



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

Area

**(YA115772)**

Machine Id

**10364C**

Component

**Natural Gas Engine**

Fluid

**PETRO CANADA DURON GEO LD 15W40 (30 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>GFL0123418</b>  | GFL0082488  | GFL0050778  |
| Sample Date    |     | Client Info |           | <b>18 Jun 2024</b> | 14 Nov 2023 | 20 Apr 2023 |
| Machine Age    | mls | Client Info |           | <b>177011</b>      | 177011      | 13240       |
| Oil Age        | mls | Client Info |           | <b>177011</b>      | 177011      | 1217        |
| Filter Age     | mls | Client Info |           | <b>177011</b>      | 177011      | 1217        |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >50  | <b>12</b>    | 8    | 20   |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | 4    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >9   | <b>1</b>     | 2    | 2    |
| Lead         | ppm    | ASTM D5185m | >30  | <b>2</b>     | <1   | 11   |
| Copper       | ppm    | ASTM D5185m | >35  | <b>&lt;1</b> | 0    | 4    |
| Tin          | ppm    | ASTM D5185m | >4   | <b>0</b>     | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</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.

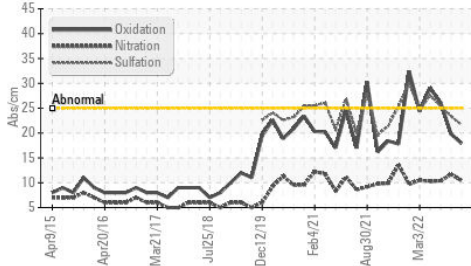
|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >+100 | <b>3</b>     | 4     | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>     | 1     | <1    |
| Water            |          | WC Method   | >0.1  | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 |       | <b>0</b>     | 0     | 0     |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>10.4</b>  | 11.7  | 10.4  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>21.6</b>  | 23.4  | 25.4  |
| 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     | >0.1  | <b>NEG</b>   | NEG   | NEG   |

**FLUID CONDITION**

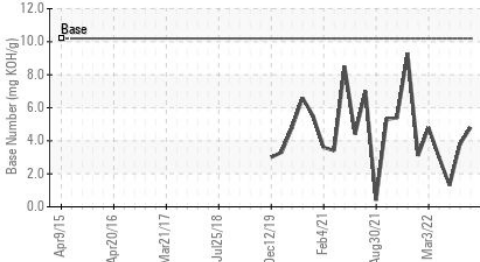
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |        |
|------------------|----------|-------------|------|--------------|------|--------|
| Sodium           | ppm      | ASTM D5185m |      | <b>7</b>     | 5    | 8      |
| Boron            | ppm      | ASTM D5185m | 50   | <b>10</b>    | 4    | 11     |
| Barium           | ppm      | ASTM D5185m | 5    | <b>0</b>     | <1   | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 50   | <b>53</b>    | 54   | 45     |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | <1   | 1      |
| Magnesium        | ppm      | ASTM D5185m | 560  | <b>587</b>   | 541  | 461    |
| Calcium          | ppm      | ASTM D5185m | 1510 | <b>1828</b>  | 1553 | 1410   |
| Phosphorus       | ppm      | ASTM D5185m | 780  | <b>787</b>   | 693  | 667    |
| Zinc             | ppm      | ASTM D5185m | 870  | <b>1068</b>  | 957  | 794    |
| Sulfur           | ppm      | ASTM D5185m | 2040 | <b>3014</b>  | 2329 | 2653   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>17.9</b>  | 19.8 | 26.1   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10.2 | <b>4.8</b>   | 3.8  | ▲ 1.3  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.1 | <b>14.4</b>  | 14.6 | ● 12.2 |

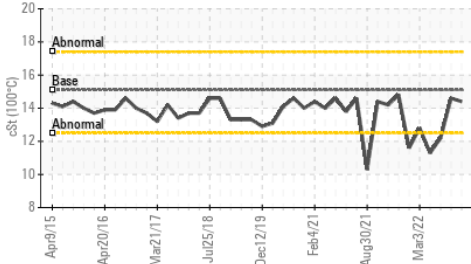
**FT-IR (Direct Trend)**



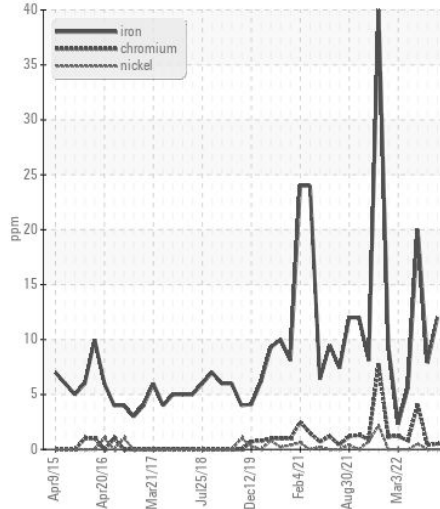
**Base Number**



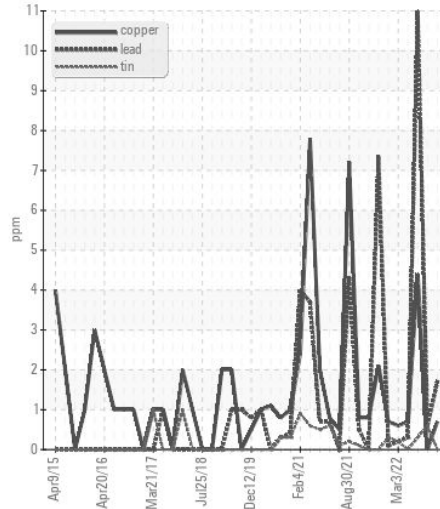
**Viscosity @ 100°C**



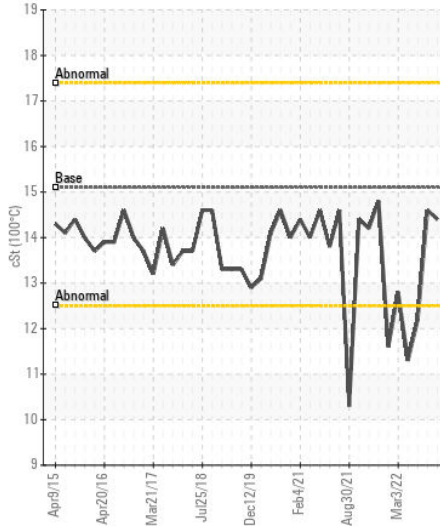
**Ferrous Alloys**



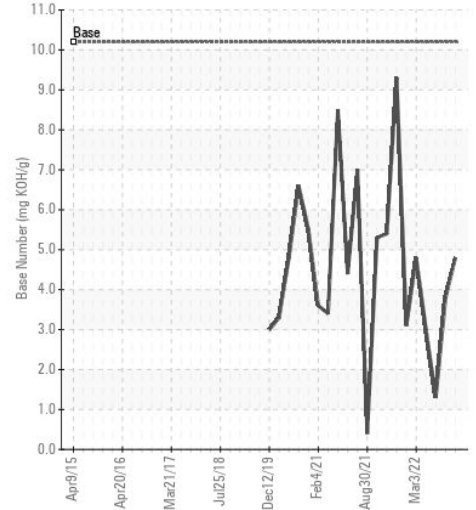
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0123418  
**Lab Number** : 06215543  
**Unique Number** : 11088407  
**Test Package** : FLEET

**Received** : 20 Jun 2024  
**Tested** : 21 Jun 2024  
**Diagnosed** : 21 Jun 2024 - Wes Davis

**GFL Environmental - 007 - Brunswick**  
 2809 Galloway Road  
 Bolivia, NC  
 US 28422  
 Contact: DONALD CRAVEN  
 dcraven@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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