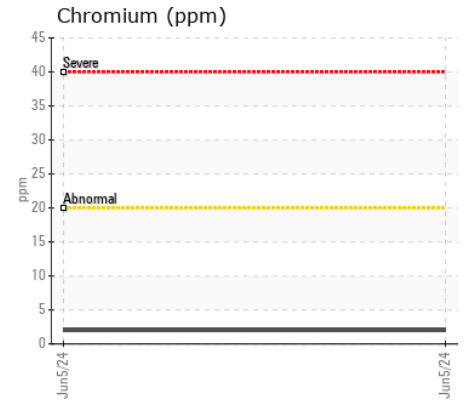
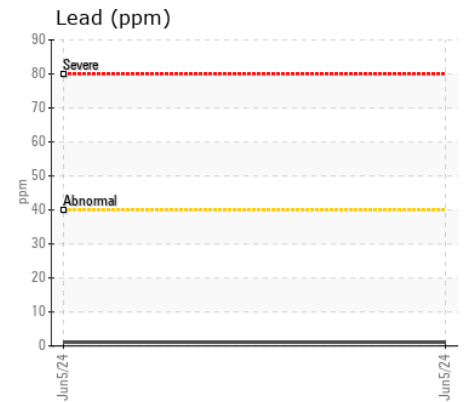
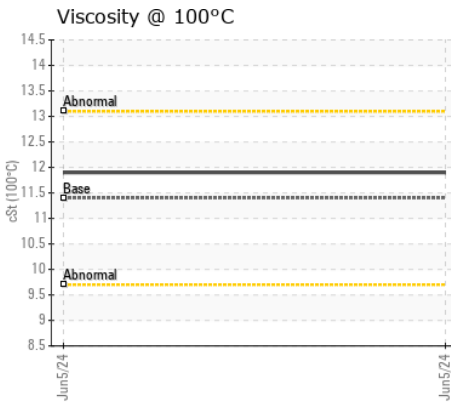
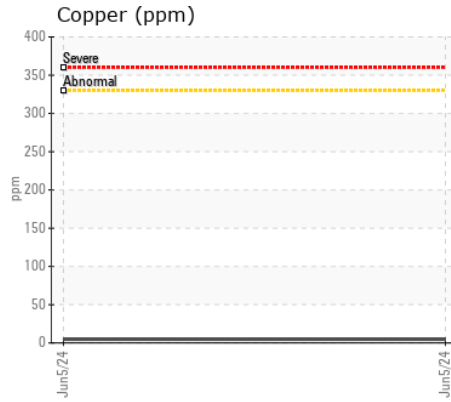
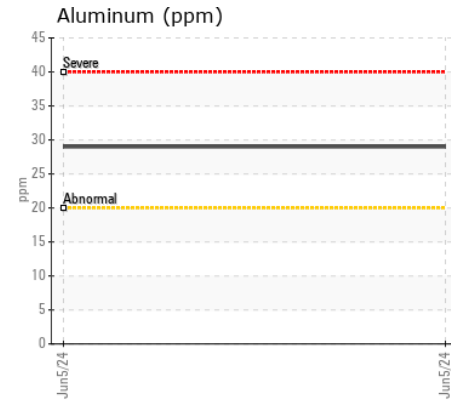
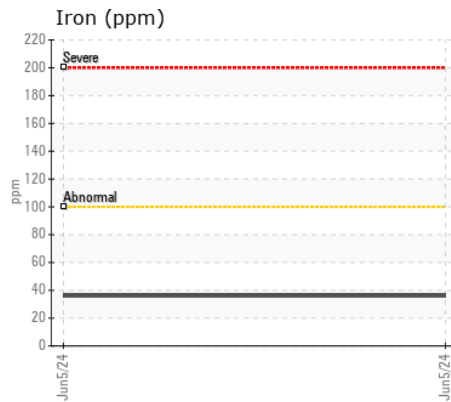
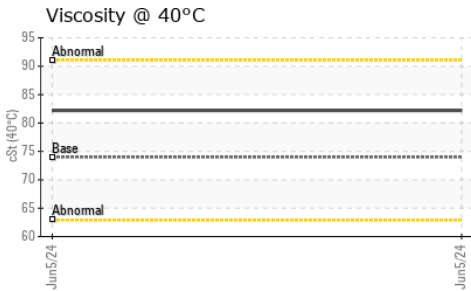
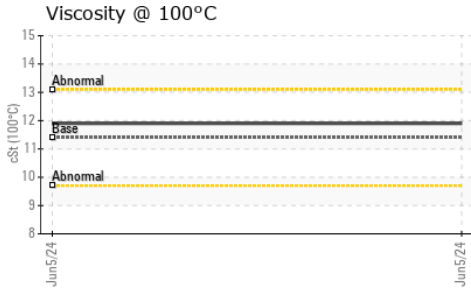
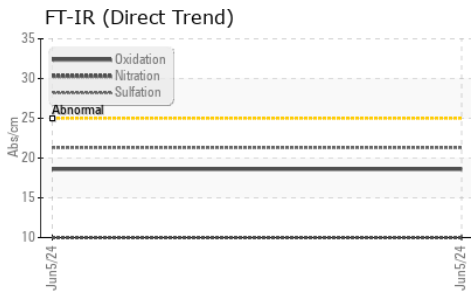
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >25 | 10 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 76 | --- | --- |
| Fuel | | WC Method | >2.0 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | ASTM D7844* | >3 | 0.6 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 10.0 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 21.3 | --- | --- |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | --- | --- |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | --- | --- |

FLUID CONDITION

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

| | | | | | | |
|----------------------|----------|---------------|------|------|-----|-----|
| Sodium | ppm | ASTM D5185(m) | | 3 | --- | --- |
| Boron | ppm | ASTM D5185(m) | 1 | 5 | --- | --- |
| Barium | ppm | ASTM D5185(m) | 1 | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 1 | 60 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 1 | 1 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 10 | 925 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 2942 | 1078 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1102 | 959 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 1351 | 1190 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 3903 | 2304 | --- | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 18.6 | --- | --- |
| Visc @ 40°C | cSt | ASTM D7279(m) | 74.0 | 82.2 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 11.4 | 11.9 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 146 | 138 | --- | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0930273 **Received** : 03 Jul 2024
Lab Number : 02645188 **Tested** : 04 Jul 2024
Unique Number : 5802727 **Diagnosed** : 04 Jul 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

MANITOU LIN TRANSPORT
 161 MAIN STREET
 THUNDER BAY, ON
 CA P7B 6S5
 Contact: Ivan Brady
 ibrady@manitoulintransport.com
 T: (807)345-6501
 F: (807)345-6731

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.