

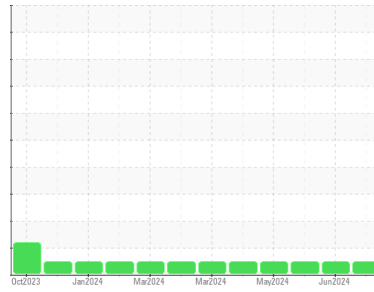


# OIL ANALYSIS REPORT



Area  
**(42KM5B)**  
Machine Id  
**834053**  
Component  
**Natural Gas Engine**  
Fluid  
**PETRO CANADA DURON GEO LD 15W40 (--- GAL)**

### Sample Rating Trend



**NORMAL**



## 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>GFL0122842</b>  | GFL0122916  | GFL0122934  |
| Sample Date   | Client Info |             | <b>09 Jul 2024</b> | 25 Jun 2024 | 05 Jun 2024 |
| Machine Age   | hrs         | Client Info | <b>1864</b>        | 1788        | 1638        |
| Oil Age       | hrs         | Client Info | <b>1270</b>        | 1344        | 1344        |
| 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>17</b>    | 11       | 12       |
| Chromium | ppm    | ASTM D5185m >4  | <b>1</b>     | <1       | <1       |
| Nickel   | ppm    | ASTM D5185m >2  | <b>&lt;1</b> | 0        | <1       |
| Titanium | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | <1       |
| Silver   | ppm    | ASTM D5185m >3  | <b>&lt;1</b> | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>4</b>     | 3        | 3        |
| Lead     | ppm    | ASTM D5185m >30 | <b>4</b>     | 1        | 2        |
| Copper   | ppm    | ASTM D5185m >35 | <b>2</b>     | 1        | 2        |
| Tin      | ppm    | ASTM D5185m >4  | <b>2</b>     | 1        | 1        |
| Vanadium | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 50   | <b>5</b>     | 11       | 7        |
| Barium     | ppm    | ASTM D5185m 5    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>58</b>    | 50       | 54       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m 560  | <b>602</b>   | 542      | 557      |
| Calcium    | ppm    | ASTM D5185m 1510 | <b>1757</b>  | 1621     | 1609     |
| Phosphorus | ppm    | ASTM D5185m 780  | <b>759</b>   | 668      | 624      |
| Zinc       | ppm    | ASTM D5185m 870  | <b>1041</b>  | 943      | 935      |
| Sulfur     | ppm    | ASTM D5185m 2040 | <b>2368</b>  | 2493     | 2272     |

## CONTAMINANTS

|           | method | limit/base        | current   | history1 | history2 |
|-----------|--------|-------------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>9</b>  | 7        | 8        |
| Sodium    | ppm    | ASTM D5185m       | <b>10</b> | 6        | 7        |
| Potassium | ppm    | ASTM D5185m >20   | <b>2</b>  | <1       | 2        |

## INFRA-RED

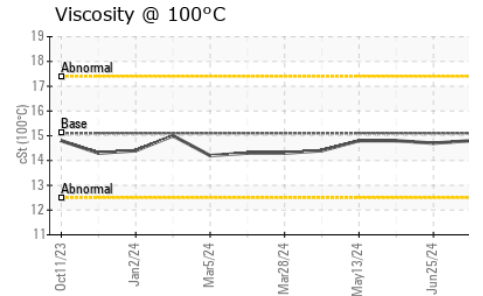
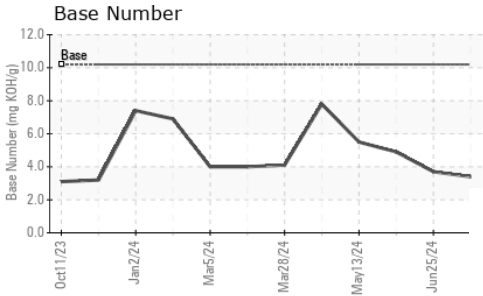
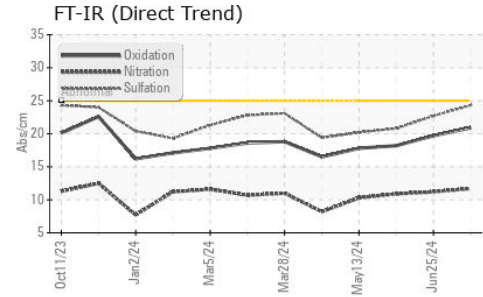
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844     | <b>0</b>    | 0        | 0        |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>11.7</b> | 11.2     | 10.9     |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>24.3</b> | 22.7     | 20.8     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>20.9</b> | 19.7     | 18.2     |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.2 | <b>3.4</b>  | 3.7      | 4.9      |



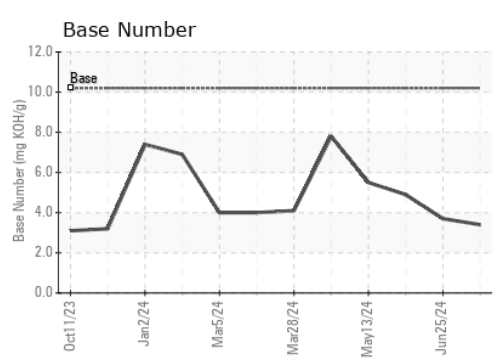
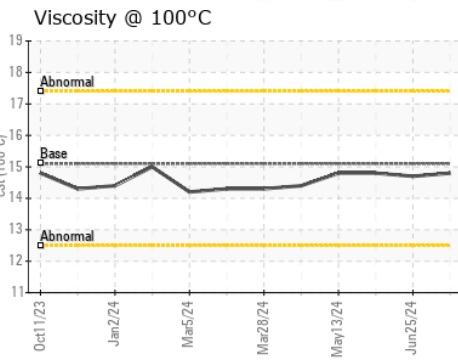
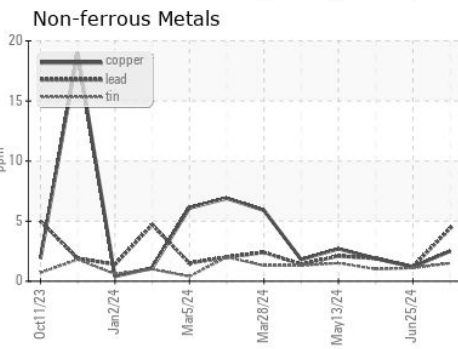
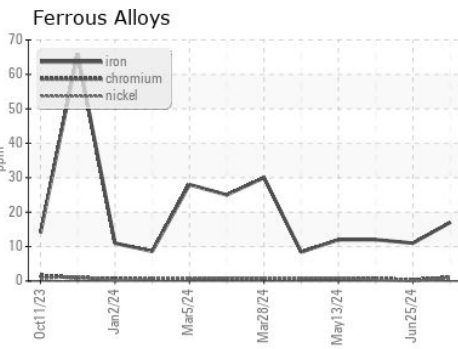
# OIL ANALYSIS REPORT



| 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    | 14.8     | 14.7     |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0122842      **Received** : 16 Jul 2024  
**Lab Number** : 06238720      **Tested** : 17 Jul 2024  
**Unique Number** : 11127554      **Diagnosed** : 18 Jul 2024 - Sean Felton  
**Test Package** : FLEET

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Loyce Stewart  
 loyce.stewart@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)