



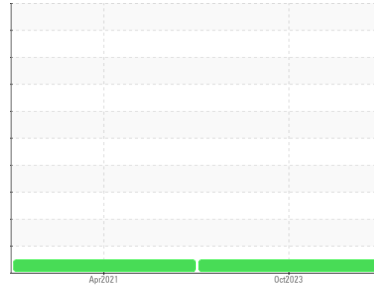
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**728017**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA 10W30 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

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 |             |            | <b>GFL0064786</b>  | GFL0021391  | ---      |
| Sample Date        | Client Info |             |            | <b>06 Oct 2023</b> | 22 Apr 2021 | ---      |
| Machine Age        | hrs         | Client Info |            | <b>11102</b>       | 6854        | ---      |
| Oil Age            | hrs         | Client Info |            | <b>600</b>         | 200         | ---      |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | Changed     | ---      |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | ---      |

| CONTAMINATION |           | method | limit/base | current        | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel          | WC Method |        | >3.0       | <b>&lt;1.0</b> | <1.0     | ---      |
| Glycol        | WC Method |        |            | <b>NEG</b>     | NEG      | ---      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >120       | <b>4</b>     | 8        | ---      |
| Chromium    | ppm | ASTM D5185(m) | >20        | <b>0</b>     | <1       | ---      |
| Nickel      | ppm | ASTM D5185(m) | >5         | <b>0</b>     | <1       | ---      |
| Titanium    | ppm | ASTM D5185(m) | >2         | <b>0</b>     | 0        | ---      |
| Silver      | ppm | ASTM D5185(m) | >2         | <b>&lt;1</b> | <1       | ---      |
| Aluminum    | ppm | ASTM D5185(m) | >20        | <b>2</b>     | 2        | ---      |
| Lead        | ppm | ASTM D5185(m) | >40        | <b>&lt;1</b> | 1        | ---      |
| Copper      | ppm | ASTM D5185(m) | >330       | <b>1</b>     | 3        | ---      |
| Tin         | ppm | ASTM D5185(m) | >15        | <b>0</b>     | <1       | ---      |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | ---      |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | ---      |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | ---      |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | ---      |

| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) |            | <b>40</b>    | 3        | ---      |
| Barium     | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | 0        | ---      |
| Molybdenum | ppm | ASTM D5185(m) |            | <b>85</b>    | 58       | ---      |
| Manganese  | ppm | ASTM D5185(m) |            | <b>0</b>     | <1       | ---      |
| Magnesium  | ppm | ASTM D5185(m) |            | <b>92</b>    | 970      | ---      |
| Calcium    | ppm | ASTM D5185(m) |            | <b>2038</b>  | 1048     | ---      |
| Phosphorus | ppm | ASTM D5185(m) |            | <b>971</b>   | 998      | ---      |
| Zinc       | ppm | ASTM D5185(m) |            | <b>1147</b>  | 1230     | ---      |
| Sulfur     | ppm | ASTM D5185(m) |            | <b>3020</b>  | 2614     | ---      |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | ---      |

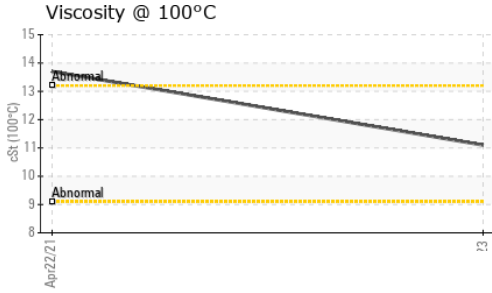
| CONTAMINANTS |     | method        | limit/base | current      | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >25        | <b>3</b>     | 4        | ---      |
| Sodium       | ppm | ASTM D5185(m) |            | <b>6</b>     | 2        | ---      |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>&lt;1</b> | 3        | ---      |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* | >4         | <b>0</b>    | 0.1      | ---      |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>8.4</b>  | 7.4      | ---      |
| Sulfation | Abs/.1mm | ASTM D7415* | >30        | <b>18.4</b> | 19.5     | ---      |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | ASTM D7414* | >25        | <b>13.6</b> | 15.2     | ---      |



