

## Machine Id **411037** Component **Diesel Engine** Fituid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

|  | <del></del> /       |        |                                |           |             |          |          |
|--|---------------------|--------|--------------------------------|-----------|-------------|----------|----------|
| RECOMMENDATION   | Test                | UOM    | Method                         | Limit/Abn | Current     | History1 | History2 |
|  | Sample Number       |        | Client Info                    |           | GFL0089844  |          |          |
| Resample at the next service interval to monitor. Please specify the component make and model with your next sample. | Sample Date         |        | Client Info                    |           | 24 Apr 2024 |          |          |
|  | Machine Age         | hrs    | Client Info                    |           | 3522        |          |          |
|  | Oil Age             | hrs    | Client Info                    |           | 573         |          |          |
|  | Filter Age          | hrs    | Client Info                    |           | 573         |          |          |
|  | Oil Changed         |        | Client Info                    |           | Changed     |          |          |
|  | Filter Changed      |        | Client Info                    |           | Changed     |          |          |
|  | Sample Status       |        |                                |           | NORMAL      |          |          |
|  |                     |        |                                |           |             |          |          |
| WEAR   | Iron                | ppm    | ASTM D5185(m)                  |           | 12          |          |          |
|  | Chromium            | ppm    | ASTM D5185(m)                  | >20       | <1          |          |          |
| All component wear rates are normal.   | Nickel              | ppm    | ASTM D5185(m)                  | >4        | 1           |          |          |
|  | Titanium            | ppm    | ASTM D5185(m)                  |           | 0           |          |          |
|  | Silver              | ppm    | ASTM D5185(m)                  | >3        | <1          |          |          |
|  | Aluminum            | ppm    | ASTM D5185(m)                  | >20       | 3           |          |          |
|  | Lead                | ppm    | ASTM D5185(m)                  | >40       | 0           |          |          |
|  | Copper              | ppm    | ASTM D5185(m)                  | >330      | 4           |          |          |
|  | Tin                 | ppm    | ASTM D5185(m)                  | >15       | <1          |          |          |
|  | Vanadium            | ppm    | ASTM D5185(m)                  |           | 0           |          |          |
|  | White Metal         | scalar | Visual*                        | NONE      | VLITE       |          |          |
|  | Yellow Metal        | scalar | Visual*                        | NONE      | NONE        |          |          |
|  |                     |        |                                | ~-        |             |          |          |
| CONTAMINATION  | Silicon             | ppm    | ASTM D5185(m)                  |           | 3           |          |          |
| There is no indication of any contamination in the oil.  | Potassium           | ppm    | ASTM D5185(m)                  |           | 5           |          |          |
|  | Fuel                |        | WC Method                      | >5        | <1.0        |          |          |
|  | Water               |        | WC Method                      | >0.2      | NEG         |          |          |
|  | Glycol              | 0/     | WC Method                      | 0         | NEG         |          |          |
|  | Soot %              | %      | ASTM D7844*                    |           | 0.1         |          |          |
|  | Nitration           | Abs/cm | ASTM D7624*                    | >20       | 8.4         |          |          |
|  | Sulfation           |        | ASTM D7415*                    | >30       | 19.0        |          |          |
|  | Silt                | scalar | Visual*                        | NONE      | NONE        |          |          |
|  | Debris<br>Sand/Dirt | scalar | Visual*                        | NONE      | NONE        |          |          |
|  | Sand/Dirt           | scalar | Visual*                        | NONE      | NONE        |          |          |
|  | Appearance          | scalar |                                | NORML     | NORML       |          |          |
|  | Odor                | scalar | Visual*                        | NORML     | NORML       |          |          |
|  | Emulsified Water    | scalar | Visual*                        | >0.2      | NEG         |          |          |
| FLUID CONDITION  | Sodium              | ppm    | ASTM D5185(m)                  |           | 1           |          |          |
|  | Boron               | ppm    | ASTM D5185(m)                  | 0         | 4           |          |          |
| The condition of the oil is acceptable for the time in service.  | Barium              | ppm    | ASTM D5185(m)                  |           | 0           |          |          |
|  | Molybdenum          | ppm    | ASTM D5185(m)                  |           | 55          |          |          |
|  | Manganese           | ppm    | ASTM D5185(m)                  |           | <1          |          |          |
|  | Magnesium           | ppm    | ASTM D5185(m)                  |           | 916         |          |          |
|  | Calcium             | ppm    | ASTM D5185(m)<br>ASTM D5185(m) |           | 1061        |          |          |
|  | Daicium             | ppm    | ASTIVI DS165(III)              |           | 1001        |          |          |

Zinc

Sulfur

Oxidation

Visc @ 100°C cSt

Phosphorus ppm ASTM D5185(m) 1150

Visc @ 40°C cSt ASTM D7279(m) 113.9

Viscosity Index (VI) Scale ASTM D2270\* 142

ppm

ASTM D5185(m) 1270

ASTM D7279(m) 15.4

ppm ASTM D5185(m) 2060

Abs/.1mm ASTM D7414\* >25

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942

1147

2470

15.4

99.2

13.5

135



