



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

Machine Id  
**428059-402379**  
 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>GFL0121559</b>  | GFL0105247  | GFL0105287  |
| Sample Date    |     | Client Info |           | <b>20 Jun 2024</b> | 13 Jun 2024 | 15 May 2024 |
| Machine Age    | hrs | Client Info |           | <b>14513</b>       | 14387       | 14251       |
| Oil Age        | hrs | Client Info |           | <b>150</b>         | 150         | 150         |
| Filter Age     | hrs | Client Info |           | <b>150</b>         | 150         | 150         |
| Oil Changed    |     | Client Info |           | <b>Not Chngd</b>   | Not Chngd   | Not Chngd   |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >110 | <b>12</b>    | 13   | 7    |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | <1   |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>3</b>     | 2    | 1    |
| Lead         | ppm    | ASTM D5185m | >45  | <b>2</b>     | 2    | <1   |
| Copper       | ppm    | ASTM D5185m | >85  | <b>1</b>     | 1    | 0    |
| Tin          | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | 0    |
| 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.

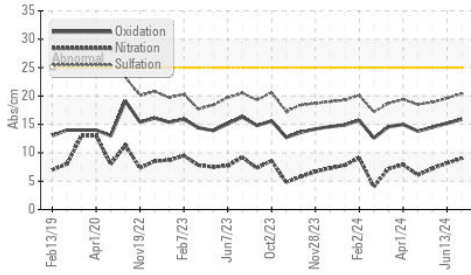
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >30   | <b>4</b>       | 4     | 3     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | 2     | 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>0.6</b>     | 0.5   | 0.4   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.0</b>     | 8.2   | 7.2   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>20.4</b>    | 19.6  | 18.9  |
| 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**

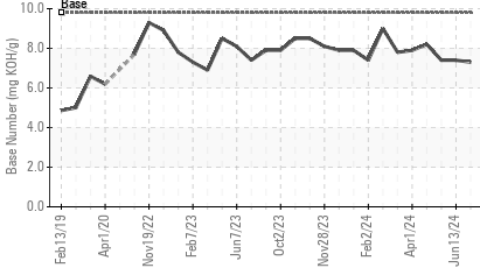
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>5</b>     | 6    | 4    |
| Boron            | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | <1   | 0    |
| Barium           | ppm      | ASTM D5185m | 0    | <b>1</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>56</b>    | 55   | 57   |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | <1   | 0    |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>884</b>   | 879  | 971  |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>1033</b>  | 1002 | 1076 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1058</b>  | 965  | 1028 |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1215</b>  | 1193 | 1257 |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>2989</b>  | 3235 | 3610 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>15.9</b>  | 15.2 | 14.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>7.3</b>   | 7.4  | 7.4  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>13.5</b>  | 13.7 | 13.7 |

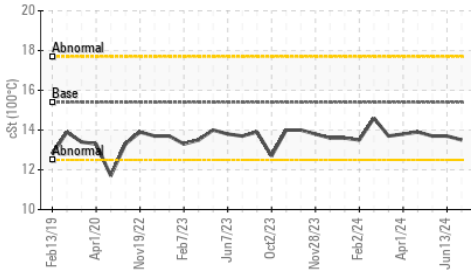
**FT-IR (Direct Trend)**



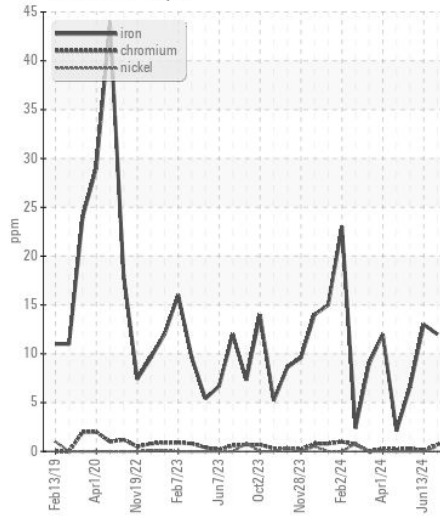
**Base Number**



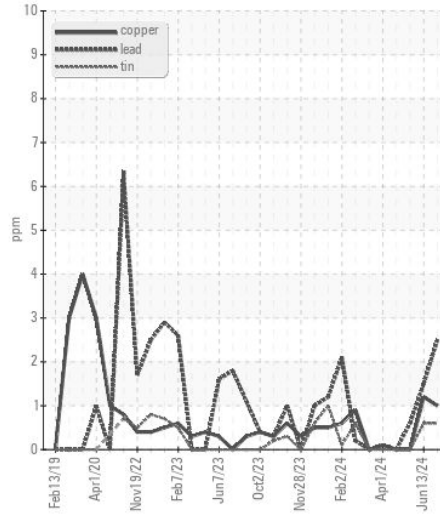
**Viscosity @ 100°C**



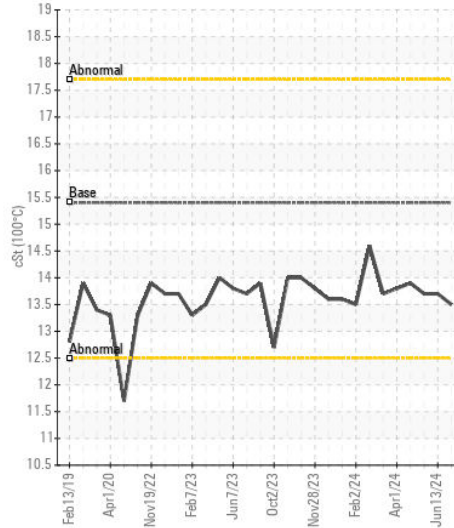
**Ferrous Alloys**



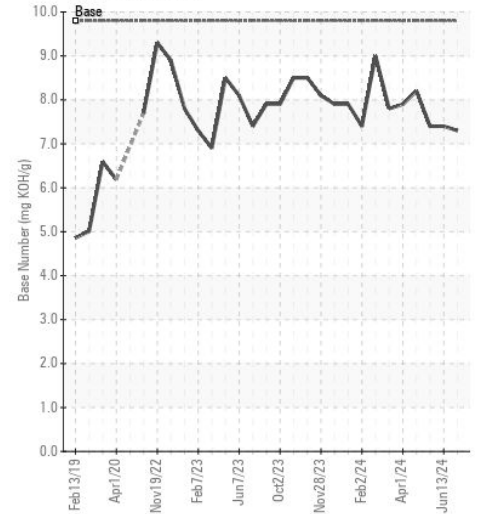
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0121559  
**Lab Number** : 06219257  
**Unique Number** : 11097454  
**Test Package** : FLEET

**Received** : 25 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 25 Jun 2024 - Wes Davis

**GFL Environmental - 821 - Ozarks Hauling**  
 33924 Olath Drive  
 Lebanon, MO  
 US 65536

Contact: Landen Johnson  
 landen.johnson@gflenv.com

T: (417)664-0010

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)