



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

Machine Id  
**429068**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>GFL0100937</b>  | GFL0086858  | GFL0072547  |
| Sample Date    |     | Client Info |           | <b>06 Feb 2024</b> | 05 Oct 2023 | 12 Jul 2023 |
| Machine Age    | mls | Client Info |           | <b>253975</b>      | 243480      | 9222        |
| Oil Age        | mls | Client Info |           | <b>9222</b>        | 243480      | 600         |
| Filter Age     | mls | Client Info |           | <b>0</b>           | 0           | 600         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Not Changed | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Not Changed | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>29</b>    | 6    | 15   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>1</b>     | <1   | 1    |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>6</b>     | 0    | 1    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>1</b>     | <1   | 0    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | <1   | 1    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | <1   | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | <1   |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

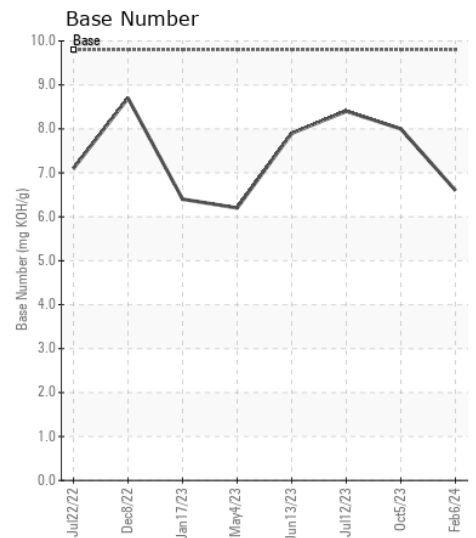
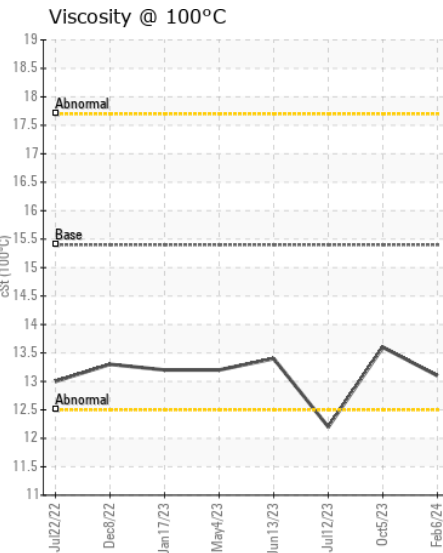
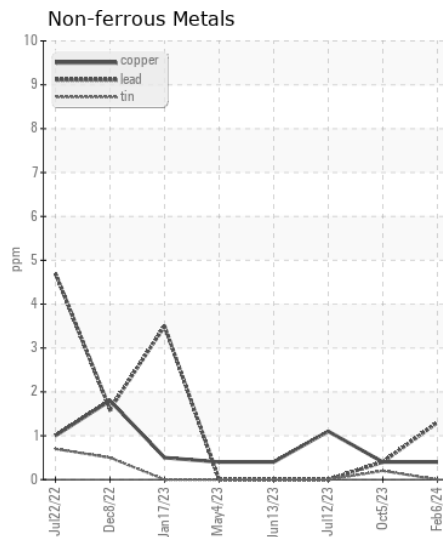
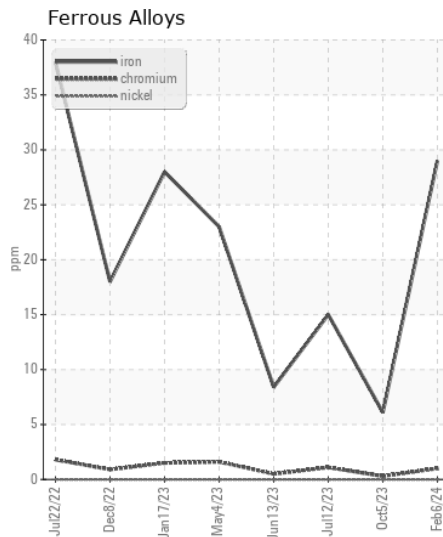
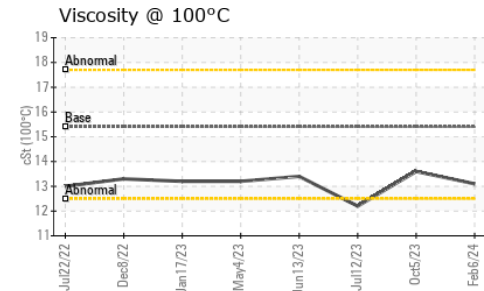
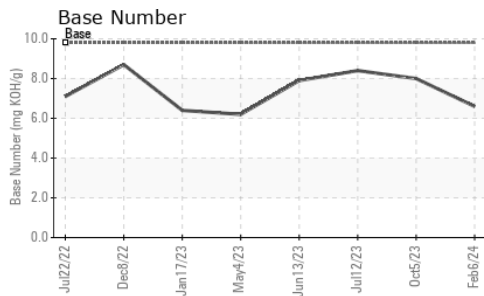
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>4</b>       | 3     | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>12</b>      | 6     | 0     |
| Fuel             |          | WC Method   | >2.0  | <b>&lt;1.0</b> | 0.8   | ▲ 4.6 |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.6</b>     | 0.2   | 0.3   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>12.4</b>    | 6.4   | 8.4   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>22.6</b>    | 17.7  | 19.2  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>     | NEG   | NEG   |

**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.

|                  |          |             |      |              |      |        |
|------------------|----------|-------------|------|--------------|------|--------|
| Sodium           | ppm      | ASTM D5185m |      | <b>6</b>     | 0    | 6      |
| Boron            | ppm      | ASTM D5185m | 0    | <b>2</b>     | 4    | 4      |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>     | <1   | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>67</b>    | 63   | 62     |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | <1   | <1     |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>1010</b>  | 874  | 987    |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>1193</b>  | 1047 | 1149   |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1083</b>  | 1016 | 1040   |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1386</b>  | 1207 | 1254   |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>3084</b>  | 3315 | 3571   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>19.3</b>  | 13.5 | 15.3   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>6.6</b>   | 8.0  | 8.4    |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>13.1</b>  | 13.6 | ▲ 12.2 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0100937  
**Lab Number** : 06085600  
**Unique Number** : 10873045  
**Test Package** : FLEET

**Received** : 12 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Wes Davis

**GFL Environmental - 419 - Metro Saginaw**  
 6950 N Michigan  
 Saginaw, MI  
 US 48604

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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)