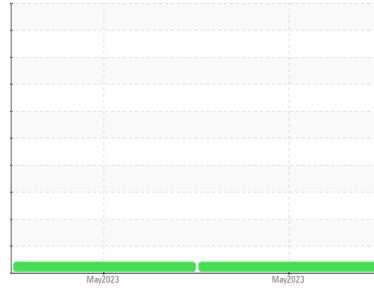




# PROBLEM SUMMARY

Sample Rating Trend



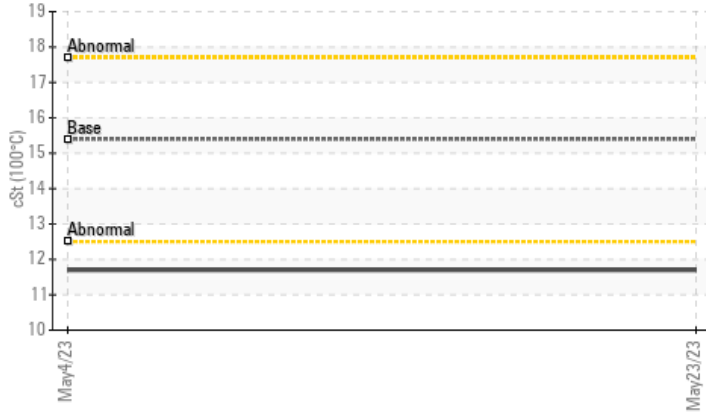
VISCOSITY



Machine Id  
**713028**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



## RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status |     |           |      | ATTENTION | ATTENTION | --- |
|---------------|-----|-----------|------|-----------|-----------|-----|
| Visc @ 100°C  | cSt | ASTM D445 | 15.4 | ▲ 11.7    | ▲ 11.7    | --- |

Customer Id: GFL821  
 Sample No.: GFL0076801  
 Lab Number: 05861641  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:

Sean Felton +1 919-379-4092  
[sfelton@wearcheckusa.com](mailto:sfelton@wearcheckusa.com)

To change component or sample information:

Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**04 May 2023 Diag: Jonathan Hester**

### VISCOSITY



No corrective action is recommended at this time. Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

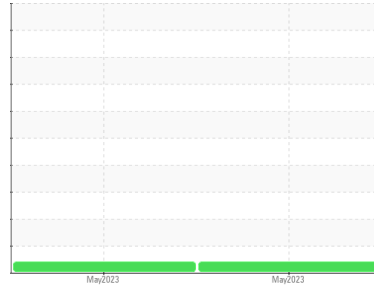
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id  
**713028**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the oil.

### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info |             | <b>GFL0076801</b>  | GFL0076845  | ---      |
| Sample Date   | Client Info |             | <b>23 May 2023</b> | 04 May 2023 | ---      |
| Machine Age   | hrs         | Client Info | <b>278</b>         | 180         | ---      |
| Oil Age       | hrs         | Client Info | <b>200</b>         | 180         | ---      |
| Oil Changed   | Client Info |             | <b>Not Changed</b> | Not Changed | ---      |
| Sample Status |             |             | <b>ATTENTION</b>   | ATTENTION   | ---      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >5         | <b>&lt;1.0</b> | 0.9      | ---      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | ---      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >100 | <b>24</b>    | 17       | ---      |
| Chromium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | <1       | ---      |
| Nickel   | ppm    | ASTM D5185m >4   | <b>0</b>     | <1       | ---      |
| Titanium | ppm    | ASTM D5185m      | <b>0</b>     | 0        | ---      |
| Silver   | ppm    | ASTM D5185m >3   | <b>&lt;1</b> | <1       | ---      |
| Aluminum | ppm    | ASTM D5185m >20  | <b>2</b>     | 2        | ---      |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | <1       | ---      |
| Copper   | ppm    | ASTM D5185m >330 | <b>12</b>    | 10       | ---      |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | <1       | ---      |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | <1       | ---      |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | ---      |

## ADDITIVES

|            | method | limit/base       | current     | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>42</b>   | 42       | ---      |
| Barium     | ppm    | ASTM D5185m 0    | <b>2</b>    | 2        | ---      |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>45</b>   | 43       | ---      |
| Manganese  | ppm    | ASTM D5185m 0    | <b>5</b>    | 5        | ---      |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>852</b>  | 846      | ---      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1233</b> | 1197     | ---      |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>750</b>  | 748      | ---      |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>920</b>  | 923      | ---      |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>2825</b> | 2927     | ---      |

