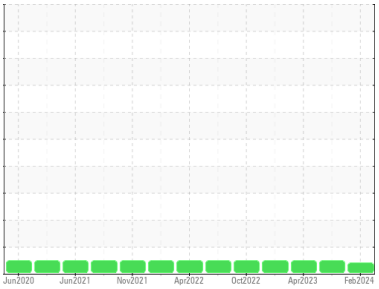
# OIL ANALYSIS REPORT

Machine Id
**727008**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

Sample Rating Trend




**VISCOSITY**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

**Contamination**
Light fuel dilution occurring. No other contaminants were detected in the oil.

**Fluid Condition**
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0113252** | GFL0053577 | GFL0078525 |
| Sample Date | | Client Info | | **27 Feb 2024** | 29 Sep 2023 | 20 Apr 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **16492** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | Changed |
| Sample Status | | | | **ABNORMAL** | NORMAL | NORMAL |

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

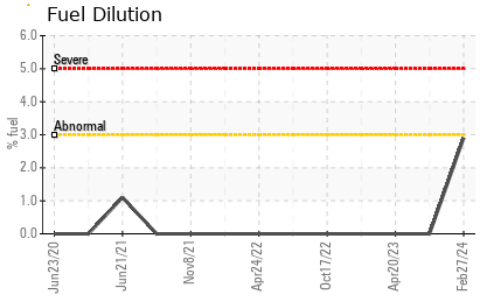
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >120 | **8** | 5 | 5 |
| Chromium | ppm | ASTM D5185(m) | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >5 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **3** | 1 | 2 |
| Lead | ppm | ASTM D5185(m) | >40 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >330 | **2** | <1 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | **<1** | 0 | <1 |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | <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 |

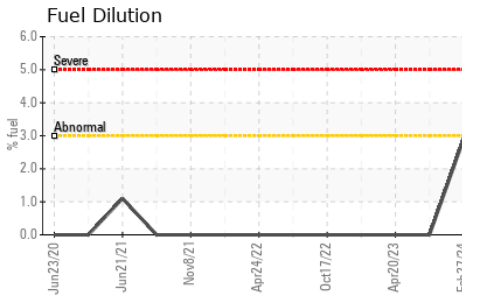
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 250 | **33** | 96 | 3 |
| Barium | ppm | ASTM D5185(m) | 10 | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **38** | 2 | 57 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 450 | **471** | 28 | 934 |
| Calcium | ppm | ASTM D5185(m) | 3000 | **1630** | 2159 | 1105 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **726** | 898 | 1051 |
| Zinc | ppm | ASTM D5185(m) | 1350 | **862** | 1128 | 1171 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **2115** | 2698 | 2524 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **4** | 3 | 2 |
| Sodium | ppm | ASTM D5185(m) | >158 | **2** | 5 | 4 |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | 5 | <1 |
| Fuel | % | ASTM D7593* | >3.0 | **2.9** | <1.0 | <1.0 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >4 | **0.3** | 0.1 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **9.2** | 8.0 | 7.7 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **22.0** | 21.7 | 18.7 |

