



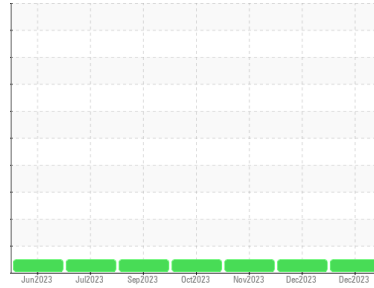
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**{UNASSIGNED}**  
 Machine Id  
**933041**  
 Component  
**Natural Gas Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (8 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>GFL0107211</b>  | GFL0101264  | GFL0101182  |
| Sample Date   | Client Info |             | <b>18 Dec 2023</b> | 04 Dec 2023 | 10 Nov 2023 |
| Machine Age   | hrs         | Client Info | <b>1553</b>        | 1401        | 1248        |
| Oil Age       | hrs         | Client Info | <b>440</b>         | 288         | 135         |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | Not Chngd   | Not Chngd   |
| 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>19</b>    | 15       | 10       |
| Chromium | ppm    | ASTM D5185m >4  | <b>1</b>     | <1       | <1       |
| Nickel   | ppm    | ASTM D5185m >2  | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | <1       |
| Silver   | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>2</b>     | 2        | 2        |
| Lead     | ppm    | ASTM D5185m >30 | <b>0</b>     | 0        | <1       |
| Copper   | ppm    | ASTM D5185m >35 | <b>2</b>     | 1        | 1        |
| Tin      | ppm    | ASTM D5185m >4  | <b>&lt;1</b> | 0        | <1       |
| Vanadium | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | <1       |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | 2        | 4        |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>     | 2        | 0        |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>63</b>    | 60       | 61       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>1</b>     | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>931</b>   | 810      | 944      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1087</b>  | 1035     | 1121     |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>998</b>   | 842      | 1046     |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>1240</b>  | 1090     | 1285     |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>2860</b>  | 3082     | 3121     |

## CONTAMINANTS

|           | method | limit/base        | current  | history1 | history2 |
|-----------|--------|-------------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>5</b> | 4        | 3        |
| Sodium    | ppm    | ASTM D5185m       | <b>5</b> | 12       | 3        |
| Potassium | ppm    | ASTM D5185m >20   | <b>7</b> | 7        | 4        |

## INFRA-RED

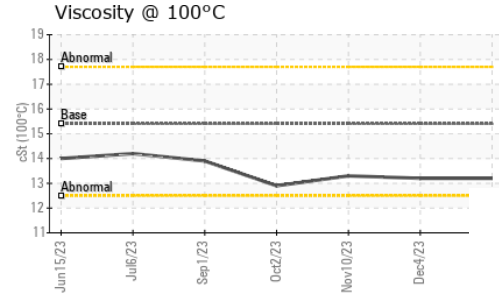
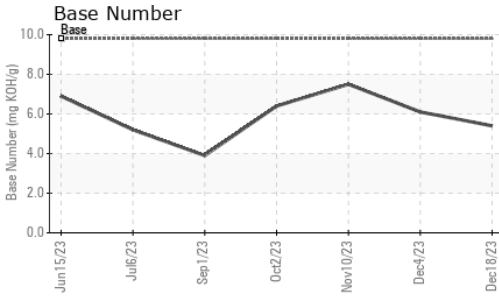
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844     | <b>0</b>    | 0        | 0        |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>9.3</b>  | 7.9      | 6.4      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>18.3</b> | 17.2     | 17.1     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>13.5</b> | 12.9     | 12.6     |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>5.4</b>  | 6.1      | 7.5      |



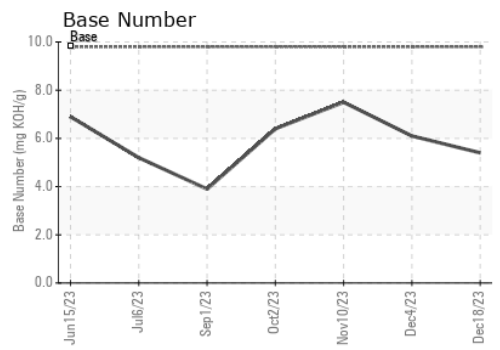
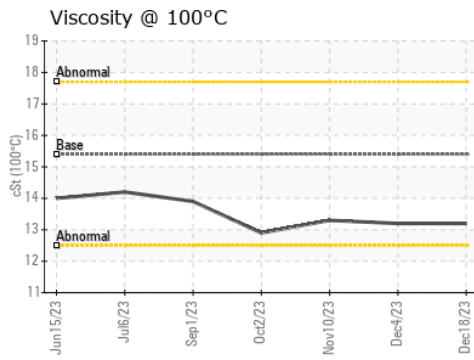
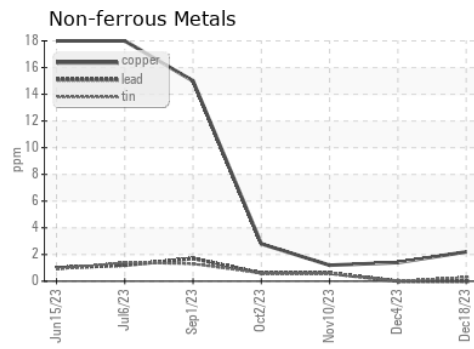
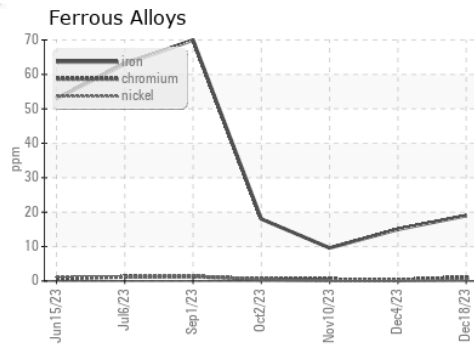
# OIL ANALYSIS REPORT



| 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  | 15.4    | <b>13.2</b> | 13.2     | 13.3 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0107211 **Received** : 20 Dec 2023  
**Lab Number** : **06041260** **Diagnosed** : 22 Dec 2023  
**Unique Number** : 10796489 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 010 - Stockbridge**  
 1280 Rum Creek Parkway  
 Stockbridge, GA  
 US 30281  
 Contact: JOSHUA TINKER  
 joshuatinker@gflenv.com  
 T:  
 F:

Certificate L2367  
 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)