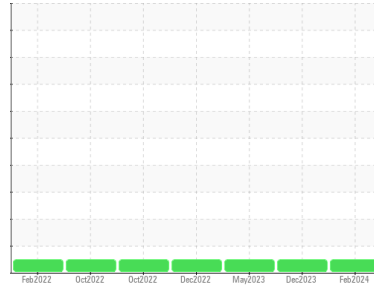




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**945009-260265**

Component  
**Natural Gas Engine**

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

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### 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>GFL0106816</b>  | GFL0092068  | GFL0078158  |
| Sample Date   | Client Info |             | <b>12 Feb 2024</b> | 02 Dec 2023 | 08 May 2023 |
| Machine Age   | hrs         | Client Info | <b>12153</b>       | 87949       | 8984        |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 87949       | 0           |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Not Changd  | Not Changd  |
| 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>28</b> | 3        | 9        |
| Chromium | ppm    | ASTM D5185m >4  | <b>1</b>  | <1       | <1       |
| Nickel   | ppm    | ASTM D5185m >2  | <b>1</b>  | 0        | <1       |
| Titanium | ppm    | ASTM D5185m     | <b>0</b>  | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >3  | <b>0</b>  | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>6</b>  | 1        | 2        |
| Lead     | ppm    | ASTM D5185m >30 | <b>7</b>  | 0        | 4        |
| Copper   | ppm    | ASTM D5185m >35 | <b>3</b>  | 0        | 2        |
| Tin      | ppm    | ASTM D5185m >4  | <b>2</b>  | 0        | 1        |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>  | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>  | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current     | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 50   | <b>9</b>    | 44       | 6        |
| Barium     | ppm    | ASTM D5185m 5    | <b>0</b>    | 2        | 2        |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>56</b>   | 48       | 57       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>2</b>    | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m 560  | <b>646</b>  | 494      | 578      |
| Calcium    | ppm    | ASTM D5185m 1510 | <b>1647</b> | 1447     | 1726     |
| Phosphorus | ppm    | ASTM D5185m 780  | <b>837</b>  | 701      | 735      |
| Zinc       | ppm    | ASTM D5185m 870  | <b>1026</b> | 845      | 1059     |
| Sulfur     | ppm    | ASTM D5185m 2040 | <b>2481</b> | 2418     | 2648     |

## CONTAMINANTS

|           | method | limit/base        | current      | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>8</b>     | 3        | 4        |
| Sodium    | ppm    | ASTM D5185m       | <b>12</b>    | 12       | 10       |
| Potassium | ppm    | ASTM D5185m >20   | <b>&lt;1</b> | 3        | 1        |

## INFRA-RED

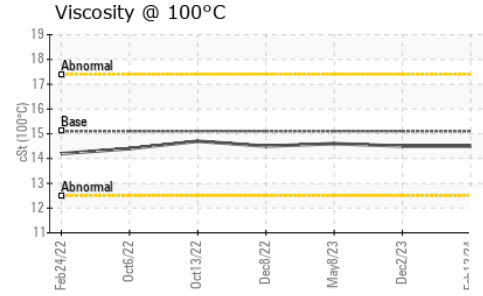
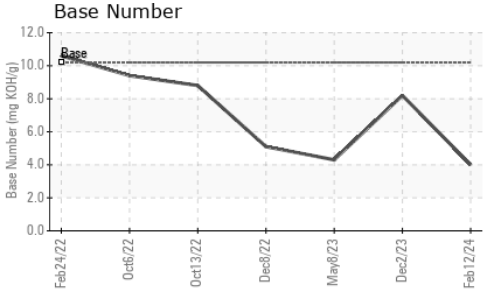
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844     | <b>0.1</b>  | 0        | 0        |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>13.6</b> | 6.3      | 11.1     |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>27.6</b> | 19.0     | 22.3     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>24.8</b> | 15.8     | 19.2     |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.2 | <b>4.0</b>  | 8.2      | 4.3      |



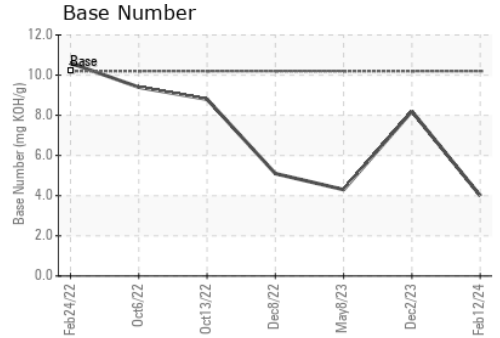
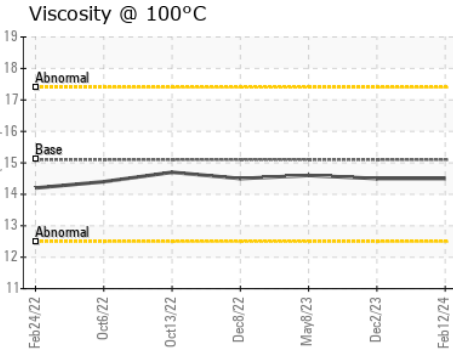
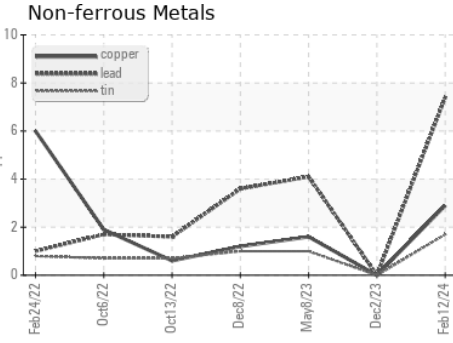
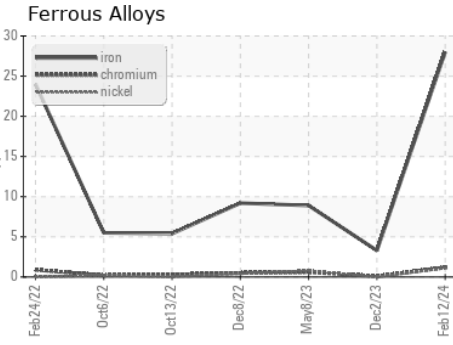
# OIL ANALYSIS REPORT



| 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>14.5</b> | 14.5     | 14.6 |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0106816  
**Lab Number** : 06089338  
**Unique Number** : 10876783  
**Test Package** : FLEET

**GFL Environmental - 856 - Houston South**  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Apolinar Zacarias  
 pzacariascano@gflenv.com

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)

T:  
F: