



# OIL ANALYSIS REPORT

Sample Rating Trend

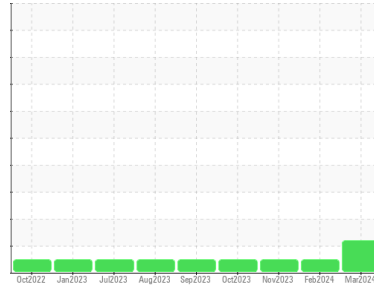
GLYCOL



Area  
**(FAN292)**  
Machine Id  
**424076**

Component  
**Diesel Engine**  
Fluid

**PETRO CANADA DURON SHP 15W40 (--- QTS)**



## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

### 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>GFL0089562</b>  | GFL0089603  | GFL0083073  |
| Sample Date   | Client Info | <b>20 Mar 2024</b> | 27 Feb 2024 | 02 Nov 2023 |
| Machine Age   | hrs         | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>Not Changed</b> | Not Changed | Not Changed |
| Sample Status |             | <b>ABNORMAL</b>    | NORMAL      | NORMAL      |

## CONTAMINATION

| method | limit/base     | current        | history1 | history2 |
|--------|----------------|----------------|----------|----------|
| Fuel   | WC Method >3.0 | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Water  | WC Method >0.2 | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron     | ppm ASTM D5185m >165 | <b>28</b>    | 60       | 45       |
| Chromium | ppm ASTM D5185m >5   | <b>2</b>     | 3        | 2        |
| Nickel   | ppm ASTM D5185m >4   | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm ASTM D5185m >2   | <b>&lt;1</b> | <1       | 1        |
| Silver   | ppm ASTM D5185m >2   | <b>0</b>     | 0        | 0        |
| Aluminum | ppm ASTM D5185m >20  | <b>4</b>     | 3        | 11       |
| Lead     | ppm ASTM D5185m >150 | <b>2</b>     | 12       | 6        |
| Copper   | ppm ASTM D5185m >90  | <b>3</b>     | 58       | 59       |
| Tin      | ppm ASTM D5185m >5   | <b>1</b>     | <1       | <1       |
| Vanadium | ppm ASTM D5185m      | <b>&lt;1</b> | <1       | 0        |
| Cadmium  | ppm ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |

## ADDITIVES

| method     | limit/base           | current      | history1 | history2 |
|------------|----------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185m 0    | <b>16</b>    | 13       | 8        |
| Barium     | ppm ASTM D5185m 0    | <b>&lt;1</b> | 0        | 0        |
| Molybdenum | ppm ASTM D5185m 60   | <b>69</b>    | 66       | 63       |
| Manganese  | ppm ASTM D5185m 0    | <b>1</b>     | <1       | <1       |
| Magnesium  | ppm ASTM D5185m 1010 | <b>877</b>   | 920      | 882      |
| Calcium    | ppm ASTM D5185m 1070 | <b>1049</b>  | 1122     | 1047     |
| Phosphorus | ppm ASTM D5185m 1150 | <b>1067</b>  | 957      | 897      |
| Zinc       | ppm ASTM D5185m 1270 | <b>1126</b>  | 1134     | 1217     |
| Sulfur     | ppm ASTM D5185m 2060 | <b>3062</b>  | 2194     | 2313     |

## CONTAMINANTS

| method    | limit/base          | current    | history1 | history2 |
|-----------|---------------------|------------|----------|----------|
| Silicon   | ppm ASTM D5185m >35 | <b>11</b>  | 10       | 19       |
| Sodium    | ppm ASTM D5185m     | <b>152</b> | 10       | 8        |
| Potassium | ppm ASTM D5185m >20 | <b>2</b>   | <1       | 0        |
| Glycol    | % *ASTM D2982       | <b>NEG</b> | NEG      | NEG      |

## INFRA-RED

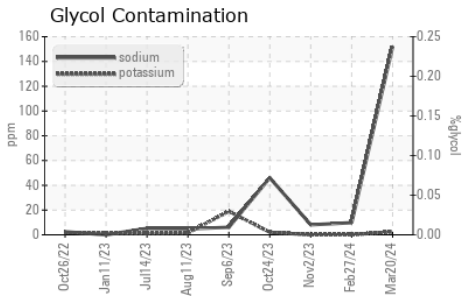
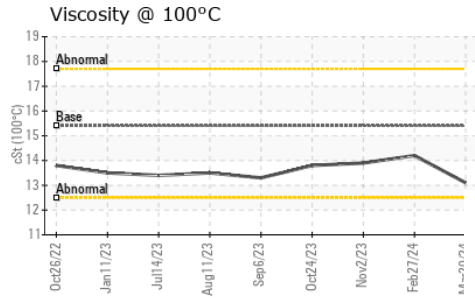
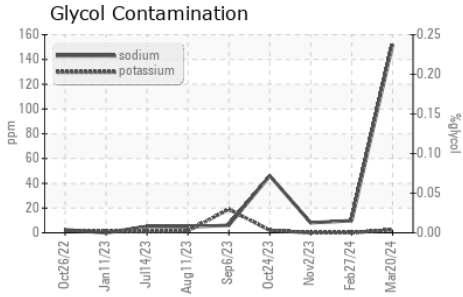
| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >7.5       | <b>0.6</b>  | 2.3      | 1.5      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>7.8</b>  | 16.3     | 12.8     |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>19.3</b> | 29.2     | 24.1     |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>14.6</b> | 27.5     | 20.2     |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8  | <b>8.8</b>  | 5.7      | 7.4      |



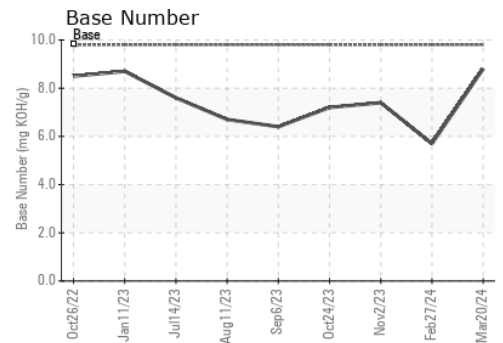
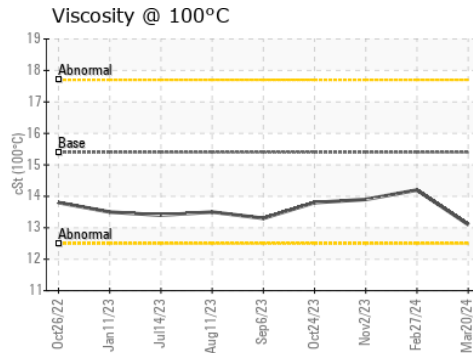
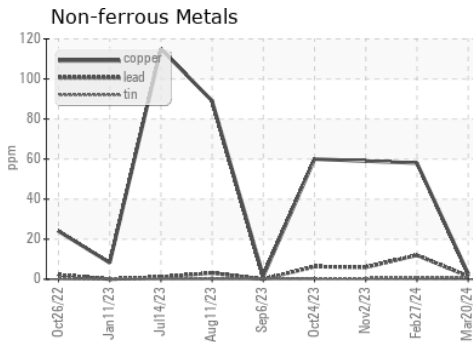
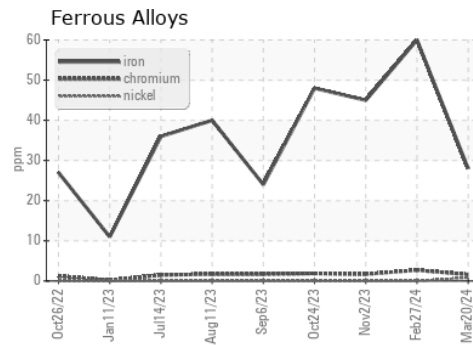
# OIL ANALYSIS REPORT



| 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    | >0.2    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | 13.1     | 14.2     |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0089562 **Received** : 27 Mar 2024  
**Lab Number** : 06130118 **Tested** : 01 Apr 2024  
**Unique Number** : 10949583 **Diagnosed** : 01 Apr 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

**GFL Environmental - 072 - Americus - Transwaste**  
 361 McMath Mill Road  
 Americus, GA  
 US 31719  
 Contact: RICHARD HEINZERLING  
 richard.heinzerling@gflenv.com  
 T: (229)924-3669  
 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)