



# PROBLEM SUMMARY

Sample Rating Trend

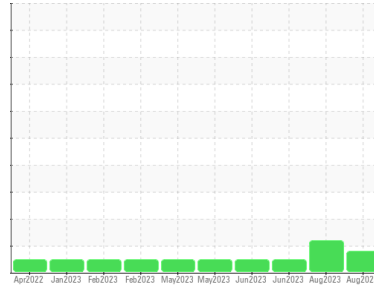
FUEL



Machine Id  
**920094-260373**

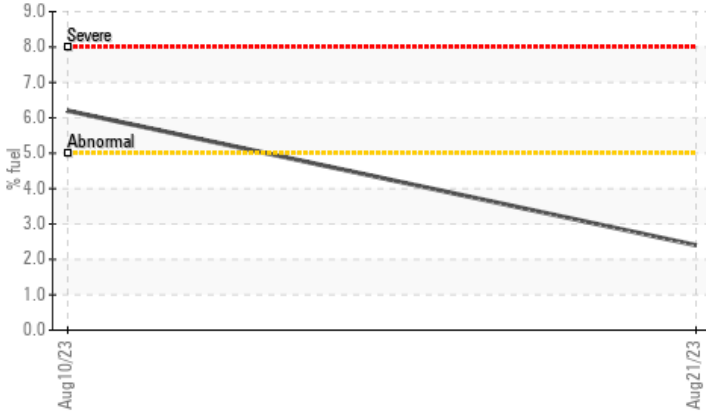
Component  
**Diesel Engine**

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



## COMPONENT CONDITION SUMMARY

### ▲ Fuel Dilution



## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status |   |            |    | MARGINAL | ABNORMAL | NORMAL |
|---------------|---|------------|----|----------|----------|--------|
| Fuel          | % | ASTM D3524 | >5 | ▲ 2.4    | ▲ 6.2    | <1.0   |

Customer Id: GFL820  
 Sample No.: GFL0088260  
 Lab Number: 05937018  
 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

### 10 Aug 2023 Diag: Wes Davis

FUEL



We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report



### 30 Jun 2023 Diag: Doug Bogart

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



### 15 Jun 2023 Diag: Wes Davis

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.

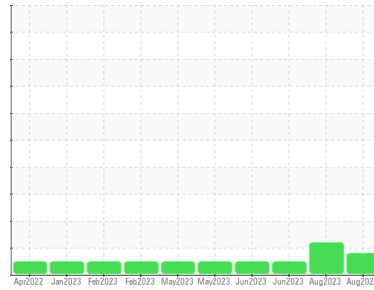
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**920094-260373**

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

Light fuel dilution occurring. No other contaminants were detected in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

| method        | limit/base  | current            | history1    | history2    |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | <b>GFL0088260</b>  | GFL0088174  | GFL0067691  |
| Sample Date   | Client Info | <b>21 Aug 2023</b> | 10 Aug 2023 | 30 Jun 2023 |
| Machine Age   | hrs         | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>MARGINAL</b>    | ABNORMAL    | NORMAL      |

## CONTAMINATION

| method | limit/base | current    | history1 | history2 |
|--------|------------|------------|----------|----------|
| Glycol | WC Method  | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

| method   | limit/base | current          | history1     | history2 |    |
|----------|------------|------------------|--------------|----------|----|
| Iron     | ppm        | ASTM D5185m >100 | <b>2</b>     | 8        | 6  |
| Chromium | ppm        | ASTM D5185m >20  | <b>&lt;1</b> | 0        | <1 |
| Nickel   | ppm        | ASTM D5185m >4   | <b>0</b>     | 0        | 0  |
| Titanium | ppm        | ASTM D5185m      | <b>0</b>     | <1       | 0  |
| Silver   | ppm        | ASTM D5185m >3   | <b>0</b>     | 0        | 0  |
| Aluminum | ppm        | ASTM D5185m >20  | <b>3</b>     | <1       | 1  |
| Lead     | ppm        | ASTM D5185m >40  | <b>0</b>     | 0        | 0  |
| Copper   | ppm        | ASTM D5185m >330 | <b>0</b>     | <1       | <1 |
| Tin      | ppm        | ASTM D5185m >15  | <b>0</b>     | 0        | <1 |
| Vanadium | ppm        | ASTM D5185m      | <b>0</b>     | <1       | 0  |
| Cadmium  | ppm        | ASTM D5185m      | <b>0</b>     | 0        | 0  |

## ADDITIVES

| method     | limit/base | current          | history1     | history2 |      |
|------------|------------|------------------|--------------|----------|------|
| Boron      | ppm        | ASTM D5185m 0    | <b>0</b>     | 0        | <1   |
| Barium     | ppm        | ASTM D5185m 0    | <b>0</b>     | 0        | 0    |
| Molybdenum | ppm        | ASTM D5185m 60   | <b>55</b>    | 54       | 58   |
| Manganese  | ppm        | ASTM D5185m 0    | <b>&lt;1</b> | <1       | <1   |
| Magnesium  | ppm        | ASTM D5185m 1010 | <b>933</b>   | 875      | 971  |
| Calcium    | ppm        | ASTM D5185m 1070 | <b>1017</b>  | 982      | 1027 |
| Phosphorus | ppm        | ASTM D5185m 1150 | <b>1004</b>  | 870      | 997  |
| Zinc       | ppm        | ASTM D5185m 1270 | <b>1215</b>  | 1115     | 1253 |
| Sulfur     | ppm        | ASTM D5185m 2060 | <b>3586</b>  | 2971     | 3535 |

