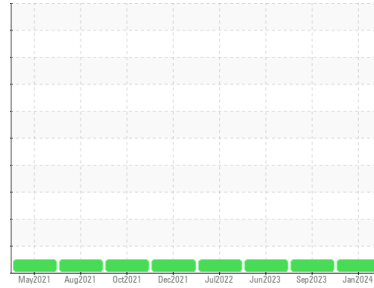




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**948009-260346**

Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- LTR)**

## 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>GFL0095990</b>  | GFL0071768  | GFL0071740  |
| Sample Date   | Client Info |             | <b>23 Jan 2024</b> | 15 Sep 2023 | 13 Jun 2023 |
| Machine Age   | hrs         | Client Info | <b>67180</b>       | 66756       | 66756       |
| Oil Age       | hrs         | Client Info | <b>600</b>         | 600         | 600         |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## 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 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>12</b>    | 29       | 18       |
| Chromium | ppm    | ASTM D5185m >4  | <b>&lt;1</b> | 2        | <1       |
| Nickel   | ppm    | ASTM D5185m >2  | <b>0</b>     | <1       | 0        |
| Titanium | ppm    | ASTM D5185m     | <b>0</b>     | <1       | <1       |
| Silver   | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>2</b>     | 4        | <1       |
| Lead     | ppm    | ASTM D5185m >30 | <b>&lt;1</b> | <1       | 0        |
| Copper   | ppm    | ASTM D5185m >35 | <b>1</b>     | 2        | 1        |
| Tin      | ppm    | ASTM D5185m >4  | <b>&lt;1</b> | <1       | <1       |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | <1       |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 50   | <b>18</b>    | 28       | 19       |
| Barium     | ppm    | ASTM D5185m 5    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>51</b>    | 60       | 53       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m 560  | <b>610</b>   | 570      | 575      |
| Calcium    | ppm    | ASTM D5185m 1510 | <b>1605</b>  | 1564     | 1574     |
| Phosphorus | ppm    | ASTM D5185m 780  | <b>783</b>   | 831      | 786      |
| Zinc       | ppm    | ASTM D5185m 870  | <b>1017</b>  | 1038     | 967      |
| Sulfur     | ppm    | ASTM D5185m 2040 | <b>2486</b>  | 3036     | 2946     |

## CONTAMINANTS

|           | method | limit/base        | current      | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>6</b>     | 10       | 9        |
| Sodium    | ppm    | ASTM D5185m       | <b>8</b>     | 18       | 17       |
| Potassium | ppm    | ASTM D5185m >20   | <b>&lt;1</b> | 4        | 3        |

## INFRA-RED

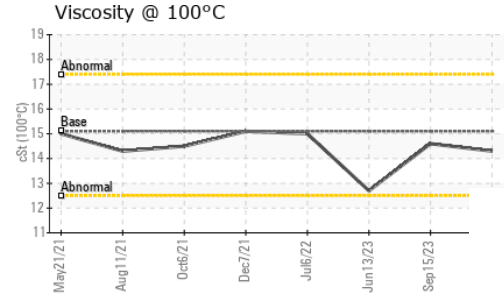
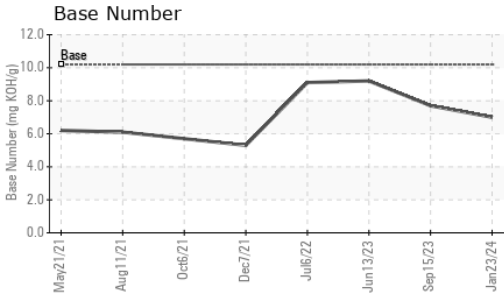
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844     | <b>0</b>    | 0        | 0.1      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>9.4</b>  | 9.9      | 9.6      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>19.6</b> | 23.0     | 18.7     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>16.5</b> | 18.1     | 16.0     |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.2 | <b>7.0</b>  | 7.7      | 9.2      |



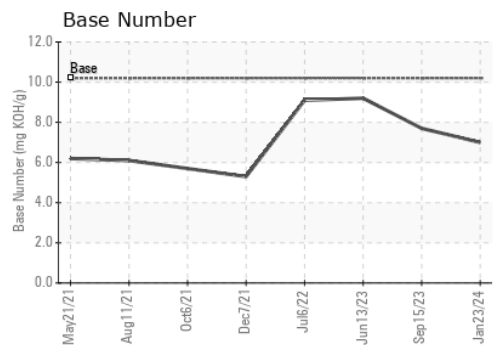
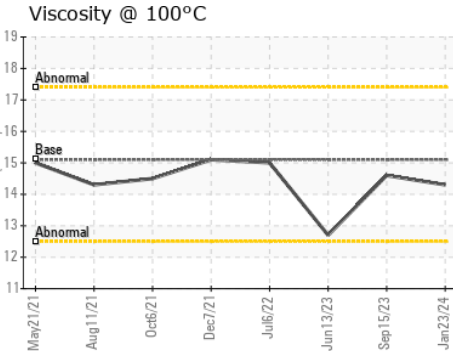
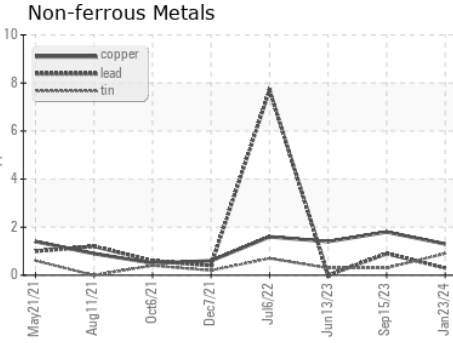
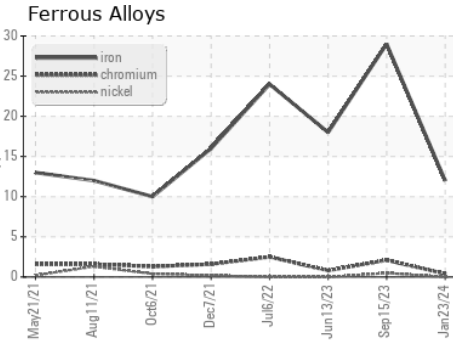
# OIL ANALYSIS REPORT



| 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    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |      |
|------------------|--------|------------|---------|-------------|----------|------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.1    | <b>14.3</b> | 14.6     | 12.7 |

## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0095990  
 Lab Number : 06069961  
 Unique Number : 10846638  
 Test Package : FLEET

**GFL Environmental - 883 - Orange City**  
 1378 South Volusia Ave  
 Orange City, FL  
 US 32763  
 Contact: JEFF COOPERSMITH  
 JCOOPERSMITH@GFLENV.COM  
 T: (386)503-8468  
 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)