



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

Machine Id  
**933034**  
 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>GFL0121775</b>  | GFL0106750  | GFL0106845  |
| Sample Date    |     | Client Info |           | <b>13 Jun 2024</b> | 11 Apr 2024 | 09 Feb 2024 |
| Machine Age    | hrs | Client Info |           | <b>3521</b>        | 2948        | 2392        |
| 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     | N/A         |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>8</b>     | 8    | 13   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | 1    |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>6</b>     | 10   | 20   |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | <1   | <1   |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | 0    | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 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.

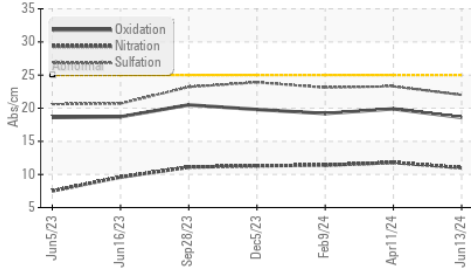
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>6</b>       | 5     | 7     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>17</b>      | 30    | 67    |
| 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</b>       | 0     | 0     |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>11.0</b>    | 11.8  | 11.4  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>22.0</b>    | 23.3  | 23.1  |
| 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**

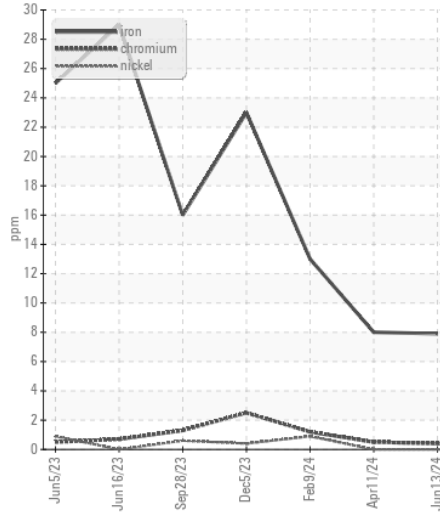
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |       |
|------------------|----------|-------------|------|--------------|------|-------|
| Sodium           | ppm      | ASTM D5185m |      | <b>8</b>     | 6    | 7     |
| Boron            | ppm      | ASTM D5185m | 0    | <b>8</b>     | 8    | 8     |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>     | 0    | 0     |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>56</b>    | 53   | 56    |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | 0    | <1    |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>652</b>   | 548  | 573   |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>1755</b>  | 1662 | 1623  |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>827</b>   | 690  | 737   |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1071</b>  | 956  | 1001  |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>2960</b>  | 2677 | 2524  |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>18.6</b>  | 19.9 | 19.2  |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>4.9</b>   | 4.0  | ▲ 3.8 |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>15.2</b>  | 15.0 | 15.0  |

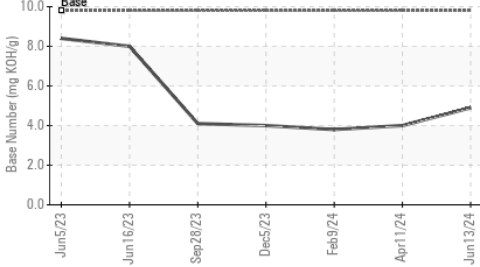
**FT-IR (Direct Trend)**



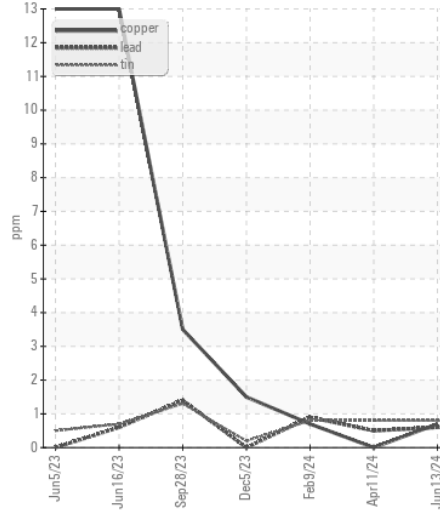
**Ferrous Alloys**



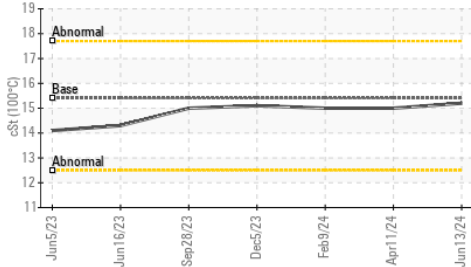
**Base Number**



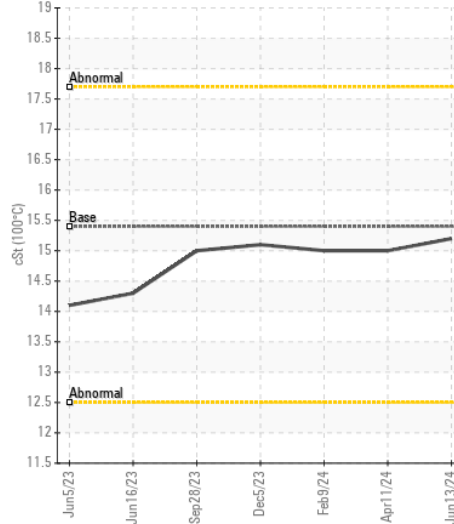
**Non-ferrous Metals**



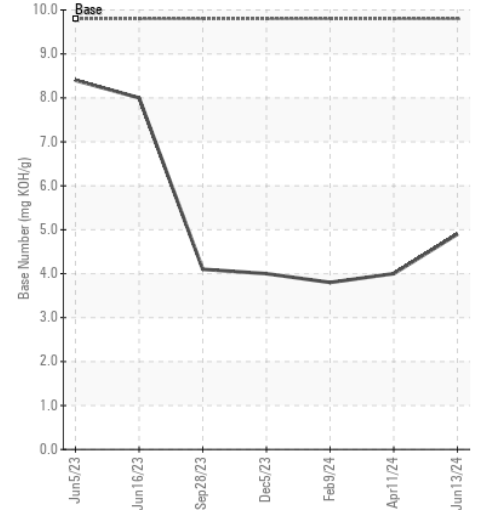
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0121775  
**Lab Number** : 06216714  
**Unique Number** : 11089578  
**Test Package** : FLEET

**GFL Environmental - 856 - Houston South**  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Apolinar Zacarias  
 pzacariascano@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)

T:  
F: