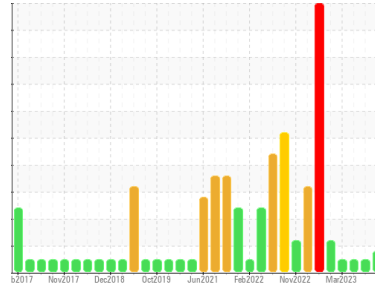




# PROBLEM SUMMARY

Sample Rating Trend



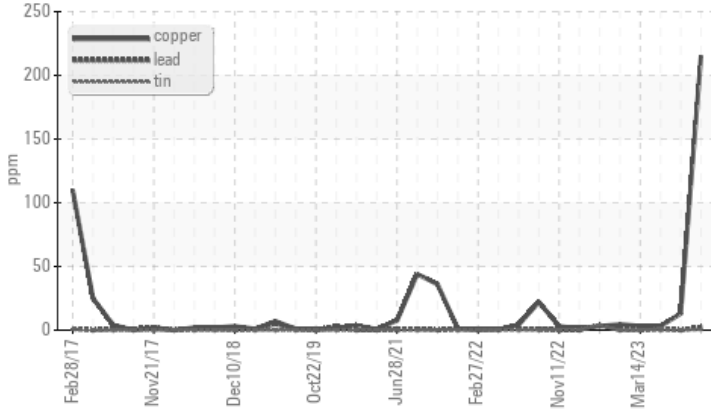
**WEAR**



Machine Id  
**10714**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (28 GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



## RECOMMENDATION

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

## PROBLEMATIC TEST RESULTS

| Sample Status |     |             |      | <b>ABNORMAL</b> | NORMAL | NORMAL |
|---------------|-----|-------------|------|-----------------|--------|--------|
| Copper        | ppm | ASTM D5185m | >100 | <b>▲ 215</b>    | 13     | 3      |

**Customer Id:** GFL010  
**Sample No.:** GFL0088700  
**Lab Number:** 05926999  
**Test Package:** FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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

**20 Jul 2023 Diag: Sean Felton**

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



**12 Apr 2023 Diag: Jonathan Hester**

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



**14 Mar 2023 Diag: Wes Davis**

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. Test for glycol is negative. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

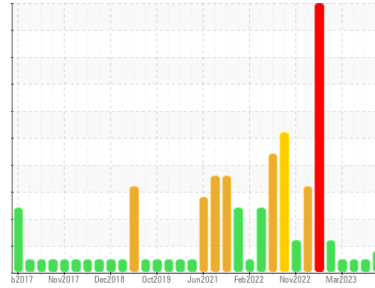
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**10714**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (28 GAL)**

## DIAGNOSIS

### ▲ Recommendation

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

### ▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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>GFL0088700</b>  | GFL0086117  | GFL0076679  |
| Sample Date   | Client Info | <b>16 Aug 2023</b> | 20 Jul 2023 | 12 Apr 2023 |
| Machine Age   | hrs         | <b>728</b>         | 17738       | 17388       |
| Oil Age       | hrs         | <b>530</b>         | 835         | 485         |
| Oil Changed   | Client Info | <b>Not Chngd</b>   | Not Chngd   | Changed     |
| Sample Status |             | <b>ABNORMAL</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>43</b>    | 22       | 36       |
| Chromium | ppm ASTM D5185m >5   | <b>1</b>     | <1       | 2        |
| Nickel   | ppm ASTM D5185m >4   | <b>&lt;1</b> | <1       | 1        |
| Titanium | ppm ASTM D5185m >2   | <b>&lt;1</b> | <1       | <1       |
| Silver   | ppm ASTM D5185m >2   | <b>0</b>     | 0        | 0        |
| Aluminum | ppm ASTM D5185m >15  | <b>5</b>     | 3        | 3        |
| Lead     | ppm ASTM D5185m >25  | <b>2</b>     | 0        | <1       |
| Copper   | ppm ASTM D5185m >100 | <b>▲ 215</b> | 13       | 3        |
| Tin      | ppm ASTM D5185m >4   | <b>&lt;1</b> | 0        | <1       |
| Vanadium | ppm ASTM D5185m      | <b>&lt;1</b> | <1       | 1        |
| Cadmium  | ppm ASTM D5185m      | <b>0</b>     | 0        | <1       |

## ADDITIVES

| method     | limit/base           | current     | history1 | history2 |
|------------|----------------------|-------------|----------|----------|
| Boron      | ppm ASTM D5185m 0    | <b>25</b>   | 45       | 15       |
| Barium     | ppm ASTM D5185m 0    | <b>0</b>    | 0        | 0        |
| Molybdenum | ppm ASTM D5185m 60   | <b>63</b>   | 65       | 63       |
| Manganese  | ppm ASTM D5185m 0    | <b>2</b>    | 1        | 2        |
| Magnesium  | ppm ASTM D5185m 1010 | <b>776</b>  | 770      | 722      |
| Calcium    | ppm ASTM D5185m 1070 | <b>1217</b> | 1212     | 1018     |
| Phosphorus | ppm ASTM D5185m 1150 | <b>728</b>  | 696      | 833      |
| Zinc       | ppm ASTM D5185m 1270 | <b>905</b>  | 859      | 1070     |
| Sulfur     | ppm ASTM D5185m 2060 | <b>2684</b> | 2800     | 2864     |

