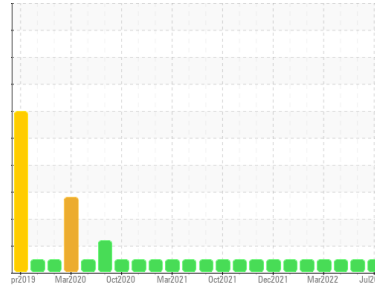




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**10961**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (34 QTS)**

## 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>GFL0076967</b>  | GFL0064942  | GFL0055794  |
| Sample Date   | Client Info | <b>21 Jul 2023</b> | 03 Jan 2023 | 05 Aug 2022 |
| Machine Age   | hrs         | <b>4485</b>        | 0           | 4485        |
| Oil Age       | hrs         | <b>600</b>         | 600         | 600         |
| 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 |
|--------|----------------|----------------|----------|----------|
| Fuel   | WC Method >3.0 | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Glycol | WC Method      | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

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

## ADDITIVES

| method     | limit/base | current          | history1     | history2 |      |
|------------|------------|------------------|--------------|----------|------|
| Boron      | ppm        | ASTM D5185m 0    | <b>10</b>    | 6        | 10   |
| Barium     | ppm        | ASTM D5185m 0    | <b>0</b>     | 0        | 0    |
| Molybdenum | ppm        | ASTM D5185m 60   | <b>63</b>    | 61       | 58   |
| Manganese  | ppm        | ASTM D5185m 0    | <b>&lt;1</b> | <1       | 0    |
| Magnesium  | ppm        | ASTM D5185m 1010 | <b>1024</b>  | 1045     | 896  |
| Calcium    | ppm        | ASTM D5185m 1070 | <b>1188</b>  | 1268     | 1091 |
| Phosphorus | ppm        | ASTM D5185m 1150 | <b>1135</b>  | 1088     | 982  |
| Zinc       | ppm        | ASTM D5185m 1270 | <b>1360</b>  | 1421     | 1218 |
| Sulfur     | ppm        | ASTM D5185m 2060 | <b>4155</b>  | 4093     | 3099 |

## CONTAMINANTS

| method    | limit/base | current         | history1     | history2 |   |
|-----------|------------|-----------------|--------------|----------|---|
| Silicon   | ppm        | ASTM D5185m >25 | <b>3</b>     | 8        | 9 |
| Sodium    | ppm        | ASTM D5185m     | <b>&lt;1</b> | 2        | 3 |
| Potassium | ppm        | ASTM D5185m >20 | <b>0</b>     | 2        | 1 |

## INFRA-RED

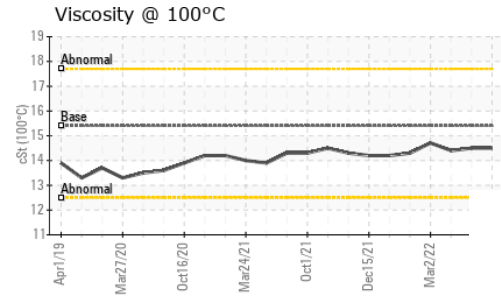
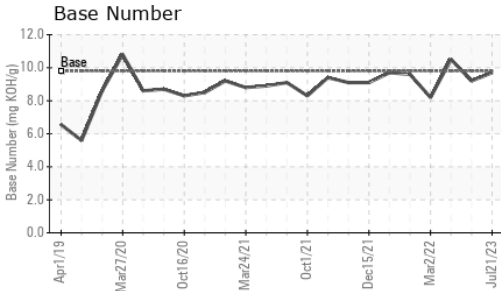
| method    | limit/base | current         | history1    | history2 |      |
|-----------|------------|-----------------|-------------|----------|------|
| Soot %    | %          | *ASTM D7844 >6  | <b>0.1</b>  | 0.2      | 0.2  |
| Nitration | Abs/cm     | *ASTM D7624 >20 | <b>4.7</b>  | 6.0      | 6.1  |
| Sulfation | Abs/.1mm   | *ASTM D7415 >30 | <b>17.2</b> | 18.1     | 19.4 |

## FLUID DEGRADATION

| method           | limit/base | current         | history1    | history2 |      |
|------------------|------------|-----------------|-------------|----------|------|
| Oxidation        | Abs/.1mm   | *ASTM D7414 >25 | <b>12.9</b> | 13.8     | 14.5 |
| Base Number (BN) | mg KOH/g   | ASTM D2896 9.8  | <b>9.7</b>  | 9.2      | 10.5 |



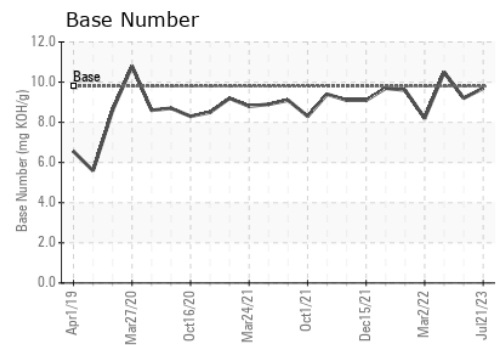
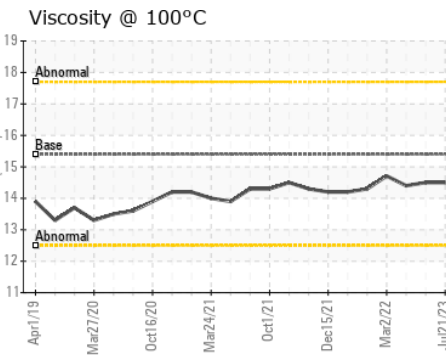
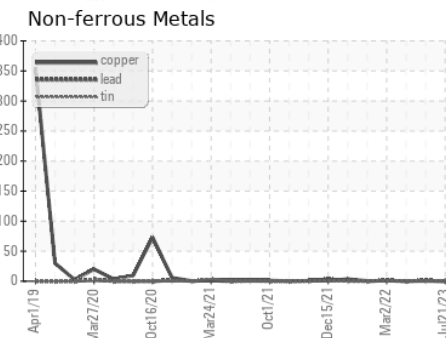
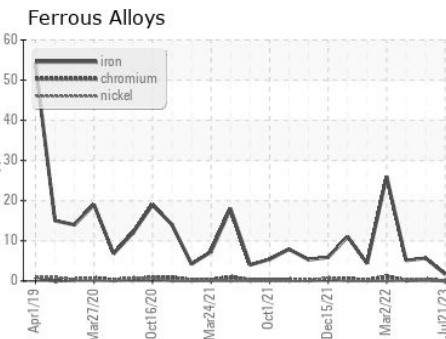
# OIL ANALYSIS REPORT



| 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    | >0.2    | 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>14.5</b> | 14.5     |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0076967 **Received** : 24 Jul 2023  
**Lab Number** : 05905264 **Diagnosed** : 24 Jul 2023  
**Unique Number** : 10566620 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 020 - Alamance**  
 703 East Gilbreath St  
 Graham, NC  
 US 27253  
 Contact:  
 richard.belcher@gflenv.com  
 T: (800)207-6618  
 F: (336)229-0526

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)