## CONTAMINANTS

|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>15</b> | 15       | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>6</b>  | 5        | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>2</b>  | 2        | ---      |

## INFRA-RED

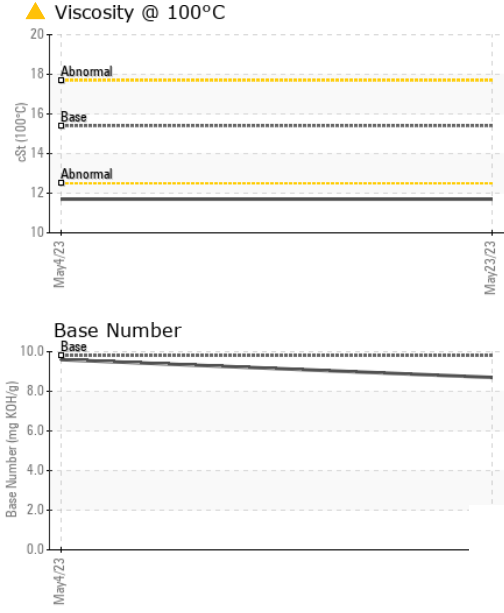
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>0.3</b>  | 0.2      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>10.0</b> | 8.6      | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>21.1</b> | 21.0     | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>20.0</b> | 19.0     | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>8.7</b>  | 9.6      | ---      |



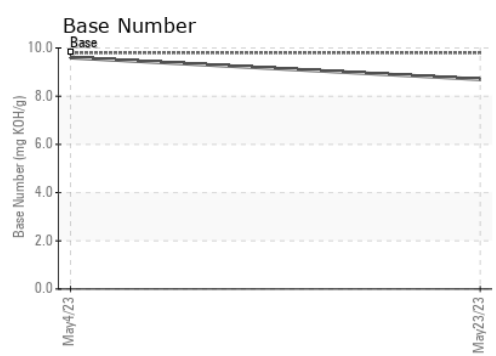
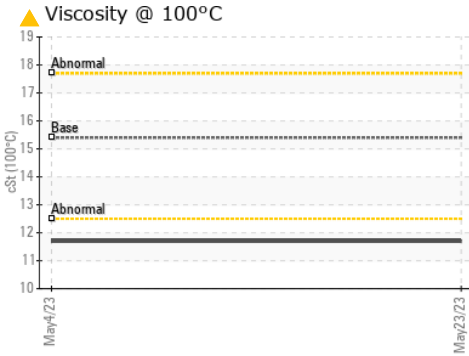
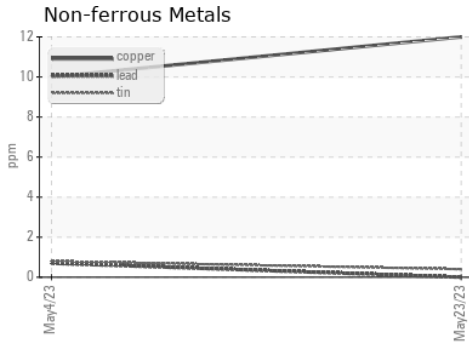
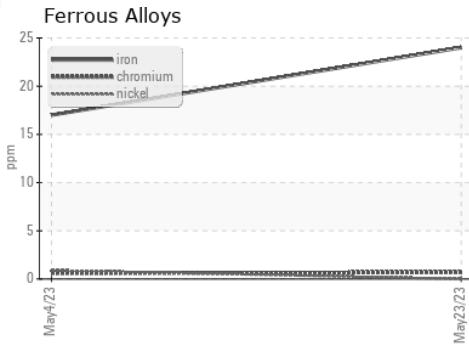
# OIL ANALYSIS REPORT



| 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 | ▲ 11.7  | ▲ 11.7   | ---      |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0076801 **Received** : 01 Jun 2023  
**Lab Number** : 05861641 **Diagnosed** : 02 Jun 2023  
**Unique Number** : 10496106 **Diagnostician** : Sean Felton  
**Test Package** : FLEET

**GFL Environmental - 821 - Ozarks Hauling**  
 33924 Olath Drive  
 Lebanon, MO  
 US 65536  
 Contact: Landen Johnson  
 landen.johnson@gflenv.com  
 T: (417)664-0010  
 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)