



OIL ANALYSIS REPORT

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

Area
[156903]

Machine Id

G1

Component

Diesel Engine

Fluid

VALVOLINE PREMIUM BLUE EXTREME 5W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | CU0022824 | --- | --- |
| Sample Date | | Client Info | | 29 May 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 2156 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >90 | 6 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

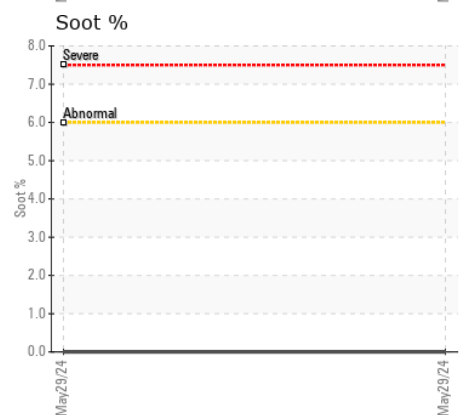
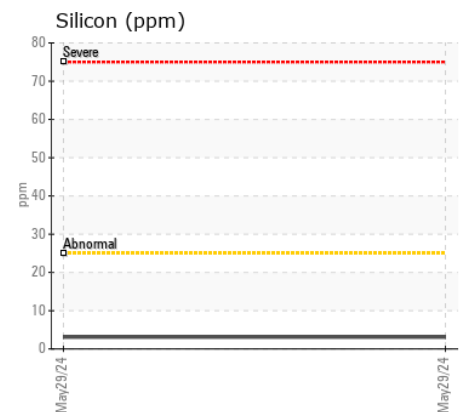
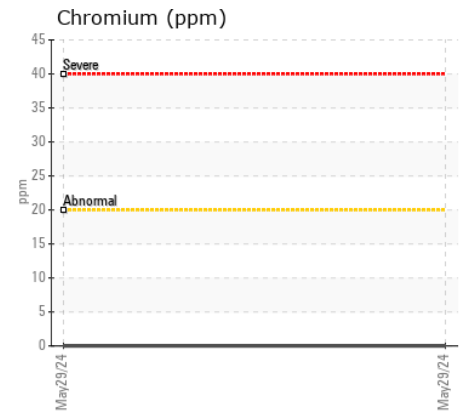
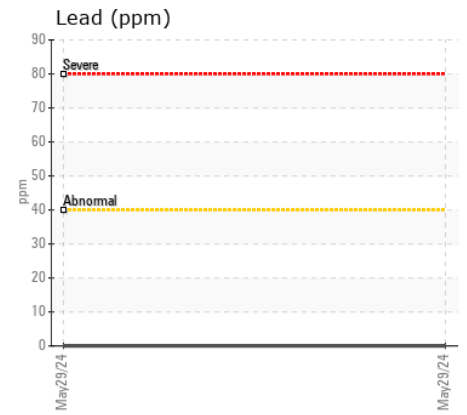
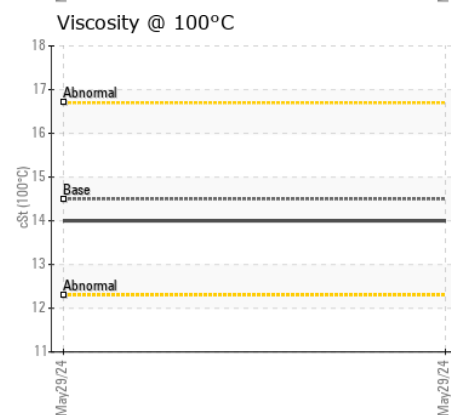
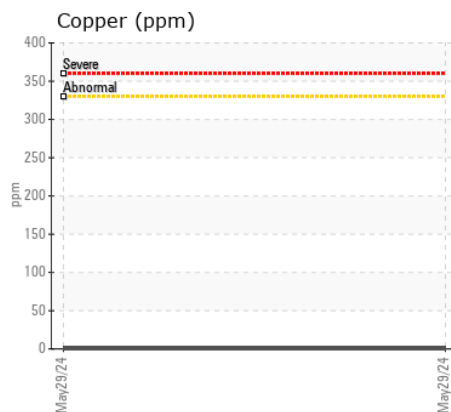
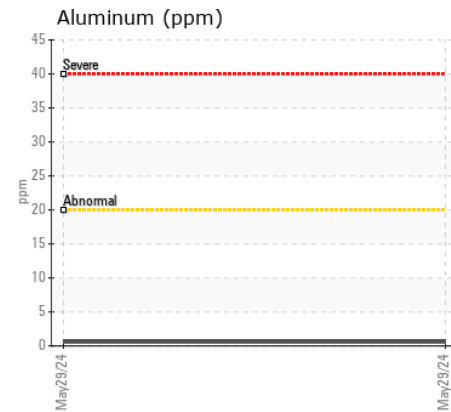
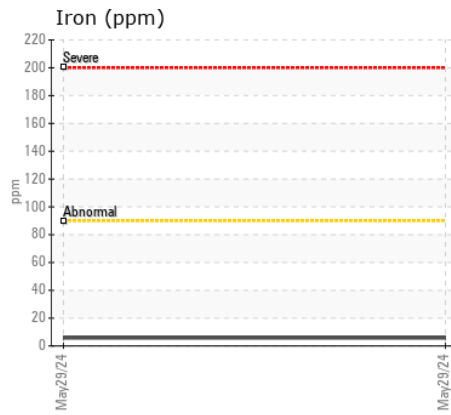
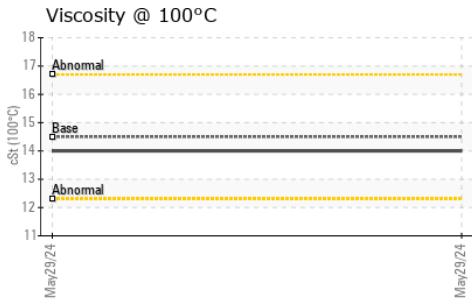
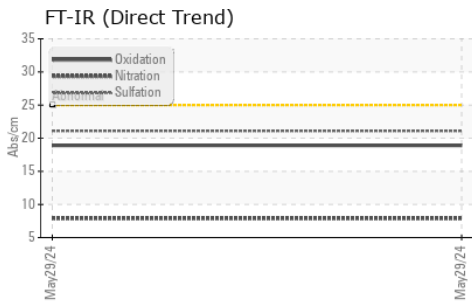
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|-------|----------------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >25 | 3 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | --- | --- |
| Fuel | | WC Method | >3.0 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | ASTM D7844* | >6 | 0 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 7.9 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 21.1 | --- | --- |
| 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) | | 42 | --- | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 49 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | | 879 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | | 1084 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 778 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | | 921 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | | 2162 | --- | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 18.9 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.5 | 14.0 | --- | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0022824 **Received** : 10 Jun 2024
Lab Number : 02640657 **Tested** : 10 Jun 2024
Unique Number : 5789819 **Diagnosed** : 10 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Visual)

CN RAIL
 76 INTERMODAL DR
 BRAMPTON, ON
 CA L6T 5B3
 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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