

# WEAR NORMAL CONTAMINATION ABNORMAL FLUID CONDITION ABNORMAL

#### Machine Id **401129** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

### RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

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### WEAR

All component wear rates are normal.

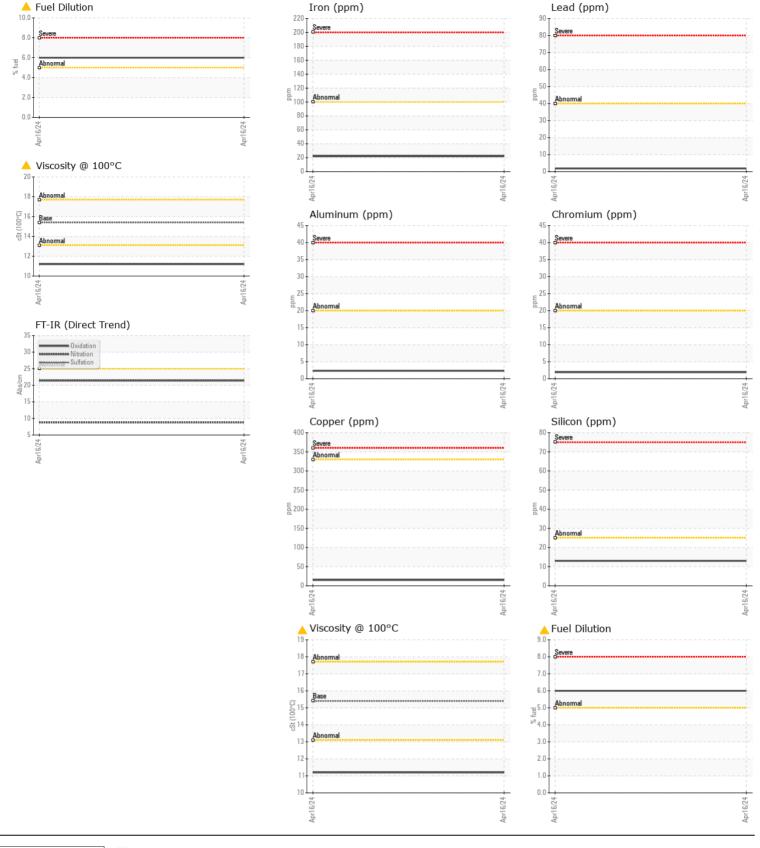
### CONTAMINATION

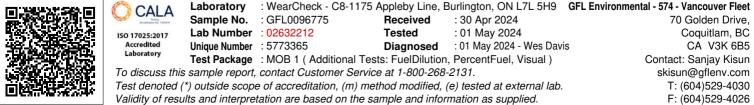
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

## FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| Test                 | UOM      | Method                         | Limit/Abn | Current      | History1 | History2 |
|----------------------|----------|--------------------------------|-----------|--------------|----------|----------|
| Sample Number        |          | Client Info                    |           | GFL0096775   |          |          |
| Sample Date          |          | Client Info                    |           | 16 Apr 2024  |          |          |
| Machine Age          | hrs      | Client Info                    |           | 4487         |          |          |
| Oil Age              | hrs      | Client Info                    |           | 0            |          |          |
| Filter Age           | hrs      | Client Info                    |           | 600          |          |          |
| Oil Changed          |          | Client Info                    |           | N/A          |          |          |
| Filter Changed       |          | Client Info                    |           | N/A          |          |          |
| Sample Status        |          |                                |           | ABNORMAL     |          |          |
|                      |          |                                |           |              |          |          |
| Iron                 | ppm      | ASTM D5185(m)                  | >100      | 22           |          |          |
| Chromium             | ppm      | ASTM D5185(m)                  | >20       | 2            |          |          |
| Nickel               | ppm      | ASTM D5185(m)                  | >4        | <1           |          |          |
| Titanium             | ppm      | ASTM D5185(m)                  | 0         | 0            |          |          |
| Silver               | ppm      | ASTM D5185(m)                  | >3        | 0            |          |          |
| Aluminum             | ppm      | ASTM D5185(m)                  | >20       | 2            |          |          |
| Lead                 | ppm      | ASTM D5185(m)                  | >40       | 2            |          |          |
| Copper               | ppm      | ASTM D5185(m)                  | >330      | 15           |          |          |
| Tin                  | ppm      | ASTM D5185(m)                  | >15       | <1           |          |          |
| Vanadium             | ppm      | ASTM D5185(m)                  | NONE      | 0            |          |          |
| White Metal          | scalar   | Visual*                        | NONE      | NONE         |          |          |
| Yellow Metal         | scalar   | Visual*                        | NONE      | NONE         |          |          |
| Silicon              | ppm      | ASTM D5185(m)                  | >25       | 13           |          |          |
| Potassium            | ppm      | ASTM D5185(m)                  | >20       | 4            |          |          |
| Fuel                 | %        | ASTM D7593*                    | >5        | <u> </u>     |          |          |
| Water                |          | WC Method                      | >0.2      | NEG          |          |          |
| Glycol               |          | WC Method                      |           | NEG          |          |          |
| Soot %               | %        | ASTM D7844*                    | >3        | 0            |          |          |
| Nitration            | Abs/cm   | ASTM D7624*                    | >20       | 8.8          |          |          |
| Sulfation            | Abs/.1mm | ASTM D7415*                    | >30       | 21.6         |          |          |
| Silt                 | scalar   | Visual*                        | NONE      | NONE         |          |          |
| Debris               | scalar   | Visual*                        | NONE      | NONE         |          |          |
| Sand/Dirt            | scalar   | Visual*                        | NONE      | NONE         |          |          |
| Appearance           | scalar   | Visual*                        | NORML     | NORML        |          |          |
| Odor                 | scalar   | Visual*                        | NORML     | NORML        |          |          |
| Emulsified Water     | scalar   | Visual*                        | >0.2      | NEG          |          |          |
| Cadiur               |          |                                |           | -            |          |          |
| Sodium               | ppm      | ASTM D5185(m)                  | 0         | 7            |          |          |
| Boron                | ppm      | ASTM D5185(m)                  | 0         | 3            |          |          |
| Barium               | ppm      | ASTM D5185(m)                  | 0         | <1           |          |          |
| Molybdenum           | ppm      | ASTM D5185(m)                  | 60        | 59           |          |          |
| Manganese            | ppm      | ASTM D5185(m)                  | 0         | <1           |          |          |
| Magnesium<br>Calcium | ppm      | ASTM D5185(m)                  | 1010      | 941          |          |          |
|                      | ppm      | ASTM D5185(m)                  | 1070      | 1080<br>975  |          |          |
| Phosphorus<br>Zinc   | ppm      | ASTM D5185(m)<br>ASTM D5185(m) | 1150      | 975<br>1166  |          |          |
| Sulfur               | ppm      |                                | 1270      | 1166<br>2288 |          |          |
| Oxidation            | ppm      | ASTM D5185(m)<br>ASTM D7414*   | 2060      | 2200         |          |          |
| Visc @ 100°C         | Abs/.1mm | ASTM D7414<br>ASTM D7279(m)    | >25       |              |          |          |
| visc @ 100°C         | cSt      | A2101D1213(m)                  | 15.4      | <b>11.2</b>  |          |          |





Contact/Location: Sanjay Kisun - GFL574 Page 2 of 2