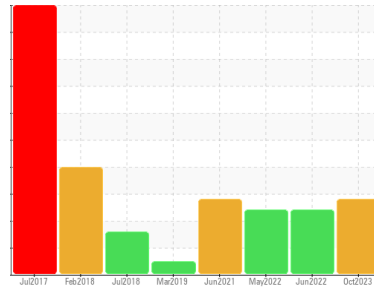




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**7823**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 10W30 (--- LTR)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

| method        | limit/base  | current            | history1    | history2    |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | <b>GFL0093880</b>  | GFL0054206  | GFL0053106  |
| Sample Date   | Client Info | <b>20 Oct 2023</b> | 17 Jun 2022 | 16 May 2022 |
| Machine Age   | hrs         | <b>21820</b>       | 19100       | 0           |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             | <b>SEVERE</b>      | SEVERE      | SEVERE      |

## 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 D5185(m) >110 | <b>18</b>    | 13       | 37 |
| Chromium  | ppm        | ASTM D5185(m) >4   | <b>1</b>     | 1        | 2  |
| Nickel    | ppm        | ASTM D5185(m) >2   | <b>&lt;1</b> | 0        | <1 |
| Titanium  | ppm        | ASTM D5185(m)      | <b>0</b>     | 0        | 0  |
| Silver    | ppm        | ASTM D5185(m) >2   | <b>&lt;1</b> | 0        | 0  |
| Aluminum  | ppm        | ASTM D5185(m) >25  | <b>&lt;1</b> | 2        | 3  |
| Lead      | ppm        | ASTM D5185(m) >45  | <b>0</b>     | 0        | 1  |
| Copper    | ppm        | ASTM D5185(m) >85  | <b>&lt;1</b> | 2        | 14 |
| Tin       | ppm        | ASTM D5185(m) >4   | <b>0</b>     | <1       | <1 |
| Antimony  | ppm        | ASTM D5185(m)      | <b>0</b>     | 0        | <1 |
| Vanadium  | ppm        | ASTM D5185(m)      | <b>0</b>     | 0        | 0  |
| Beryllium | ppm        | ASTM D5185(m)      | <b>0</b>     | 0        | 0  |
| Cadmium   | ppm        | ASTM D5185(m)      | <b>0</b>     | 0        | 0  |

## ADDITIVES

| method     | limit/base | current            | history1     | history2 |      |
|------------|------------|--------------------|--------------|----------|------|
| Boron      | ppm        | ASTM D5185(m) 2    | <b>3</b>     | 2        | 4    |
| Barium     | ppm        | ASTM D5185(m) 0    | <b>&lt;1</b> | 0        | 0    |
| Molybdenum | ppm        | ASTM D5185(m) 50   | <b>43</b>    | 52       | 50   |
| Manganese  | ppm        | ASTM D5185(m) 0    | <b>0</b>     | <1       | <1   |
| Magnesium  | ppm        | ASTM D5185(m) 950  | <b>671</b>   | 884      | 832  |
| Calcium    | ppm        | ASTM D5185(m) 1050 | <b>751</b>   | 940      | 895  |
| Phosphorus | ppm        | ASTM D5185(m) 995  | <b>702</b>   | 936      | 881  |
| Zinc       | ppm        | ASTM D5185(m) 1180 | <b>834</b>   | 1082     | 978  |
| Sulfur     | ppm        | ASTM D5185(m) 2600 | <b>1786</b>  | 2341     | 1997 |
| Lithium    | ppm        | ASTM D5185(m)      | <b>&lt;1</b> | <1       | <1   |

## CONTAMINANTS

| method    | limit/base | current           | history1    | history2 |      |
|-----------|------------|-------------------|-------------|----------|------|
| Silicon   | ppm        | ASTM D5185(m) >30 | <b>3</b>    | 5        | 12   |
| Sodium    | ppm        | ASTM D5185(m)     | <b>2</b>    | 5        | 13   |
| Potassium | ppm        | ASTM D5185(m) >20 | <b>0</b>    | 2        | 4    |
| Fuel      | %          | ASTM D7593* >5    | <b>20.9</b> | 8.1      | 15.3 |

## INFRA-RED

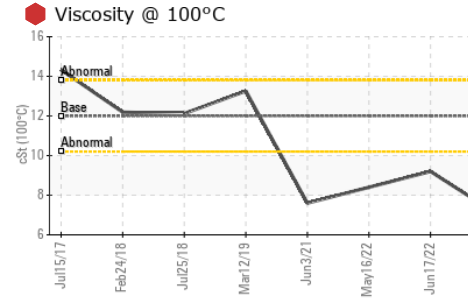
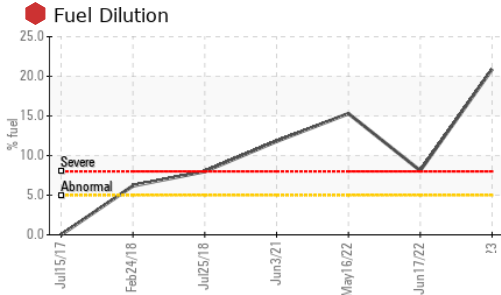
| method    | limit/base | current         | history1    | history2 |      |
|-----------|------------|-----------------|-------------|----------|------|
| Soot %    | %          | ASTM D7844* >3  | <b>0.7</b>  | 0.4      | 0.2  |
| Nitration | Abs/cm     | ASTM D7624* >20 | <b>10.3</b> | 8.1      | 5.5  |
| Sulfation | Abs/.1mm   | ASTM D7415* >30 | <b>24.3</b> | 22.5     | 16.5 |