## CONTAMINANTS

| method    | limit/base          | current   | history1 | history2 |
|-----------|---------------------|-----------|----------|----------|
| Silicon   | ppm ASTM D5185m >25 | <b>14</b> | 13       | 14       |
| Sodium    | ppm ASTM D5185m     | <b>16</b> | 14       | 113      |
| Potassium | ppm ASTM D5185m >20 | <b>8</b>  | 5        | 12       |

## INFRA-RED

| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >6         | <b>1.3</b>  | 0.8      | 1.2      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>9.3</b>  | 8.0      | 8.2      |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>20.4</b> | 20.1     | 19.6     |

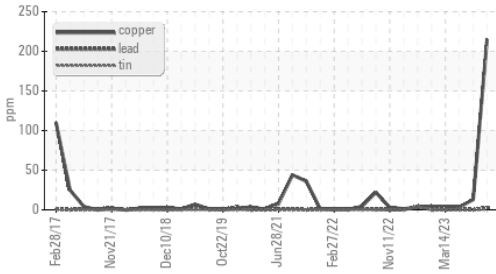
## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>15.8</b> | 15.4     | 13.2     |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8  | <b>7.2</b>  | 8.9      | 7.3      |

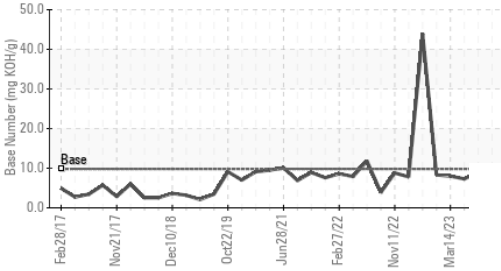


# OIL ANALYSIS REPORT

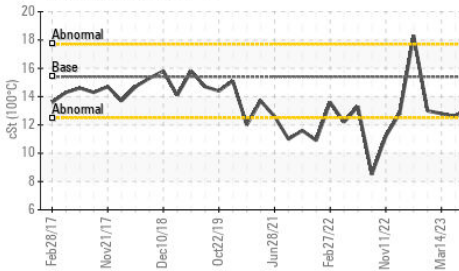
### ▲ Non-ferrous Metals



### Base Number



### Viscosity @ 100°C

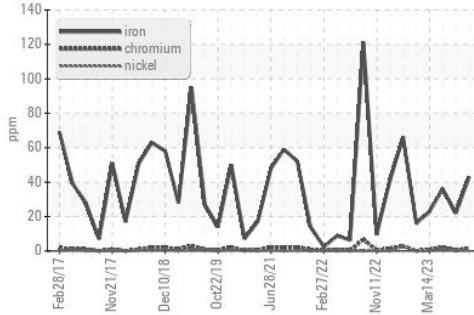


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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      |

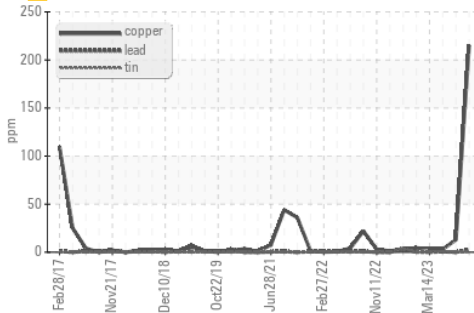
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | 13.5     | 13.1     |

### GRAPHS

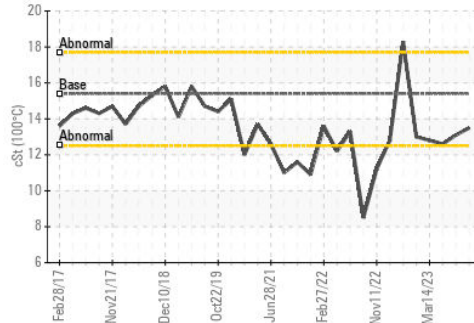
#### Ferrous Alloys



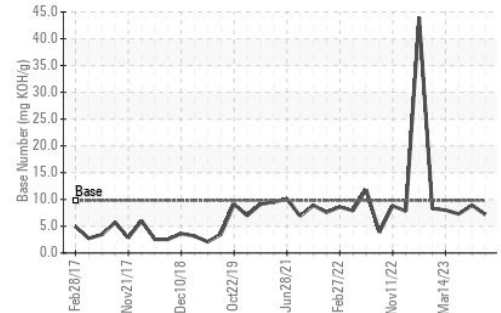
### ▲ Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0088700 **Received** : 17 Aug 2023  
**Lab Number** : 05926999 **Diagnosed** : 18 Aug 2023  
**Unique Number** : 10606946 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 010 - Stockbridge**  
 1280 Rum Creek Parkway  
 Stockbridge, GA  
 US 30281  
 Contact: JOSHUA TINKER  
 joshuatinker@gflenv.com

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)

T:  
F: