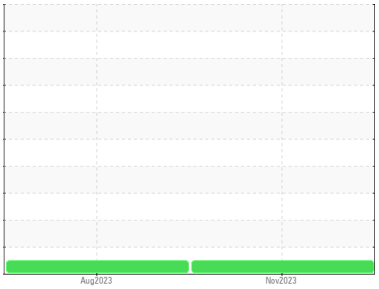
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**51968**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 30 (--- LTR)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 30. Please confirm.
Please specify the component make and model with your next sample.

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

**Contamination**
Fuel content negligible. 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.

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

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0864553** | WC0837216 | --- |
| Sample Date | | Client Info | | **30 Nov 2023** | 10 Aug 2023 | --- |
| Machine Age | mls | Client Info | | **67977** | 34224 | --- |
| Oil Age | mls | Client Info | | **33753** | 31764 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **NORMAL** | 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) | >100 | **54** | 58 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **6** | 3 | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | **<1** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | >3 | **<1** | <1 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **25** | 49 | --- |
| Lead | ppm | ASTM D5185(m) | >40 | **3** | 4 | --- |
| Copper | ppm | ASTM D5185(m) | >330 | **7** | 18 | --- |
| Tin | ppm | ASTM D5185(m) | >15 | **2** | 3 | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | --- |

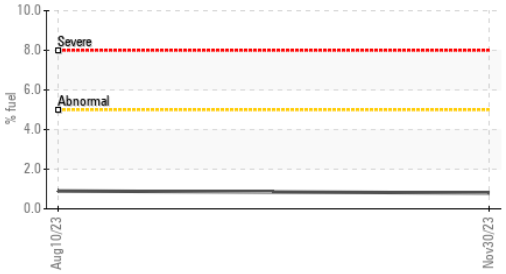
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 250 | **4** | 36 | --- |
| Barium | ppm | ASTM D5185(m) | 10 | **8** | 4 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **62** | 63 | --- |
| Manganese | ppm | ASTM D5185(m) | | **1** | 5 | --- |
| Magnesium | ppm | ASTM D5185(m) | 450 | **915** | 469 | --- |
| Calcium | ppm | ASTM D5185(m) | 3000 | **1123** | 1698 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **951** | 988 | --- |
| Zinc | ppm | ASTM D5185(m) | 1350 | **1219** | 1169 | --- |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **2177** | 2293 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **14** | 38 | --- |
| Sodium | ppm | ASTM D5185(m) | >75 | **4** | 4 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **48** | 133 | --- |
| Fuel | % | ASTM D7593* | >5 | **0.8** | 0.9 | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >3 | **0.6** | 0.3 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | **10.0** | 9.4 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **22.4** | 23.6 | --- |

# OIL ANALYSIS REPORT

Fuel Dilution




Viscosity @ 100°C

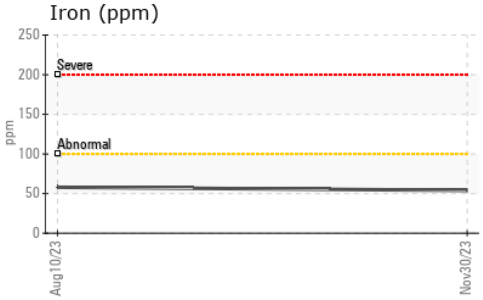

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **19.4** | 19.4 | --- |

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

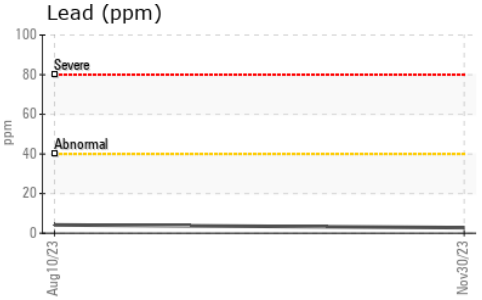
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 10.9 | **11.5** | 11.8 | --- |

GRAPHS

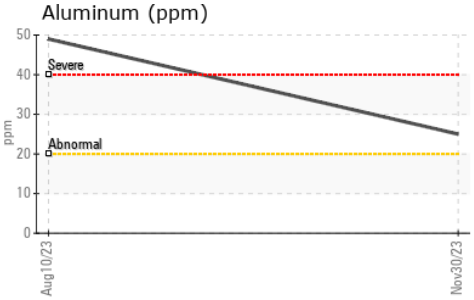
Iron (ppm)



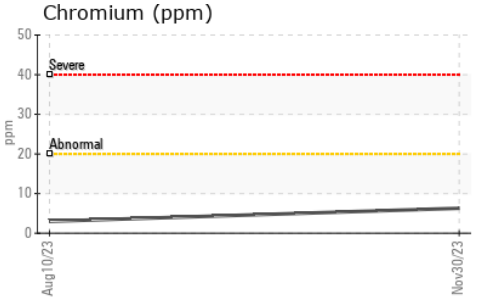

Lead (ppm)



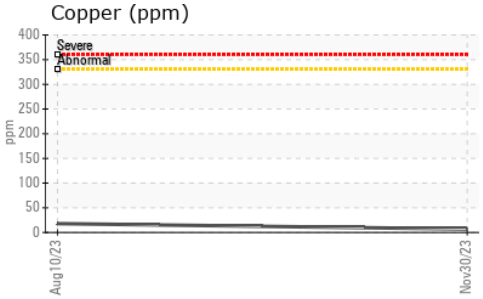

Aluminum (ppm)



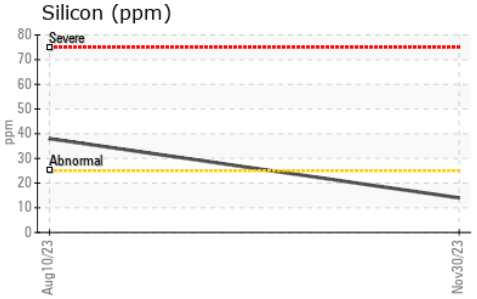

Chromium (ppm)



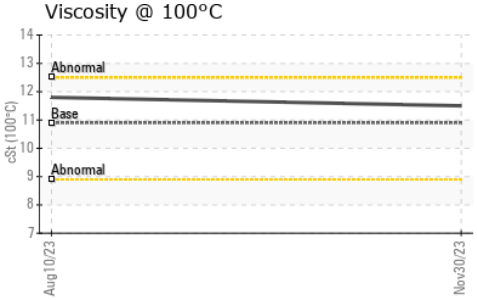

Copper (ppm)



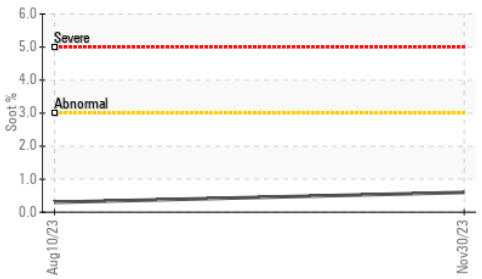

Silicon (ppm)




Viscosity @ 100°C




Soot %




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOULIN TRANSPORT (GARAGE)**
**Sample No.** : WC0864553 **Received** : 05 Dec 2023 1335 SHAWSON DRIVE
**Lab Number** : 02600883 **Diagnosed** : 06 Dec 2023 MISSISSAUGA, ON
**Unique Number** : 5693968 **Diagnostician** : Wes Davis CA L4W 1C4
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel ) Contact: Patrick Morin

*To discuss this sample report, contact Customer Service at 1-800-268-2131.* pmorin@manitoulintransport.com
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.* T:
*Validity of results and interpretation are based on the sample and information as supplied.* F: (905)564-6361