## CONTAMINANTS

| method    | limit/base | current         | history1     | history2     |      |
|-----------|------------|-----------------|--------------|--------------|------|
| Silicon   | ppm        | ASTM D5185m >25 | <b>2</b>     | 2            | 3    |
| Sodium    | ppm        | ASTM D5185m     | <b>2</b>     | 4            | 4    |
| Potassium | ppm        | ASTM D5185m >20 | <b>1</b>     | <1           | 2    |
| Fuel      | %          | ASTM D3524 >5   | <b>▲ 2.4</b> | <b>▲ 6.2</b> | <1.0 |

## INFRA-RED

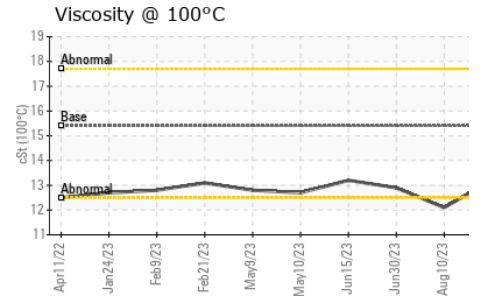
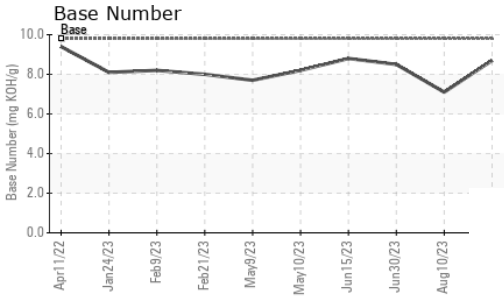
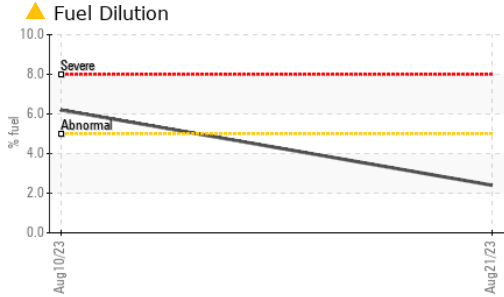
| method    | limit/base | current         | history1    | history2 |      |
|-----------|------------|-----------------|-------------|----------|------|
| Soot %    | %          | *ASTM D7844 >3  | <b>0.1</b>  | 0.5      | 0.4  |
| Nitration | Abs/cm     | *ASTM D7624 >20 | <b>5.2</b>  | 8.1      | 7.4  |
| Sulfation | Abs/.1mm   | *ASTM D7415 >30 | <b>17.4</b> | 18.6     | 19.2 |

## FLUID DEGRADATION

| method           | limit/base | current         | history1    | history2 |      |
|------------------|------------|-----------------|-------------|----------|------|
| Oxidation        | Abs/.1mm   | *ASTM D7414 >25 | <b>12.8</b> | 14.3     | 14.1 |
| Base Number (BN) | mg KOH/g   | ASTM D2896 9.8  | <b>8.7</b>  | 7.1      | 8.5  |



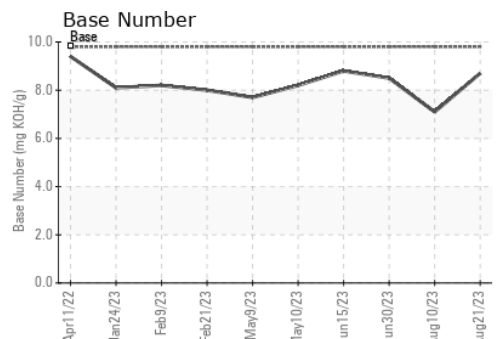
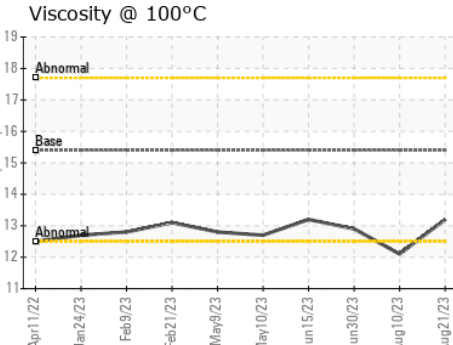
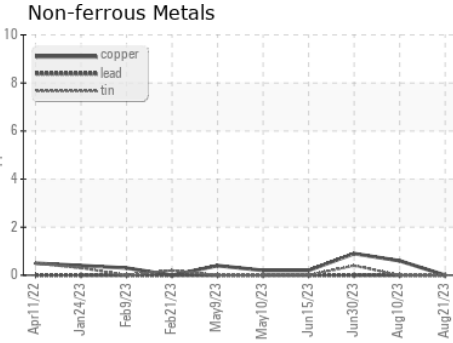
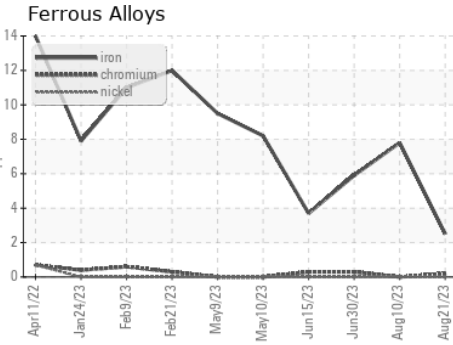
# OIL ANALYSIS REPORT



| 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    | <b>13.2</b> | ▲ 12.1   | 12.9 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0088260 **Received** : 29 Aug 2023  
**Lab Number** : **05937018** **Diagnosed** : 30 Aug 2023  
**Unique Number** : 10622289 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 820 - Joplin Hauling**  
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 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)