



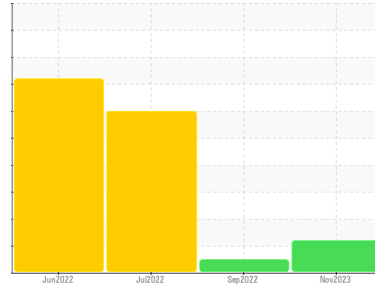
# OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Machine Id  
**801108**  
 Component  
**Transmission (Auto)**  
 Fluid  
**PETRO CANADA DuraDrive HD Synthetic 668 (--- GAL)**



## DIAGNOSIS

### Recommendation

The fluid change at the time of sampling has been noted. 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 fluid.

### Fluid Condition

The AN level is above the recommended limit. The fluid is no longer serviceable.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>GFL0091593</b>  | GFL0057769  | GFL0052628  |
| Sample Date   | Client Info |             | <b>19 Nov 2023</b> | 14 Sep 2022 | 04 Jul 2022 |
| Machine Age   | hrs         | Client Info | <b>13685</b>       | 10351       | 9876        |
| Oil Age       | hrs         | Client Info | <b>2202</b>        | 1119        | 0           |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | N/A         |
| Sample Status |             |             | <b>ABNORMAL</b>    | NORMAL      | SEVERE      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1       | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|           | method      | limit/base    | current  | history1     | history2 |     |
|-----------|-------------|---------------|----------|--------------|----------|-----|
| PQ        | ASTM D8184* | >50           | <b>0</b> | 0            | ---      |     |
| Iron      | ppm         | ASTM D5185(m) | >160     | <b>134</b>   | 55       | 111 |
| Chromium  | ppm         | ASTM D5185(m) | >5       | <b>&lt;1</b> | 0        | <1  |
| Nickel    | ppm         | ASTM D5185(m) | >5       | <b>&lt;1</b> | 0        | 0   |
| Titanium  | ppm         | ASTM D5185(m) |          | <b>0</b>     | 0        | <1  |
| Silver    | ppm         | ASTM D5185(m) | >5       | <b>&lt;1</b> | 0        | 0   |
| Aluminum  | ppm         | ASTM D5185(m) | >50      | <b>28</b>    | 49       | 89  |
| Lead      | ppm         | ASTM D5185(m) | >50      | <b>7</b>     | 10       | 22  |
| Copper    | ppm         | ASTM D5185(m) | >225     | <b>25</b>    | 4        | 17  |
| Tin       | ppm         | ASTM D5185(m) | >10      | <b>2</b>     | 1        | 3   |
| Antimony  | ppm         | ASTM D5185(m) |          | <b>0</b>     | 0        | 0   |
| Vanadium  | ppm         | ASTM D5185(m) |          | <b>0</b>     | 0        | 0   |
| Beryllium | ppm         | ASTM D5185(m) |          | <b>0</b>     | 0        | 0   |
| Cadmium   | ppm         | ASTM D5185(m) |          | <b>0</b>     | 0        | 0   |

## ADDITIVES

|            | method | limit/base    | current | history1     | history2 |      |
|------------|--------|---------------|---------|--------------|----------|------|
| Boron      | ppm    | ASTM D5185(m) | 78      | <b>72</b>    | 97       | 142  |
| Barium     | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | 0        | 0    |
| Molybdenum | ppm    | ASTM D5185(m) | 0       | <b>0</b>     | <1       | <1   |
| Manganese  | ppm    | ASTM D5185(m) |         | <b>3</b>     | <1       | 2    |
| Magnesium  | ppm    | ASTM D5185(m) | 0       | <b>3</b>     | 2        | 2    |
| Calcium    | ppm    | ASTM D5185(m) | 113     | <b>131</b>   | 130      | 127  |
| Phosphorus | ppm    | ASTM D5185(m) | 222     | <b>216</b>   | 293      | 364  |
| Zinc       | ppm    | ASTM D5185(m) |         | <b>15</b>    | 18       | 41   |
| Sulfur     | ppm    | ASTM D5185(m) | 1326    | <b>1361</b>  | 1688     | 2486 |
| Lithium    | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | <1   |

## CONTAMINANTS

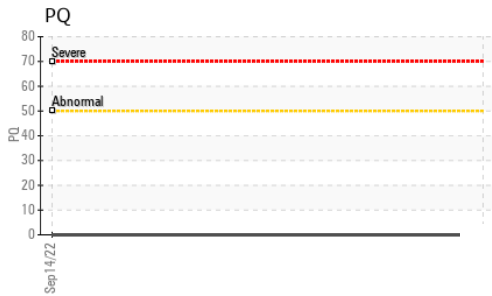
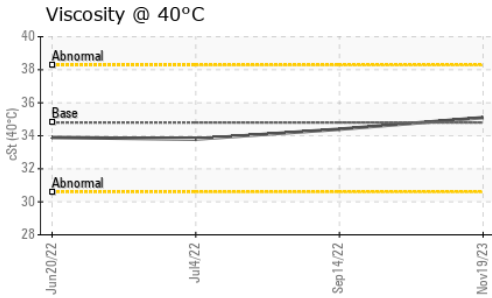
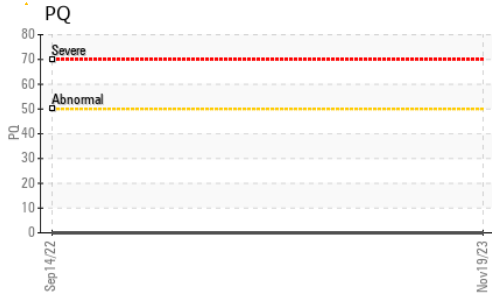
|           | method | limit/base    | current | history1     | history2 |    |
|-----------|--------|---------------|---------|--------------|----------|----|
| Silicon   | ppm    | ASTM D5185(m) | >20     | <b>11</b>    | 9        | 15 |
| Sodium    | ppm    | ASTM D5185(m) |         | <b>4</b>     | 7        | 12 |
| Potassium | ppm    | ASTM D5185(m) | >20     | <b>&lt;1</b> | 1        | 3  |

