



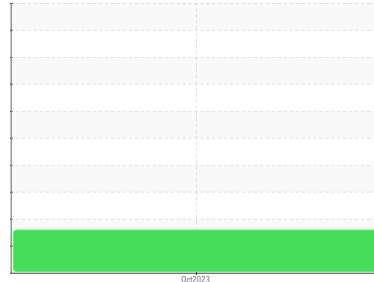
# OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



Machine Id  
**833080**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 10W30 (--- GAL)**



## DIAGNOSIS

### Recommendation

Nous vous recommandons de vérifier le filtre à air, le système d'induction d'air et tout endroit où la saleté peut entrer dans le composant. Nous vous recommandons de vidanger l'huile de ce composant si vous ne l'avez pas déjà fait. Nous recommandons le remplacement des filtres de ce composant. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

### Wear

Les taux d'usure de tous les composants sont normaux.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Les niveaux élémentaires de silicone (Si) et d'aluminium (Al) indiquent l'infiltration d'alumine-silicate (grosses particules de poussière).

### Fluid Condition

La viscosité de l'échantillon se situe dans la portée de l'SAE 40; nous vous conseillons de vérifier. l'huile ne peut plus être utilisée en raison de la présence de contaminants.

## SAMPLE INFORMATION

| method        | limit/base      | current            | history1 | history2 |
|---------------|-----------------|--------------------|----------|----------|
| Sample Number | Client Info     | <b>GFL0087614</b>  | ---      | ---      |
| Sample Date   | Client Info     | <b>20 Oct 2023</b> | ---      | ---      |
| Machine Age   | kms Client Info | <b>0</b>           | ---      | ---      |
| Oil Age       | kms Client Info | <b>600</b>         | ---      | ---      |
| Oil Changed   | Client Info     | <b>N/A</b>         | ---      | ---      |
| Sample Status |                 | <b>ABNORMAL</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 D5185(m) >80  | <b>62</b>    | ---      | ---      |
| Chromium  | ppm ASTM D5185(m) >5   | <b>2</b>     | ---      | ---      |
| Nickel    | ppm ASTM D5185(m) >2   | <b>2</b>     | ---      | ---      |
| Titanium  | ppm ASTM D5185(m)      | <b>0</b>     | ---      | ---      |
| Silver    | ppm ASTM D5185(m) >3   | <b>&lt;1</b> | ---      | ---      |
| Aluminum  | ppm ASTM D5185(m) >30  | <b>7</b>     | ---      | ---      |
| Lead      | ppm ASTM D5185(m) >30  | <b>3</b>     | ---      | ---      |
| Copper    | ppm ASTM D5185(m) >150 | <b>19</b>    | ---      | ---      |
| Tin       | ppm ASTM D5185(m) >5   | <b>2</b>     | ---      | ---      |
| Antimony  | ppm ASTM D5185(m)      | <b>0</b>     | ---      | ---      |
| Vanadium  | ppm ASTM D5185(m)      | <b>0</b>     | ---      | ---      |
| Beryllium | ppm ASTM D5185(m)      | <b>0</b>     | ---      | ---      |
| Cadmium   | ppm ASTM D5185(m)      | <b>0</b>     | ---      | ---      |

## ADDITIVES

| method     | limit/base             | current      | history1 | history2 |
|------------|------------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185(m) 2    | <b>5</b>     | ---      | ---      |
| Barium     | ppm ASTM D5185(m) 0    | <b>4</b>     | ---      | ---      |
| Molybdenum | ppm ASTM D5185(m) 50   | <b>105</b>   | ---      | ---      |
| Manganese  | ppm ASTM D5185(m) 0    | <b>12</b>    | ---      | ---      |
| Magnesium  | ppm ASTM D5185(m) 950  | <b>829</b>   | ---      | ---      |
| Calcium    | ppm ASTM D5185(m) 1050 | <b>1450</b>  | ---      | ---      |
| Phosphorus | ppm ASTM D5185(m) 995  | <b>797</b>   | ---      | ---      |
| Zinc       | ppm ASTM D5185(m) 1180 | <b>964</b>   | ---      | ---      |
| Sulfur     | ppm ASTM D5185(m) 2600 | <b>2192</b>  | ---      | ---      |
| Lithium    | ppm ASTM D5185(m)      | <b>&lt;1</b> | ---      | ---      |

## CONTAMINANTS

| method    | limit/base            | current     | history1 | history2 |
|-----------|-----------------------|-------------|----------|----------|
| Silicon   | ppm ASTM D5185(m) >20 | <b>▲ 31</b> | ---      | ---      |
| Sodium    | ppm ASTM D5185(m)     | <b>6</b>    | ---      | ---      |
| Potassium | ppm ASTM D5185(m) >20 | <b>16</b>   | ---      | ---      |

## INFRA-RED

| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % ASTM D7844* >3         | <b>0</b>    | ---      | ---      |
| Nitration | Abs/cm ASTM D7624* >20   | <b>11.7</b> | ---      | ---      |
| Sulfation | Abs./1mm ASTM D7415* >30 | <b>25.7</b> | ---      | ---      |

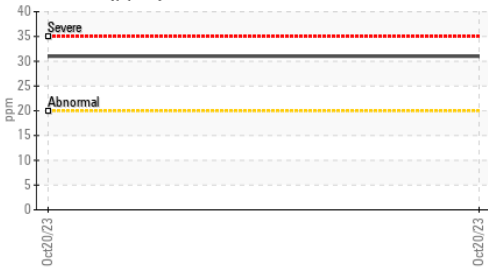
## FLUID DEGRADATION

| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Oxidation | Abs./1mm ASTM D7414* >25 | <b>22.1</b> | ---      | ---      |



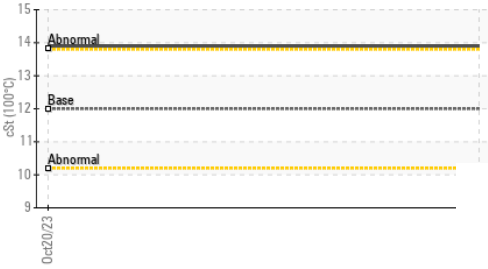
# OIL ANALYSIS REPORT

▲ Silicon (ppm)



| 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    | VLITE    | ---      |
| 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      | ---      |

Viscosity @ 100°C



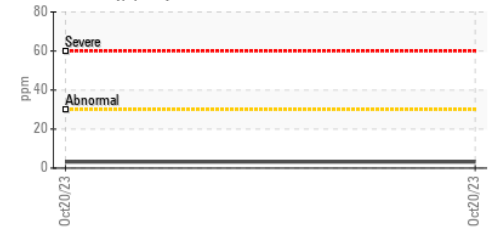
| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 12.00   | 13.9     | ---      |

### GRAPHS

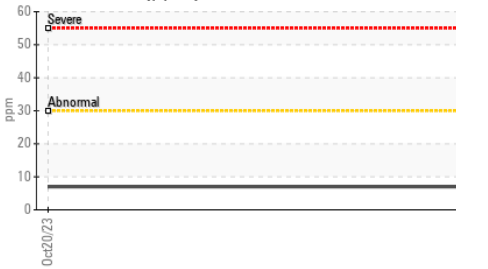
Iron (ppm)



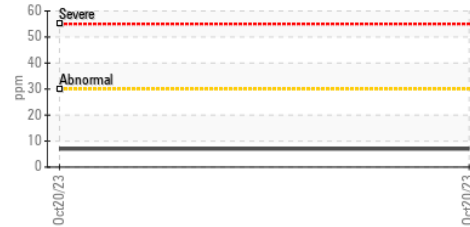
Lead (ppm)



Aluminum (ppm)



Aluminum (ppm)



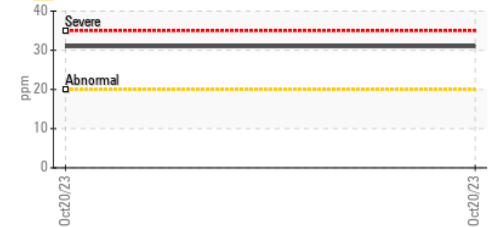
Chromium (ppm)



Copper (ppm)



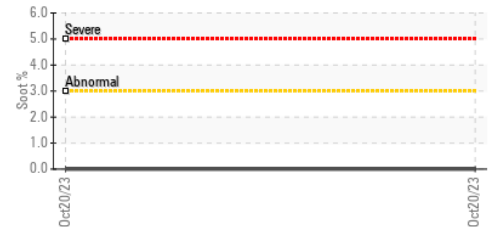
▲ Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 747 - GMA - Solid Waste  
**Sample No.** : GFL0087614 **Received** : 24 Oct 2023  
**Lab Number** : 02591363 **Diagnosed** : 24 Oct 2023  
**Unique Number** : 5668442 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Visual )

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Validity of results and interpretation are based on the sample and information as supplied.

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