



Machine Id  
**425082**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (40 LTR)**

### 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.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>GFL0107314</b>  | GFL0107280  | GFL0079252  |
| Sample Date    |     | Client Info |           | <b>23 Apr 2024</b> | 22 Jan 2024 | 01 Dec 2023 |
| Machine Age    | hrs | Client Info |           | <b>30500</b>       | 29934       | 29624       |
| Oil Age        | hrs | Client Info |           | <b>600</b>         | 600         | 600         |
| Filter Age     | hrs | Client Info |           | <b>600</b>         | 600         | 600         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>SEVERE</b>      | SEVERE      | SEVERE      |

### WEAR

All component wear rates are normal.

|          |     |               |      |              |    |    |
|----------|-----|---------------|------|--------------|----|----|
| Iron     | ppm | ASTM D5185(m) | >120 | <b>28</b>    | 11 | 30 |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>&lt;1</b> | 0  | <1 |
| Nickel   | ppm | ASTM D5185(m) | >5   | <b>&lt;1</b> | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2   | <b>0</b>     | 0  | 0  |
| Silver   | ppm | ASTM D5185(m) | >2   | <b>0</b>     | 0  | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>2</b>     | 1  | 2  |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>0</b>     | <1 | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>&lt;1</b> | <1 | <1 |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>     | 0  | 0  |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

### CONTAMINATION

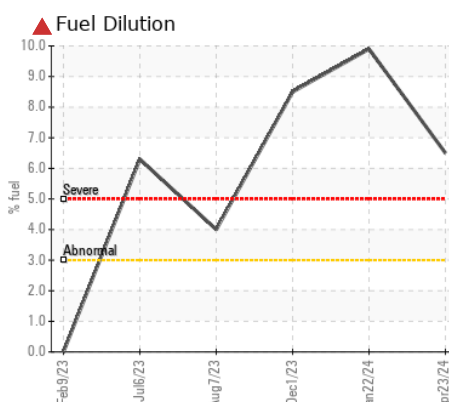
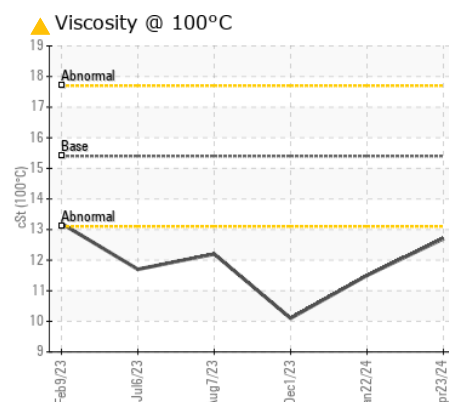
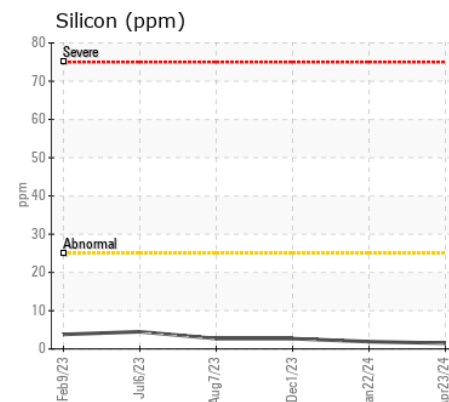
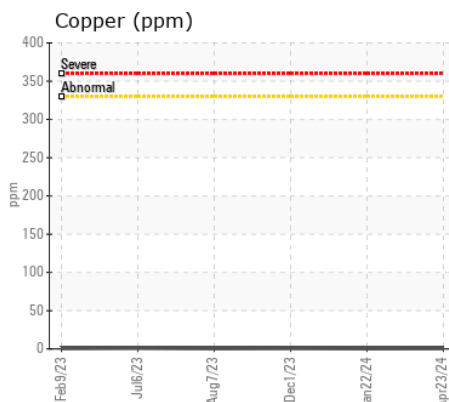
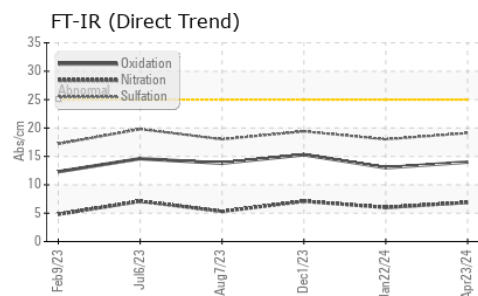
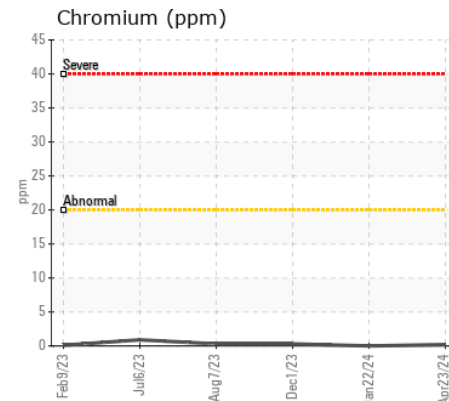
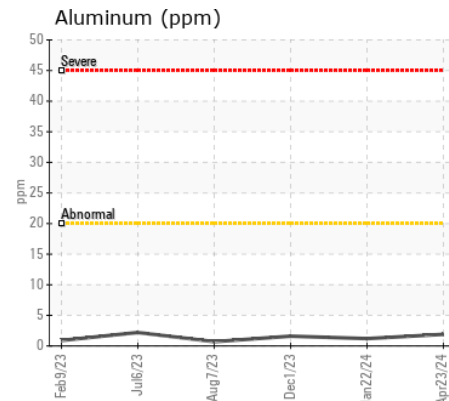
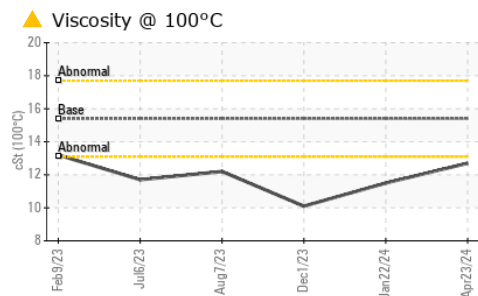
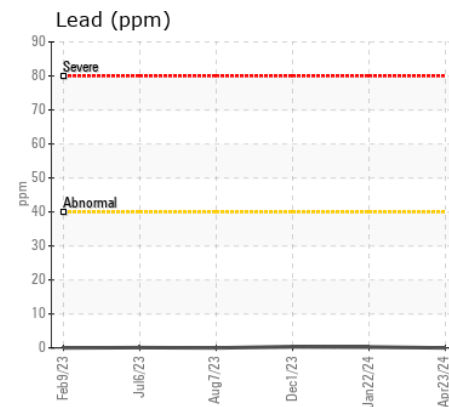
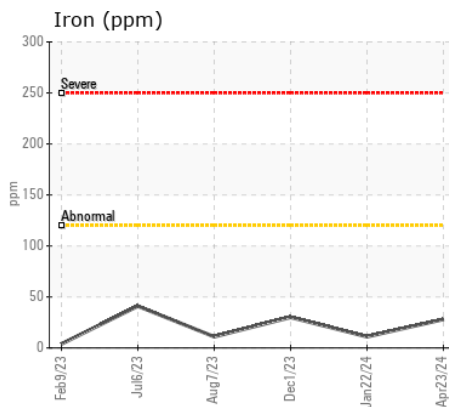
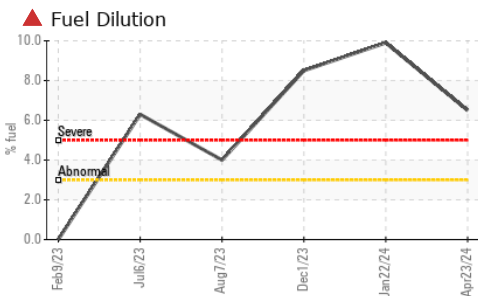
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

|                  |          |               |      |              |       |       |
|------------------|----------|---------------|------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>2</b>     | 2     | 3     |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>&lt;1</b> | <1    | <1    |
| Fuel             | %        | ASTM D7593*   | >3.0 | <b>▲ 6.5</b> | ▲ 9.9 | ▲ 8.5 |
| Water            |          | WC Method     | >0.2 | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method     |      | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | ASTM D7844*   | >4   | <b>0.5</b>   | 0.2   | 0.6   |
| Nitration        | Abs/cm   | ASTM D7624*   | >20  | <b>6.9</b>   | 6.0   | 7.1   |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>19.1</b>  | 18.0  | 19.4  |
| Emulsified Water | scalar   | Visual*       | >0.2 | <b>NEG</b>   | NEG   | NEG   |

### 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.

|              |          |               |      |               |        |        |
|--------------|----------|---------------|------|---------------|--------|--------|
| Sodium       | ppm      | ASTM D5185(m) |      | <b>2</b>      | 2      | 3      |
| Boron        | ppm      | ASTM D5185(m) | 0    | <b>6</b>      | 3      | 29     |
| Barium       | ppm      | ASTM D5185(m) | 0    | <b>0</b>      | 0      | 0      |
| Molybdenum   | ppm      | ASTM D5185(m) | 60   | <b>57</b>     | 54     | 58     |
| Manganese    | ppm      | ASTM D5185(m) | 0    | <b>&lt;1</b>  | 0      | 0      |
| Magnesium    | ppm      | ASTM D5185(m) | 1010 | <b>931</b>    | 856    | 774    |
| Calcium      | ppm      | ASTM D5185(m) | 1070 | <b>993</b>    | 938    | 978    |
| Phosphorus   | ppm      | ASTM D5185(m) | 1150 | <b>948</b>    | 916    | 828    |
| Zinc         | ppm      | ASTM D5185(m) | 1270 | <b>1125</b>   | 1033   | 982    |
| Sulfur       | ppm      | ASTM D5185(m) | 2060 | <b>2405</b>   | 2445   | 2267   |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>14.0</b>   | 13.0   | 15.3   |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.4 | <b>▲ 12.7</b> | ▲ 11.5 | ▲ 10.1 |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0107314  
**Lab Number** : 02631544  
**Unique Number** : 5772697  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )  
**Received** : 26 Apr 2024  
**Tested** : 29 Apr 2024  
**Diagnosed** : 29 Apr 2024 - Wes Davis

**GFL Environmental - 250 - Sault Ste Marie Hauling + MRF**  
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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.