## FLUID DEGRADATION

| method    | limit/base | current         | history1    | history2 |     |
|-----------|------------|-----------------|-------------|----------|-----|
| Oxidation | Abs/.1mm   | ASTM D7414* >25 | <b>27.6</b> | 17.7     | 8.4 |



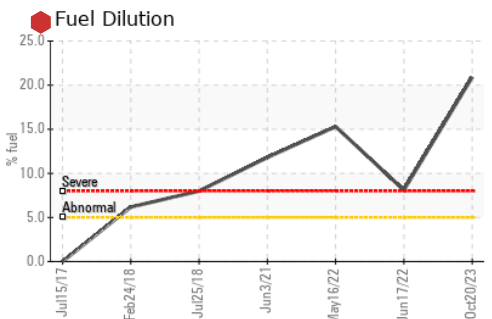
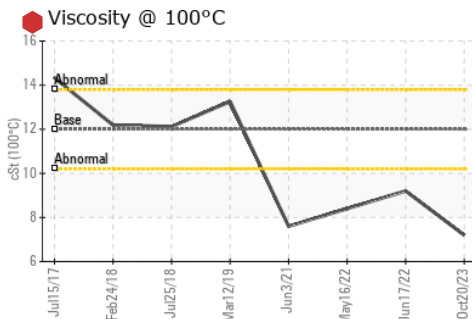
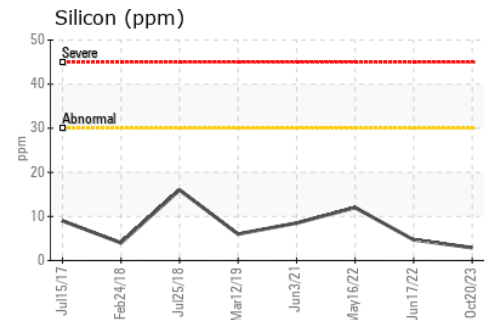
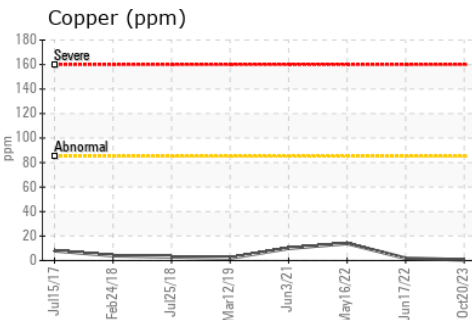
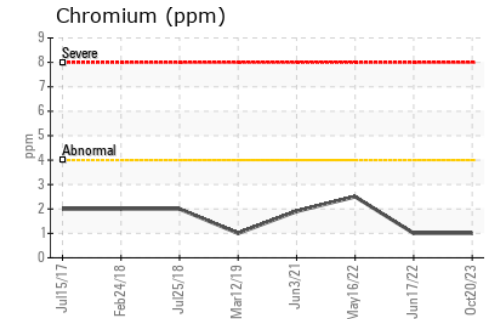
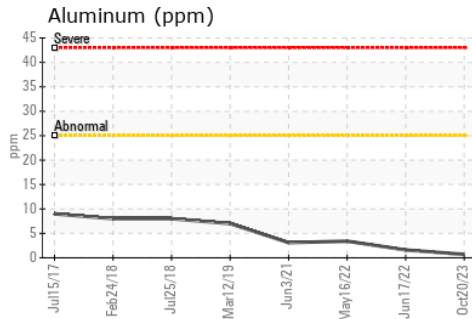
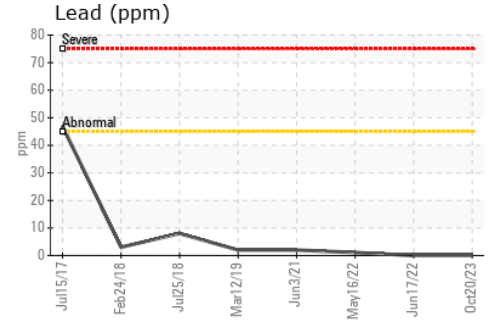
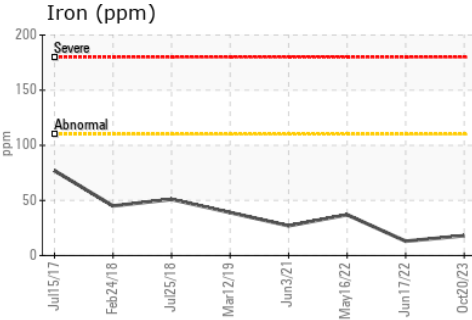
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| 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 D7279(m) | 12.00   | 7.2      | 9.2      |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW  
**Sample No.** : GFL0093880 **Received** : 30 Oct 2023  
**Lab Number** : 02592553 **Diagnosed** : 31 Oct 2023  
**Unique Number** : 5669632 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

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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