## FLUID DEGRADATION

|                  | method   | limit/base | current | history1      | history2 |      |
|------------------|----------|------------|---------|---------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 1.4     | <b>▲ 3.69</b> | 0.12     | 2.62 |



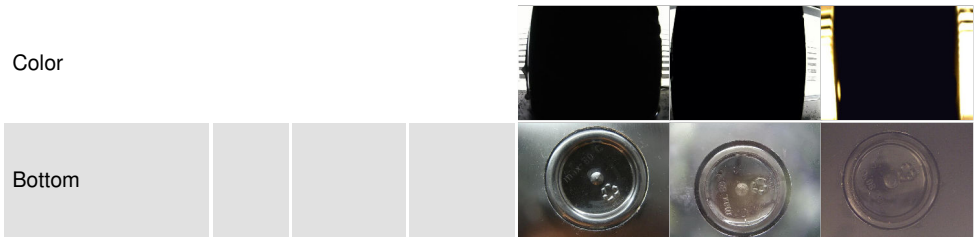
# OIL ANALYSIS REPORT



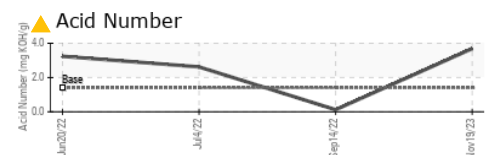
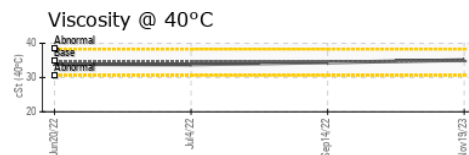
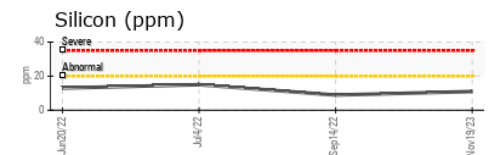
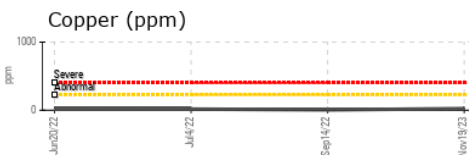
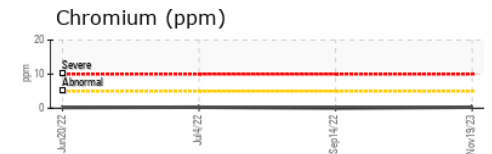
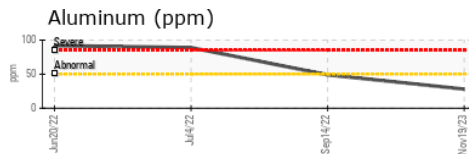
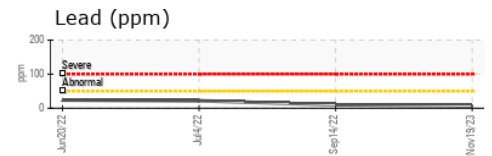
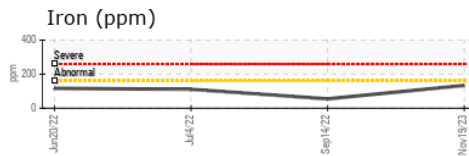
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | Visual*    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | Visual*    | NONE    | NONE     | NONE     |
| Silt             | scalar | Visual*    | NONE    | NONE     | LIGHT    |
| Debris           | scalar | Visual*    | NONE    | NONE     | VLITE    |
| Sand/Dirt        | scalar | Visual*    | NONE    | NONE     | NONE     |
| Appearance       | scalar | Visual*    | NORML   | NORML    | NORML    |
| Odor             | scalar | Visual*    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | Visual*    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | Visual*    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |
|------------------|--------|---------------|---------|-------------|----------|
| Visc @ 40°C      | cSt    | ASTM D7279(m) | 34.8    | <b>35.1</b> | 34.4     |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



## GRAPHS



ISO 17025:2017  
Accredited  
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County  
 Sample No. : GFL0091593 Received : 04 Dec 2023  
 Lab Number : 02600581 Diagnosed : 07 Dec 2023  
 Unique Number : 5685661 Diagnostician : Kevin Marson  
 Test Package : MOB 2 ( Additional Tests: PQ, TAN Man )

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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