# OIL ANALYSIS REPORT



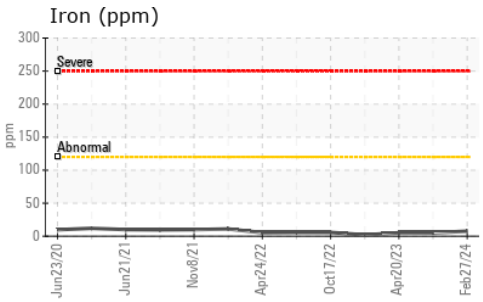



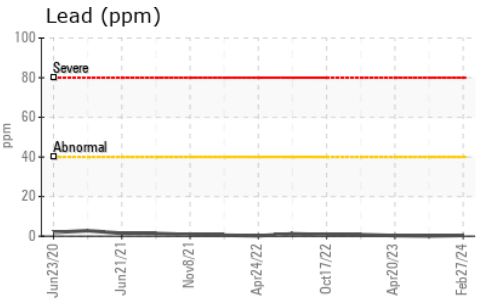

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **20.6** | 16.9 | 14.5 |

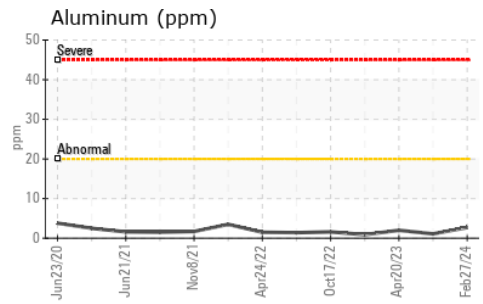
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

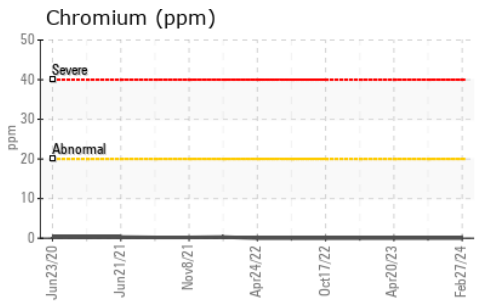
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | ▲ **11.5** | 13.9 | 13.0 |

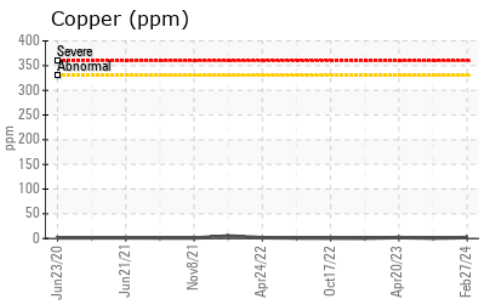
## GRAPHS

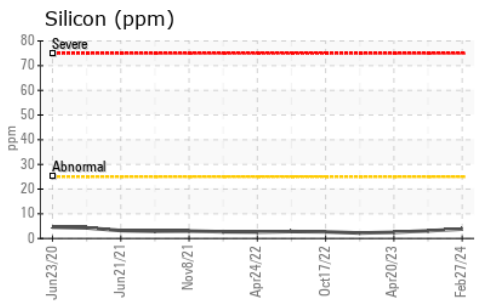


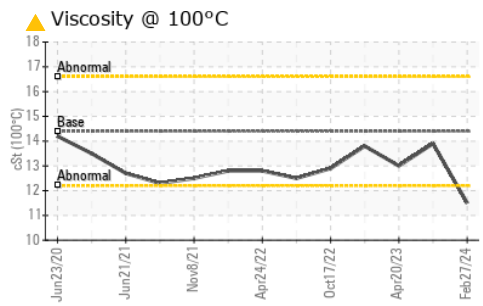



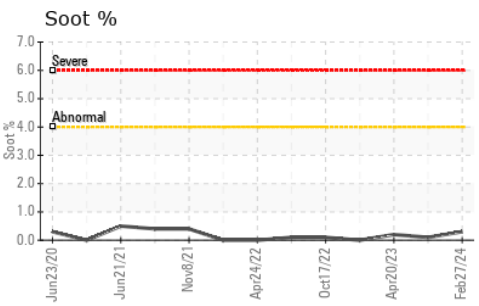




CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : GFL0113252
**Lab Number** : 02618578
**Unique Number** : 5735688
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel )

**Received** : 28 Feb 2024
**Tested** : 29 Feb 2024
**Diagnosed** : 29 Feb 2024 - Kevin Marson

*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.*

**GFL Environmental - 246 - Windsor**
2700 Deziel Dr
Windsor, ON
CA N8W 5H8
Contact: Dave Varga
dvarga@gflenv.com
T: (519)944-8009
F: