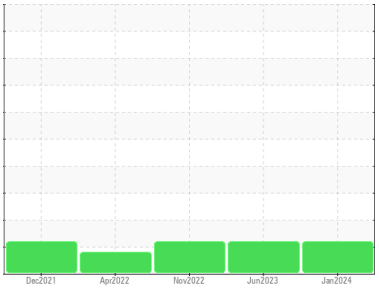
# OIL ANALYSIS REPORT

Sample Rating Trend




**FUEL**

Area
**[42963533]**
Machine Id
**7448**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

**Wear**
All component wear rates are normal.

**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 a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**Fluid Condition**
The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0853176** | WC0796380 | WC0737667 |
| Sample Date | | Client Info | | **18 Jan 2024** | 09 Jun 2023 | 27 Nov 2022 |
| Machine Age | kms | Client Info | | **0** | 81526 | 63548 |
| Oil Age | kms | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | Changed | Not Changd |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

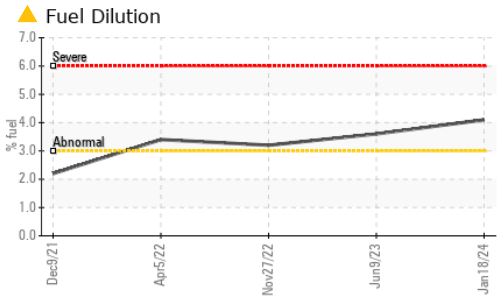
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >90 | **35** | 17 | 42 |
| Chromium | ppm | ASTM D5185(m) | >20 | **1** | <1 | 1 |
| Nickel | ppm | ASTM D5185(m) | >2 | **<1** | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | **<1** | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **11** | 8 | 18 |
| Lead | ppm | ASTM D5185(m) | >40 | **1** | <1 | 2 |
| Copper | ppm | ASTM D5185(m) | >330 | **4** | 3 | 11 |
| Tin | ppm | ASTM D5185(m) | >15 | **<1** | <1 | 1 |
| Antimony | ppm | ASTM D5185(m) | | **0** | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |

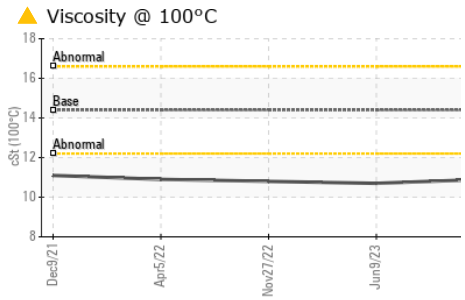
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 250 | **31** | 45 | 24 |
| Barium | ppm | ASTM D5185(m) | 10 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **1** | 2 | 4 |
| Manganese | ppm | ASTM D5185(m) | | **<1** | <1 | 1 |
| Magnesium | ppm | ASTM D5185(m) | 450 | **673** | 692 | 666 |
| Calcium | ppm | ASTM D5185(m) | 3000 | **1267** | 1354 | 1341 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **614** | 666 | 676 |
| Zinc | ppm | ASTM D5185(m) | 1350 | **695** | 717 | 753 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **2492** | 2514 | 2514 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **6** | 6 | 9 |
| Sodium | ppm | ASTM D5185(m) | >158 | **3** | 2 | 4 |
| Potassium | ppm | ASTM D5185(m) | >20 | **17** | 11 | 27 |
| Fuel | % | ASTM D7593* | >3.0 | ▲ **4.1** | ▲ 3.6 | ▲ 3.2 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0.8** | 0.3 | 0.5 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **12.6** | 10.3 | 11.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **26.1** | 21.9 | 25.7 |

# OIL ANALYSIS REPORT



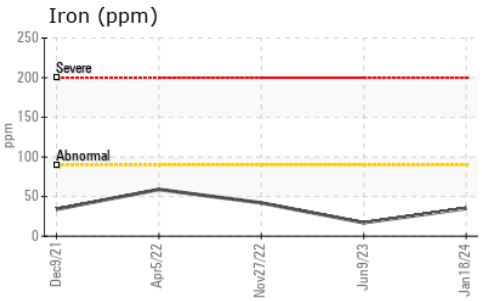



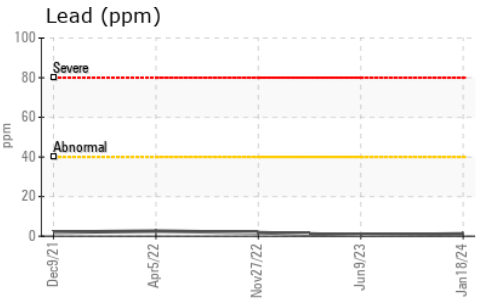

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **22.8** | 17.5 | 20.5 |

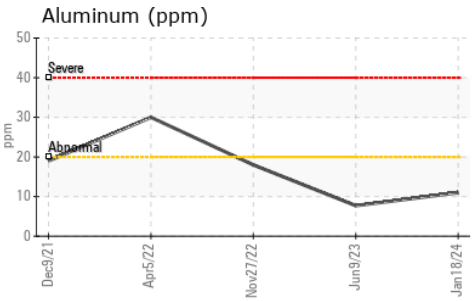
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

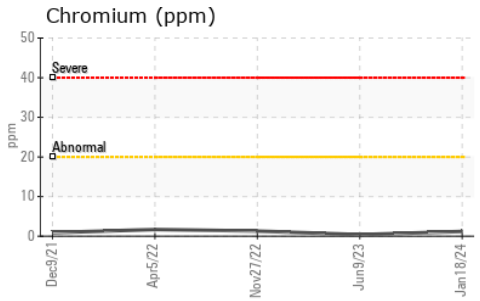
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | ▲ **10.9** | ▲ 10.7 | ▲ 10.8 |

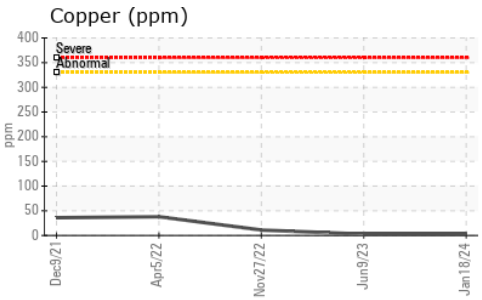
## GRAPHS

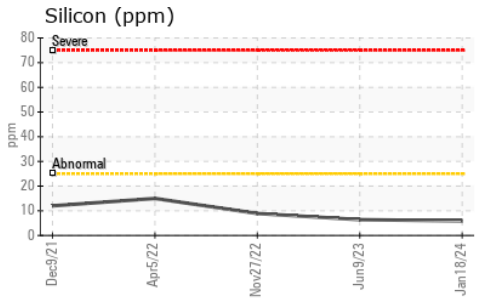


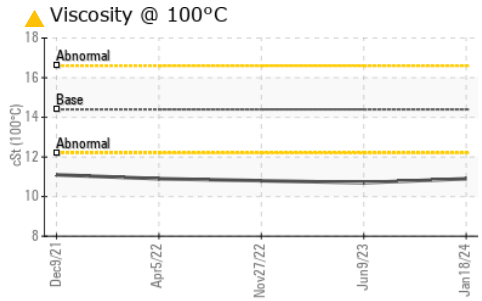



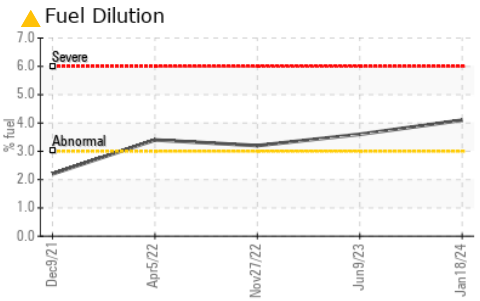




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0853176 **Recieved** : 24 Jan 2024
**Lab Number** : 02610810 **Diagnosed** : 26 Jan 2024
**Unique Number** : 5711896 **Diagnostician** : Wes Davis
**Test Package** : MOB 1 ( Additional Tests: FUELDILUTION, PercentFuel )

*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.*


**Rush Truck Centres**
7450 Torbram Rd.
Mississauga, ON
CA L4T 1G9
Contact: Serdar Okur
sokur@rushtruckcentres.ca
T: (905)671-7600
F: