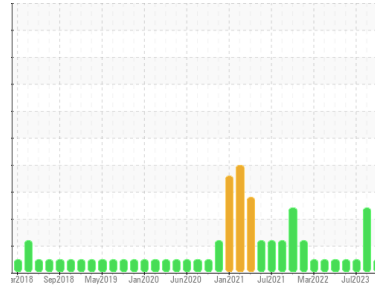




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**CUMMINS 10862**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (7 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>GFL0086252</b>  | GFL0086270  | GFL0086237  |
| Sample Date   | Client Info |             | <b>20 Dec 2023</b> | 09 Aug 2023 | 20 Jul 2023 |
| Machine Age   | hrs         | Client Info | <b>14717</b>       | 14133       | 31895       |
| Oil Age       | hrs         | Client Info | <b>14717</b>       | 14133       | 13984       |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | ABNORMAL    | NORMAL      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >3.0       | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Water  | WC Method | >0.2       | <b>NEG</b>     | NEG      | NEG      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >75  | <b>11</b>    | 6        | 2        |
| Chromium | ppm    | ASTM D5185m >5   | <b>&lt;1</b> | 0        | <1       |
| Nickel   | ppm    | ASTM D5185m >4   | <b>0</b>     | 0        | 0        |
| Titanium | ppm    | ASTM D5185m >2   | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2   | <b>0</b>     | <1       | 0        |
| Aluminum | ppm    | ASTM D5185m >15  | <b>3</b>     | <1       | 1        |
| Lead     | ppm    | ASTM D5185m >25  | <b>&lt;1</b> | <1       | 0        |
| Copper   | ppm    | ASTM D5185m >100 | <b>2</b>     | <1       | 0        |
| Tin      | ppm    | ASTM D5185m >4   | <b>0</b>     | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current     | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>63</b>   | 15       | 31       |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>    | 2        | 0        |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>88</b>   | 87       | 61       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>3</b>    | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>644</b>  | 743      | 714      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1270</b> | 1140     | 1031     |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>781</b>  | 928      | 877      |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>920</b>  | 1125     | 1047     |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>2886</b> | 3148     | 2856     |

## CONTAMINANTS

|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>14</b> | 5        | 5        |
| Sodium    | ppm    | ASTM D5185m     | <b>11</b> | ▲ 126    | 10       |
| Potassium | ppm    | ASTM D5185m >20 | <b>4</b>  | ▲ 152    | 14       |

## INFRA-RED

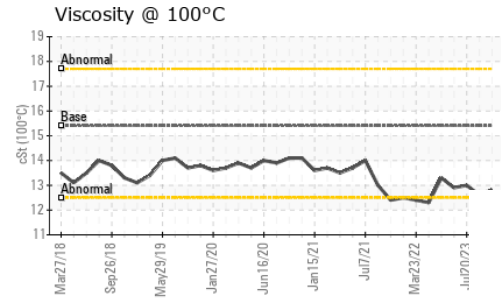
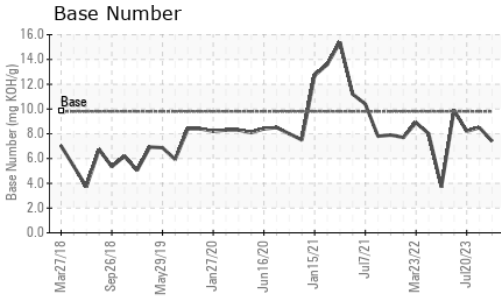
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >6  | <b>0.4</b>  | 0.3      | 0.1      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>9.0</b>  | 6.3      | 4.4      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>19.2</b> | 16.9     | 16.1     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>16.5</b> | 12.0     | 11.1     |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>7.4</b>  | 8.5      | 8.2      |



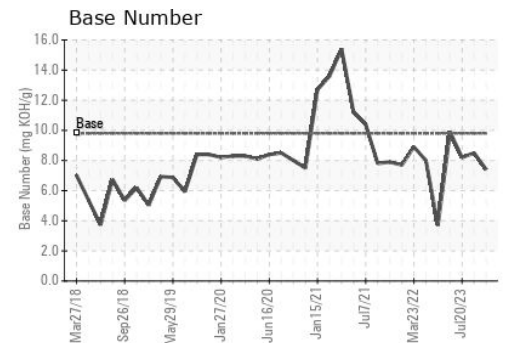
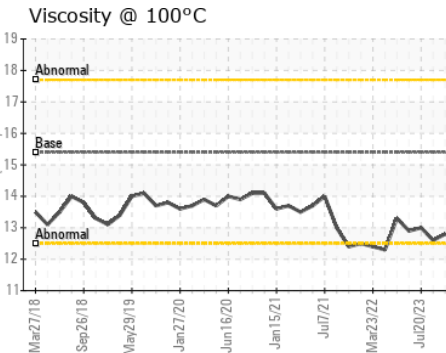
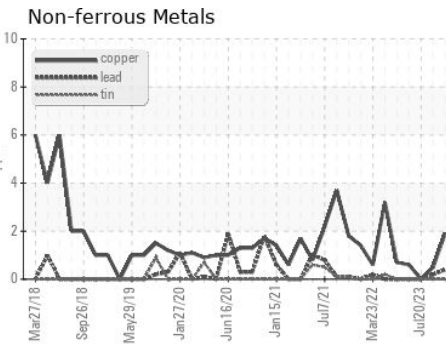
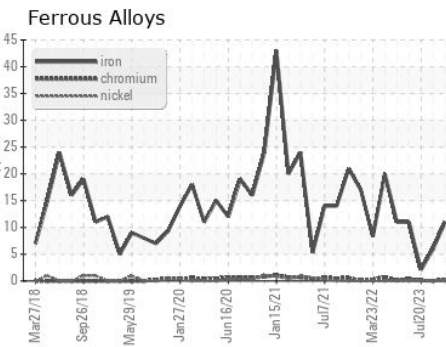
# OIL ANALYSIS REPORT



| 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     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| 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 D445  | 15.4    | <b>12.8</b> | 12.6     | 13.0 |

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0086252  
 Lab Number : **06042915**  
 Unique Number : 10803523  
 Test Package : FLEET

**GFL Environmental - 009 - Fairburn**  
 6905 Roosevelt Hwy  
 Fairburn, GA  
 US 30213  
 Contact: Eric Jones  
 erjones@gflenv.com  
 T: (678)630-9927  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)