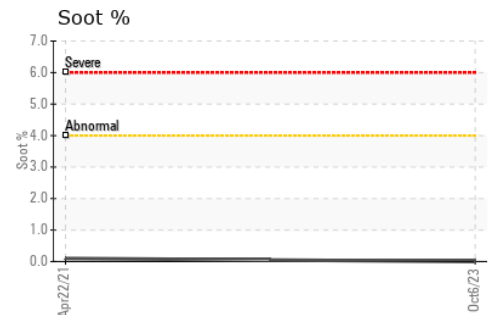
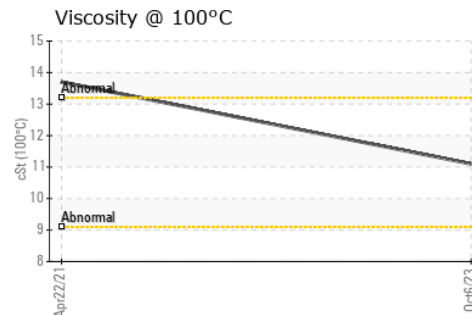
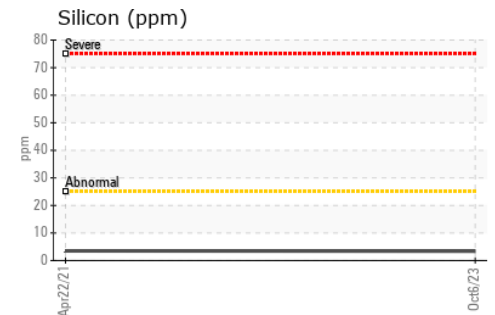
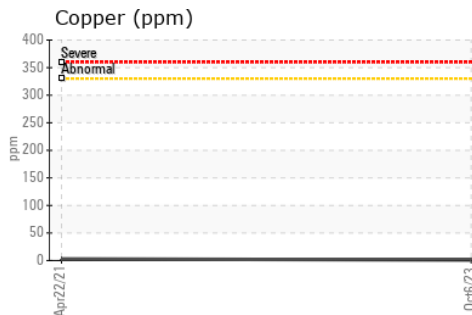
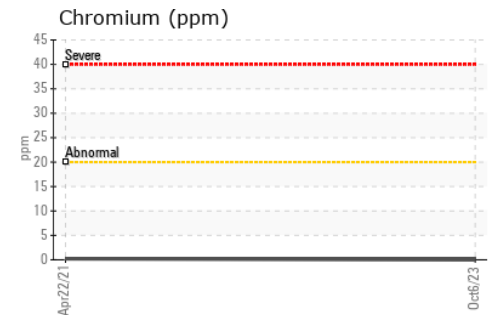
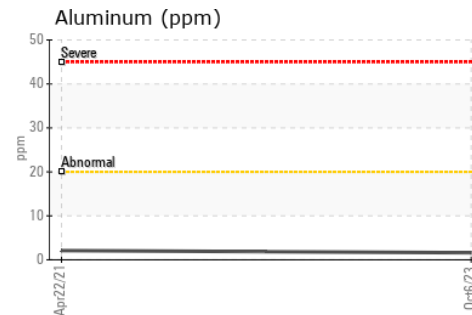
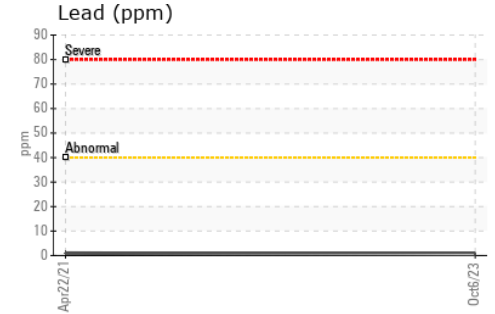
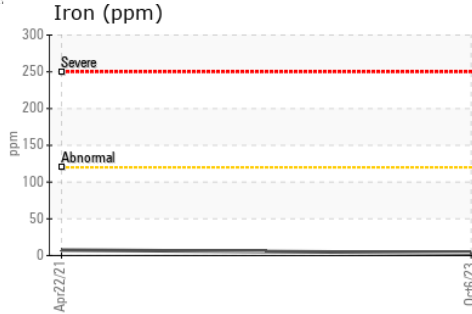
# OIL ANALYSIS REPORT



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

| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 11.1    | 13.7     | ---      |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 213 - Kitchener**  
**Sample No.** : GFL0064786 **Received** : 17 Oct 2023 16 Centennial Road, Kitchener Yard  
**Lab Number** : 02589532 **Diagnosed** : 17 Oct 2023 Kitchener, ON  
**Unique Number** : 5658598 **Diagnostician** : Wes Davis CA N2B 3G1  
**Test Package** : MOB 1 Contact: Keith Zehr  
 kzehr@gflenv.com

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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