



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

Machine Id  
**429048-402450**

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>GFL0109838</b>  | GFL0103327  | GFL0099929  |
| Sample Date    |     | Client Info |           | <b>07 Feb 2024</b> | 18 Jan 2024 | 02 Jan 2024 |
| Machine Age    | hrs | Client Info |           | <b>17301</b>       | 17148       | 17017       |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Not Changd  |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >110 | <b>10</b>    | 8    | 11   |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>0</b>     | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>&lt;1</b> | 1    | 1    |
| Lead         | ppm    | ASTM D5185m | >45  | <b>0</b>     | 2    | <1   |
| Copper       | ppm    | ASTM D5185m | >85  | <b>0</b>     | <1   | 3    |
| Tin          | ppm    | ASTM D5185m | >4   | <b>0</b>     | <1   | 1    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

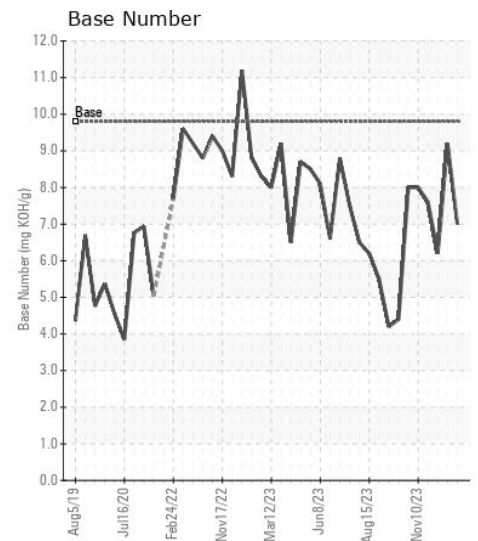
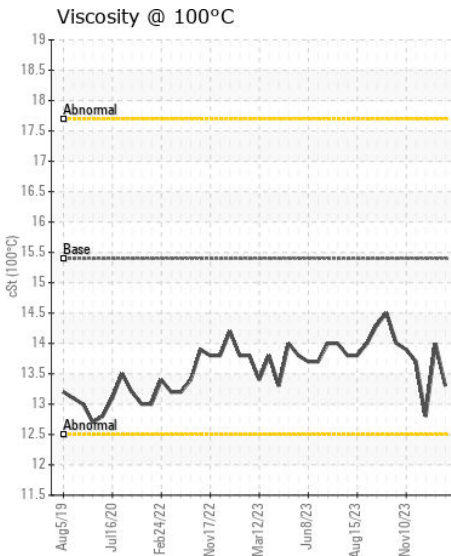
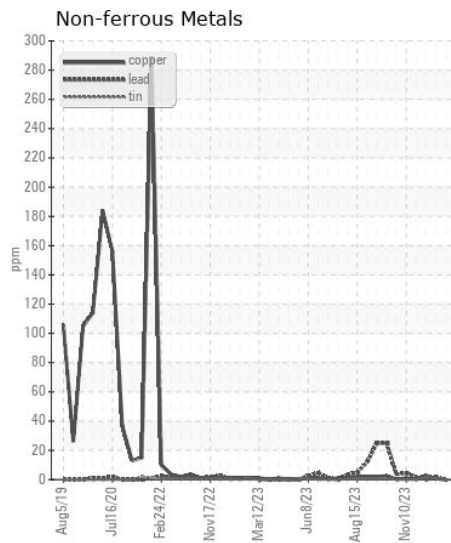
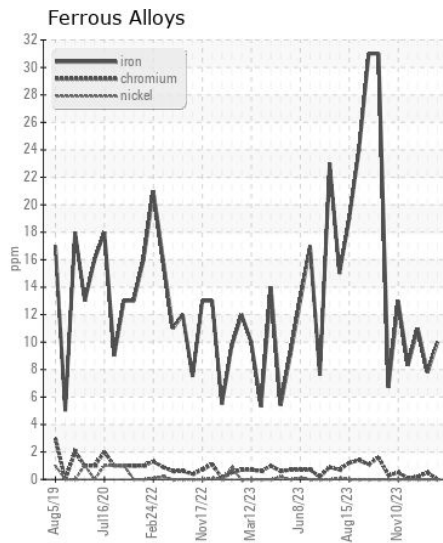
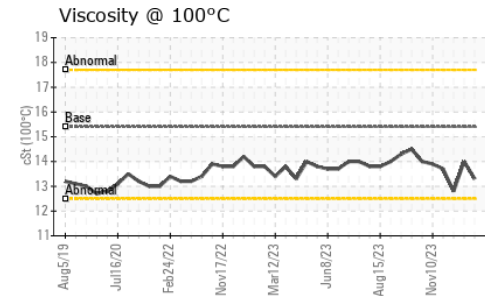
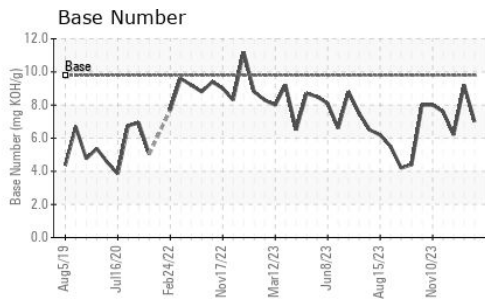
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >30   | <b>6</b>       | 4     | 7     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>1</b>       | 0     | <1    |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.4</b>     | 0.5   | 0.2   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>8.9</b>     | 5.8   | 8.8   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>19.9</b>    | 18.4  | 18.7  |
| 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>3</b>    | 29   | 2    |
| Boron            | ppm      | ASTM D5185m | 0    | <b>2</b>    | 5    | 4    |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>    | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>58</b>   | 61   | 57   |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>0</b>    | 0    | <1   |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>936</b>  | 955  | 889  |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>1175</b> | 1123 | 968  |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1039</b> | 1070 | 971  |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1235</b> | 1264 | 1204 |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>3056</b> | 3294 | 2917 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>17.0</b> | 13.5 | 15.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>7.0</b>  | 9.2  | 6.2  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>13.3</b> | 14.0 | 12.8 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0109838  
**Lab Number** : 06085658  
**Unique Number** : 10873103  
**Test Package** : FLEET

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

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Loyce Stewart  
 loyce.stewart@gflenv.com

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)

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F: