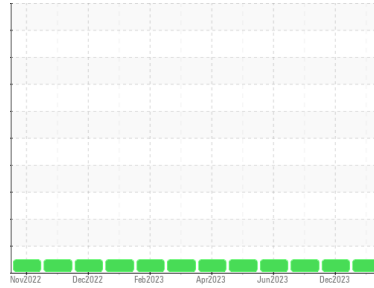




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**732013**

Component  
**Natural Gas Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>GFL0106780</b>  | GFL0092102  | GFL0084613  |
| Sample Date   | Client Info |             | <b>04 Mar 2024</b> | 18 Dec 2023 | 18 Oct 2023 |
| Machine Age   | hrs         | Client Info | <b>6699</b>        | 6088        | 57133       |
| Oil Age       | hrs         | Client Info | <b>600</b>         | 600         | 0           |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1       | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>5</b>     | 5        | 5        |
| Chromium | ppm    | ASTM D5185m >4  | <b>&lt;1</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 >3  | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >9  | <b>2</b>     | 1        | 1        |
| Lead     | ppm    | ASTM D5185m >30 | <b>0</b>     | 0        | <1       |
| Copper   | ppm    | ASTM D5185m >35 | <b>0</b>     | <1       | <1       |
| Tin      | ppm    | ASTM D5185m >4  | <b>&lt;1</b> | <1       | <1       |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | <1       | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | <1       | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | 10       | 11       |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>53</b>    | 52       | 50       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>529</b>   | 541      | 552      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1561</b>  | 1620     | 1557     |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>658</b>   | 747      | 674      |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>926</b>   | 973      | 905      |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>2241</b>  | 2554     | 2253     |

## CONTAMINANTS

|           | method | limit/base        | current  | history1 | history2 |
|-----------|--------|-------------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >+100 | <b>3</b> | 4        | 4        |
| Sodium    | ppm    | ASTM D5185m       | <b>3</b> | 7        | 7        |
| Potassium | ppm    | ASTM D5185m >20   | <b>0</b> | 1        | 3        |

## INFRA-RED

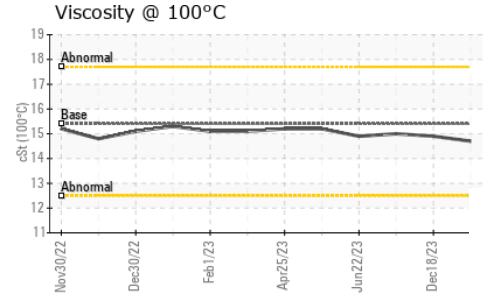
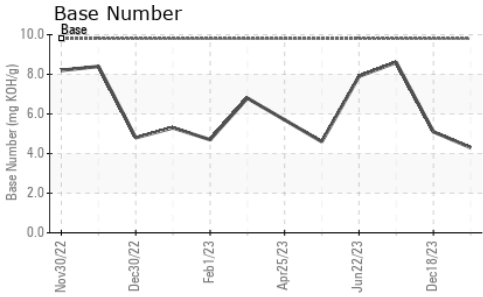
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844     | <b>0</b>    | 0        | 0.4      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>11.2</b> | 10.5     | 8.9      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>21.4</b> | 20.9     | 19.2     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>18.9</b> | 18.1     | 16.2     |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>4.3</b>  | 5.1      | 8.6      |



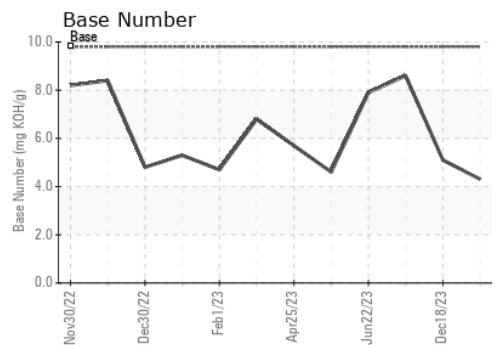
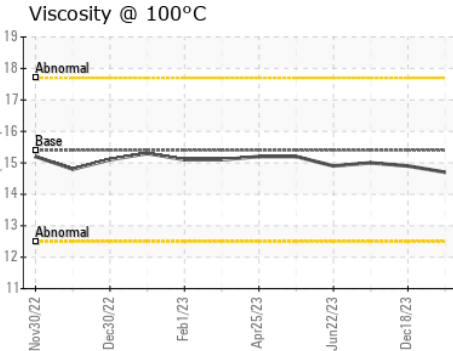
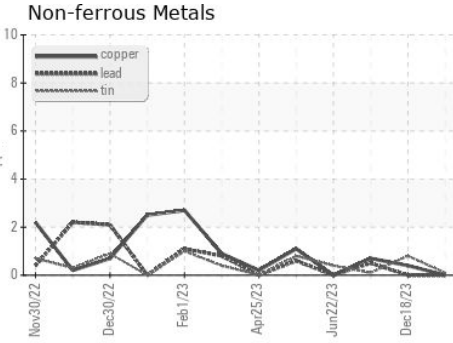
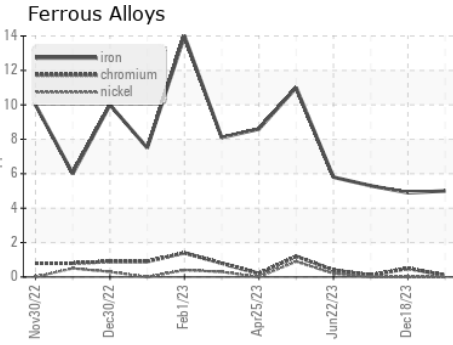
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |      |
|------------------|--------|------------|---------|-------------|----------|------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | <b>14.7</b> | 14.9     | 15.0 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0106780 **Received** : 07 Mar 2024  
**Lab Number** : **06112042** **Tested** : 08 Mar 2024  
**Unique Number** : 10915539 **Diagnosed** : 10 Mar 2024 - Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 856 - Houston South**  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Jose Gonzalez  
 jgonzalez2@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)