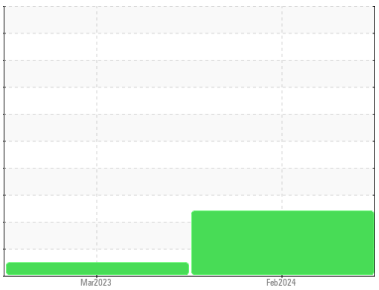
# OIL ANALYSIS REPORT

Sample Rating Trend




**FUEL**

Area
**[7503]**
Machine Id
**3263M**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**
Metal levels are typical for a new component breaking in.

**▲ Contamination**
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**▲ Fluid Condition**
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0853480** | WC0702822 | --- |
| Sample Date | | Client Info | | **24 Feb 2024** | 18 Mar 2023 | --- |
| Machine Age | kms | Client Info | | **57102** | 19595 | --- |
| Oil Age | kms | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **Changed** | Not Changd | --- |
| Sample Status | | | | **SEVERE** | NORMAL | --- |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >90 | **55** | 192 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **<1** | 4 | --- |
| Nickel | ppm | ASTM D5185(m) | >2 | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | <1 | --- |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | <1 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **5** | 12 | --- |
| Lead | ppm | ASTM D5185(m) | >40 | **1** | 23 | --- |
| Copper | ppm | ASTM D5185(m) | >330 | **6** | 335 | --- |
| Tin | ppm | ASTM D5185(m) | >15 | **1** | 17 | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | <1 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | <1 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | --- |

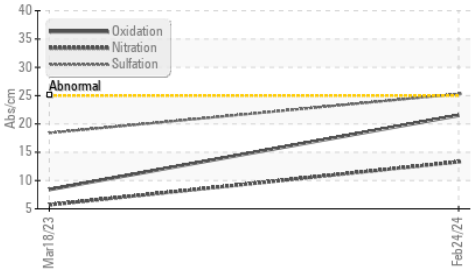
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 250 | **48** | 27 | --- |
| Barium | ppm | ASTM D5185(m) | 10 | **0** | 2 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **12** | 1 | --- |
| Manganese | ppm | ASTM D5185(m) | | **<1** | 4 | --- |
| Magnesium | ppm | ASTM D5185(m) | 450 | **664** | 681 | --- |
| Calcium | ppm | ASTM D5185(m) | 3000 | **1270** | 1335 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **678** | 1056 | --- |
| Zinc | ppm | ASTM D5185(m) | 1350 | **778** | 1137 | --- |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **2302** | 2609 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | 1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **8** | 104 | --- |
| Sodium | ppm | ASTM D5185(m) | >158 | **2** | 7 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **6** | 20 | --- |
| Fuel | % | ASTM D7593* | >3.0 | **▲ 6.2** | <1.0 | --- |

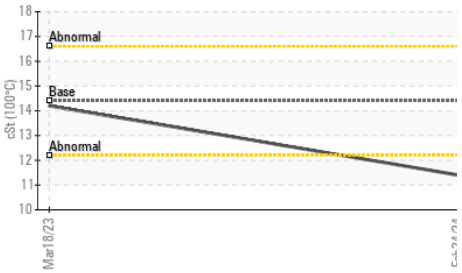
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **1.4** | 0.5 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | **13.3** | 5.7 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **25.3** | 18.4 | --- |

# OIL ANALYSIS REPORT

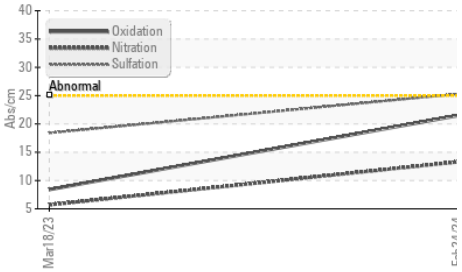
FT-IR (Direct Trend)




Viscosity @ 100°C




FT-IR (Direct Trend)



