



# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**213001**  
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>GFL0092750</b>  | ---      | ---      |
| Sample Date   | Client Info |             | <b>29 Aug 2023</b> | ---      | ---      |
| Machine Age   | hrs         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Age       | hrs         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | ---      | ---      |
| Sample Status |             |             | <b>NORMAL</b>      | ---      | ---      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >3.0       | <b>&lt;1.0</b> | ---      | ---      |
| Glycol | WC Method |            | <b>NEG</b>     | ---      | ---      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >120 | <b>15</b>    | ---      | ---      |
| Chromium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | ---      | ---      |
| Nickel   | ppm    | ASTM D5185m >5   | <b>0</b>     | ---      | ---      |
| Titanium | ppm    | ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Silver   | ppm    | ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Aluminum | ppm    | ASTM D5185m >20  | <b>7</b>     | ---      | ---      |
| Lead     | ppm    | ASTM D5185m >40  | <b>&lt;1</b> | ---      | ---      |
| Copper   | ppm    | ASTM D5185m >330 | <b>&lt;1</b> | ---      | ---      |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;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>38</b>    | ---      | ---      |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>42</b>    | ---      | ---      |
| Manganese  | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>587</b>   | ---      | ---      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1585</b>  | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>761</b>   | ---      | ---      |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>936</b>   | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>2862</b>  | ---      | ---      |

## CONTAMINANTS

|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>6</b>  | ---      | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>19</b> | ---      | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>11</b> | ---      | ---      |

## INFRA-RED

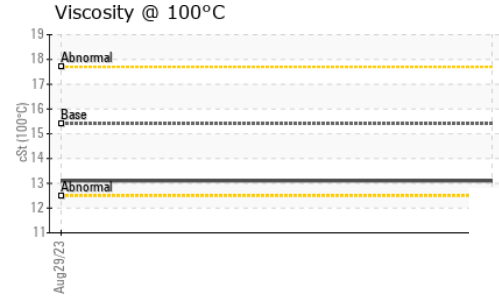
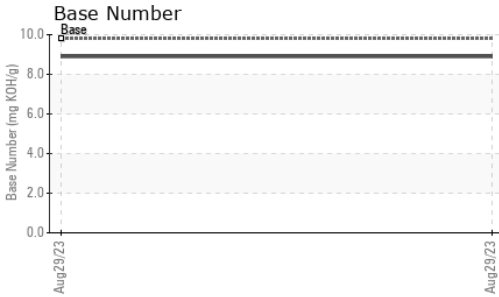
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >4  | <b>0.4</b>  | ---      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>8.3</b>  | ---      | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>21.6</b> | ---      | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>19.7</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>8.9</b>  | ---      | ---      |



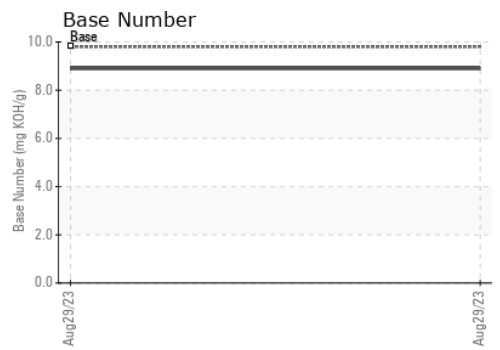
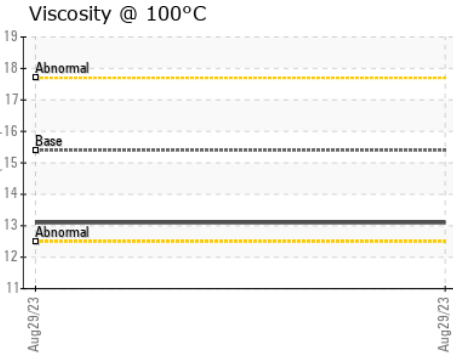
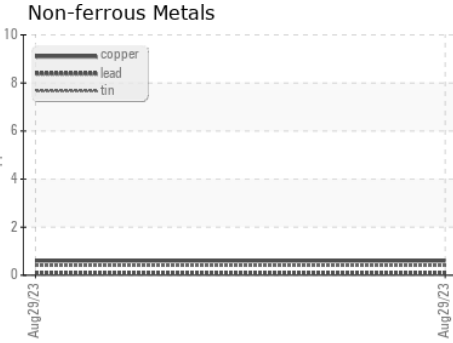
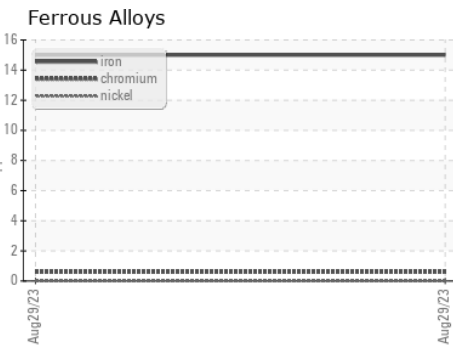
# OIL ANALYSIS REPORT



| PARAMETER        | 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    | 13.1     | ---      |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0092750 **Received** : 01 Sep 2023  
**Lab Number** : 05941170 **Diagnosed** : 06 Sep 2023  
**Unique Number** : 10631782 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 419 - Metro Saginaw**  
 6950 N Michigan  
 Saginaw, MI  
 US 48604  
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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)