



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**827038**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- 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>GFL0067014</b>  | ---      | ---      |
| Sample Date   | Client Info     | <b>05 Jul 2023</b> | ---      | ---      |
| Machine Age   | hrs Client Info | <b>19920</b>       | ---      | ---      |
| Oil Age       | hrs Client Info | <b>0</b>           | ---      | ---      |
| Oil Changed   | Client Info     | <b>Changed</b>     | ---      | ---      |
| Sample Status |                 | <b>NORMAL</b>      | ---      | ---      |

## CONTAMINATION

| method | limit/base   | current        | history1 | history2 |
|--------|--------------|----------------|----------|----------|
| Fuel   | WC Method >5 | <b>&lt;1.0</b> | ---      | ---      |
| Glycol | WC Method    | <b>NEG</b>     | ---      | ---      |

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron     | ppm ASTM D5185m >110 | <b>66</b>    | ---      | ---      |
| Chromium | ppm ASTM D5185m >4   | <b>3</b>     | ---      | ---      |
| Nickel   | ppm ASTM D5185m >2   | <b>&lt;1</b> | ---      | ---      |
| Titanium | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |
| Silver   | ppm ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Aluminum | ppm ASTM D5185m >25  | <b>12</b>    | ---      | ---      |
| Lead     | ppm ASTM D5185m >45  | <b>6</b>     | ---      | ---      |
| Copper   | ppm ASTM D5185m >85  | <b>4</b>     | ---      | ---      |
| Tin      | ppm ASTM D5185m >4   | <b>1</b>     | ---      | ---      |
| Vanadium | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |
| Cadmium  | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |

## ADDITIVES

| method     | limit/base           | current     | history1 | history2 |
|------------|----------------------|-------------|----------|----------|
| Boron      | ppm ASTM D5185m 0    | <b>17</b>   | ---      | ---      |
| Barium     | ppm ASTM D5185m 0    | <b>0</b>    | ---      | ---      |
| Molybdenum | ppm ASTM D5185m 60   | <b>77</b>   | ---      | ---      |
| Manganese  | ppm ASTM D5185m 0    | <b>1</b>    | ---      | ---      |
| Magnesium  | ppm ASTM D5185m 1010 | <b>1065</b> | ---      | ---      |
| Calcium    | ppm ASTM D5185m 1070 | <b>1386</b> | ---      | ---      |
| Phosphorus | ppm ASTM D5185m 1150 | <b>1178</b> | ---      | ---      |
| Zinc       | ppm ASTM D5185m 1270 | <b>1427</b> | ---      | ---      |
| Sulfur     | ppm ASTM D5185m 2060 | <b>3726</b> | ---      | ---      |

## CONTAMINANTS

| method    | limit/base          | current   | history1 | history2 |
|-----------|---------------------|-----------|----------|----------|
| Silicon   | ppm ASTM D5185m >30 | <b>12</b> | ---      | ---      |
| Sodium    | ppm ASTM D5185m     | <b>14</b> | ---      | ---      |
| Potassium | ppm ASTM D5185m >20 | <b>6</b>  | ---      | ---      |

## INFRA-RED

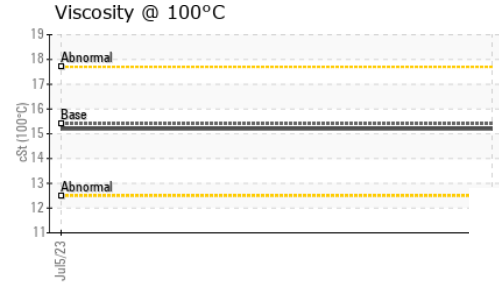
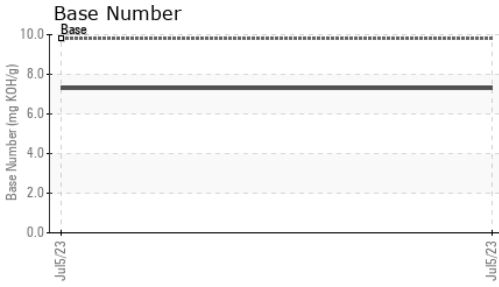
| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >3         | <b>1.1</b>  | ---      | ---      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>12.9</b> | ---      | ---      |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>26.1</b> | ---      | ---      |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>23.2</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8  | <b>7.3</b>  | ---      | ---      |



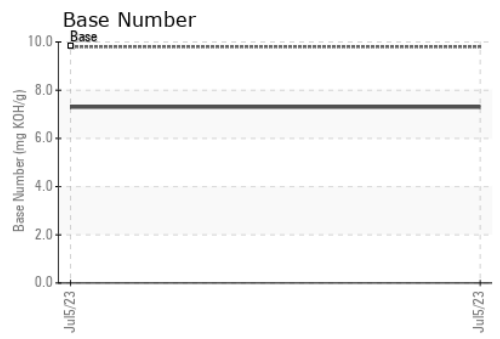
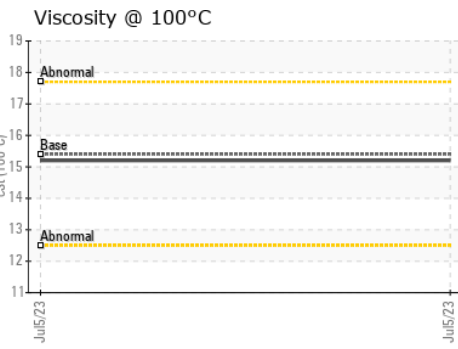
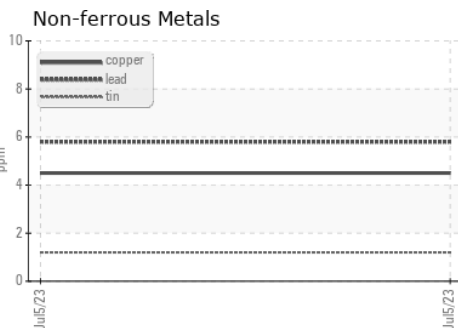
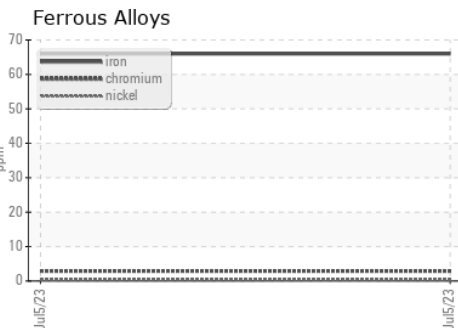
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | ---      | --- |
| Free Water       | scalar | *Visual    |         | NEG      | ---      | --- |

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |     |
|------------------|--------|------------|---------|-------------|----------|-----|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | <b>15.2</b> | ---      | --- |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0067014     **Received** : 19 Jul 2023  
**Lab Number** : **05902178**     **Diagnosed** : 19 Jul 2023  
**Unique Number** : 10563534     **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 916 - Greenbay HC**  
 1799 County Trunk PP  
 DePere, WI  
 US 54115  
 Contact: Travis Runge  
 travis.runge@gflenv.com  
 T: (920)351-2341  
 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)