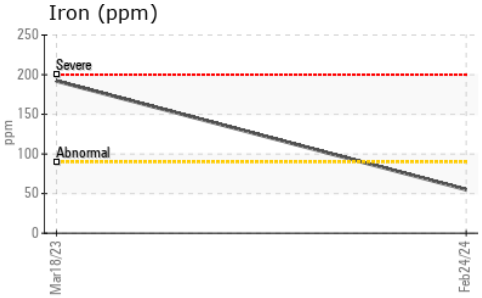

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **21.5** | 8.4 | --- |

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

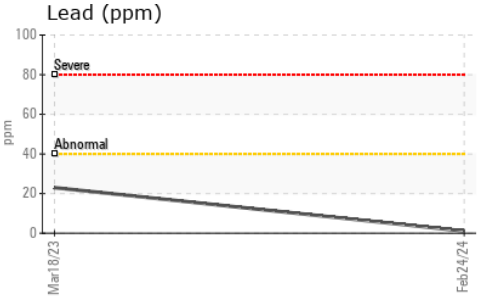
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | ▲ **11.4** | 14.2 | --- |

## GRAPHS

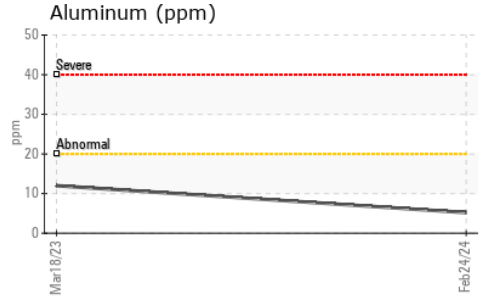
Iron (ppm)



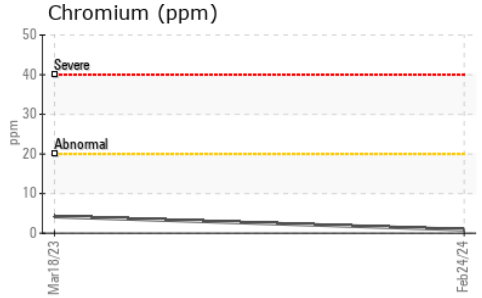

Lead (ppm)



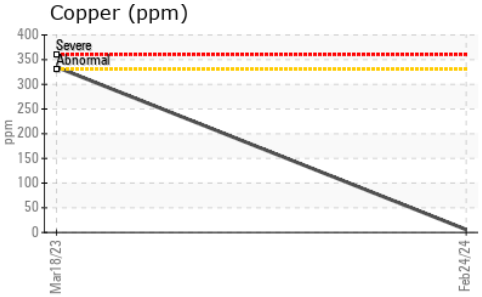

Aluminum (ppm)



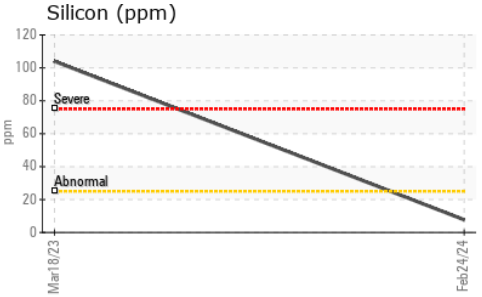

Chromium (ppm)



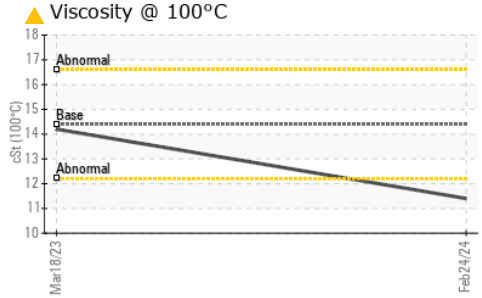

Copper (ppm)



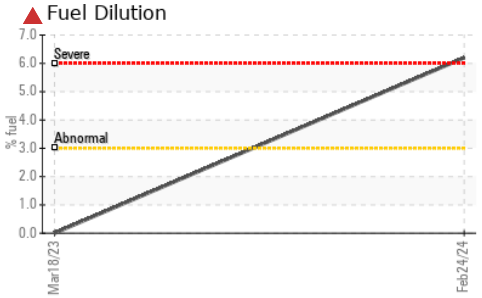

Silicon (ppm)




▲ Viscosity @ 100°C




▲ Fuel Dilution




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0853480 **Received** : 17 Apr 2024
**Lab Number** : 02629455 **Tested** : 18 Apr 2024
**Unique Number** : 5762587 **Diagnosed** : 18 Apr 2024 - 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: Ideal Lease
ideal.lease@rushtruckcentres.ca
T:
F: