



|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>NORMAL</b>   |
| CONTAMINATION   | <b>ABNORMAL</b> |
| FLUID CONDITION | <b>ABNORMAL</b> |



Machine Id  
**138M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

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.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number  |     | Client Info |           | <b>GFL0110063</b>  | GFL0069814  | ---      |
| Sample Date    |     | Client Info |           | <b>07 Feb 2024</b> | 15 Jun 2023 | ---      |
| Machine Age    | hrs | Client Info |           | <b>20463</b>       | 18910       | ---      |
| Oil Age        | hrs | Client Info |           | <b>1553</b>        | 600         | ---      |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 600         | ---      |
| Oil Changed    |     | Client Info |           | <b>Not Chngd</b>   | Changed     | ---      |
| Filter Changed |     | Client Info |           | <b>Not Chngd</b>   | Changed     | ---      |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | SEVERE      | ---      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |     |
|--------------|--------|-------------|------|--------------|------|-----|
| Iron         | ppm    | ASTM D5185m | >120 | <b>10</b>    | 13   | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | 0    | --- |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>0</b>     | <1   | --- |
| Titanium     | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | --- |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | --- |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>2</b>     | 2    | --- |
| Lead         | ppm    | ASTM D5185m | >40  | <b>0</b>     | <1   | --- |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | <1   | --- |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | <1   | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |

**CONTAMINATION**

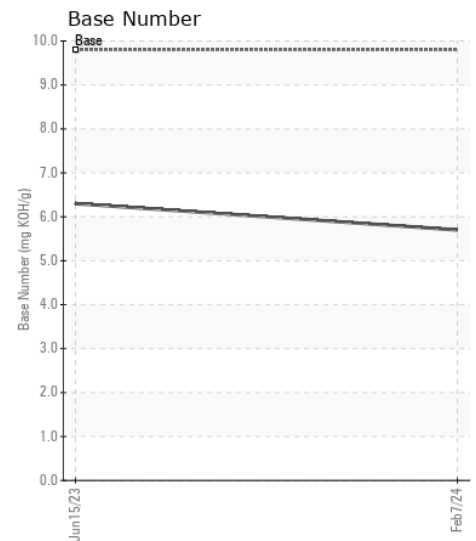
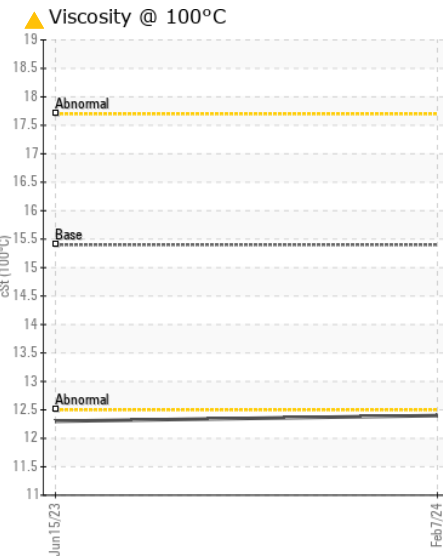
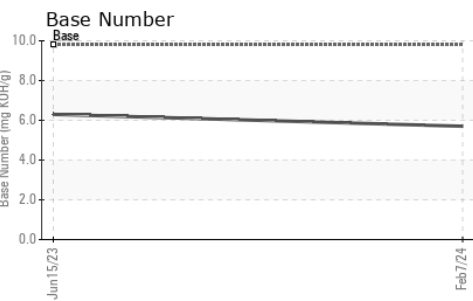
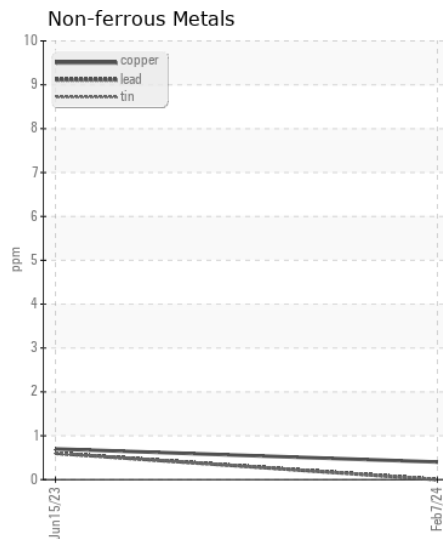
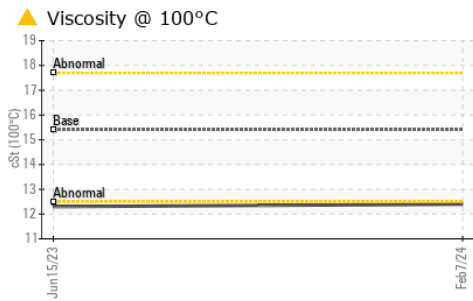
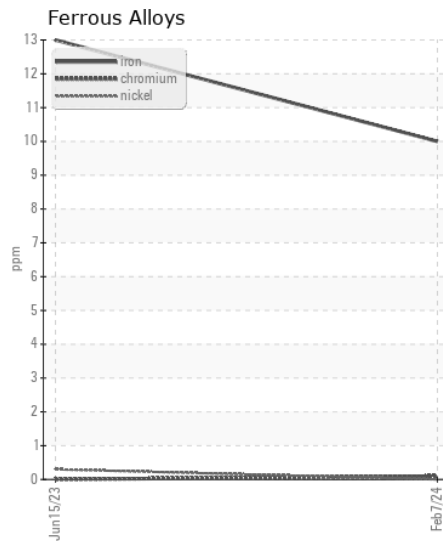
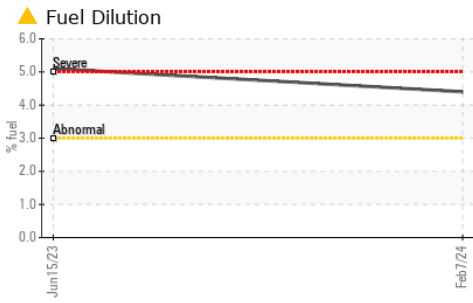
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

|                  |          |             |       |              |       |     |
|------------------|----------|-------------|-------|--------------|-------|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>4</b>     | 3     | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>0</b>     | <1    | --- |
| Fuel             | %        | ASTM D3524  | >3.0  | <b>▲ 4.4</b> | 5.1   | --- |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | NEG   | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | --- |
| Soot %           | %        | *ASTM D7844 | >4    | <b>0.4</b>   | 0.4   | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.3</b>   | 9.3   | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>21.1</b>  | 20.3  | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>   | NEG   | --- |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

|                  |          |             |      |               |        |     |
|------------------|----------|-------------|------|---------------|--------|-----|
| Sodium           | ppm      | ASTM D5185m |      | <b>3</b>      | 2      | --- |
| Boron            | ppm      | ASTM D5185m | 0    | <b>1</b>      | 4      | --- |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>      | 0      | --- |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>55</b>     | 55     | --- |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b>  | <1     | --- |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>885</b>    | 899    | --- |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>990</b>    | 1017   | --- |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>999</b>    | 1002   | --- |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1175</b>   | 1224   | --- |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>2642</b>   | 2740   | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>17.6</b>   | 16.8   | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>5.7</b>    | 6.3    | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>▲ 12.4</b> | ▲ 12.3 | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0110063  
**Lab Number** : 06085765  
**Unique Number** : 10873210  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 468 - Dearborn**  
 3051 Schaefer Rd  
 Dearborn, MI  
 US 48126  
 Contact:

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: