



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

Machine Id  
**DR167**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON UHP 5W40 (40 LTR)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>PC0078016</b>   | PC0071492   | PC0072020   |
| Sample Date    |     | Client Info |           | <b>13 Dec 2023</b> | 04 Apr 2023 | 25 Feb 2023 |
| Machine Age    | hrs | Client Info |           | <b>14469</b>       | 13976       | 13773       |
| Oil Age        | hrs | Client Info |           | <b>250</b>         | 0           | 250         |
| Filter Age     | hrs | Client Info |           | <b>250</b>         | 0           | 250         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| 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 D5185(m) | >100 | <b>38</b>    | 13 | 21 |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>&lt;1</b> | <1 | <1 |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>&lt;1</b> | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) |      | <b>0</b>     | <1 | <1 |
| Silver   | ppm | ASTM D5185(m) | >3   | <b>0</b>     | 0  | 0  |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>1</b>     | <1 | <1 |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>1</b>     | <1 | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>4</b>     | 4  | 4  |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>&lt;1</b> | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

**CONTAMINATION**

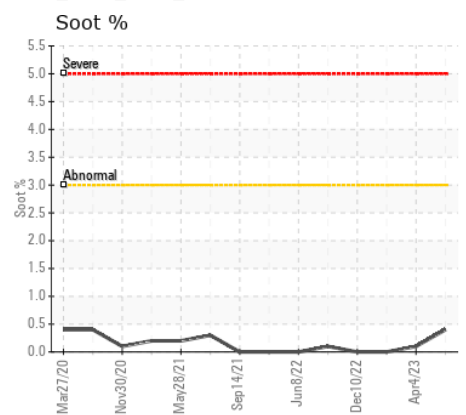
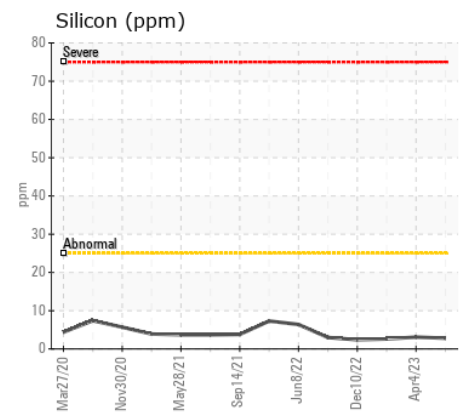
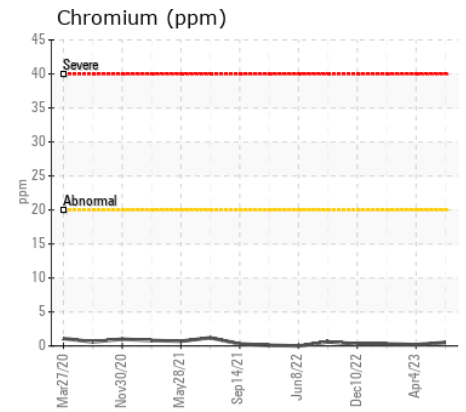
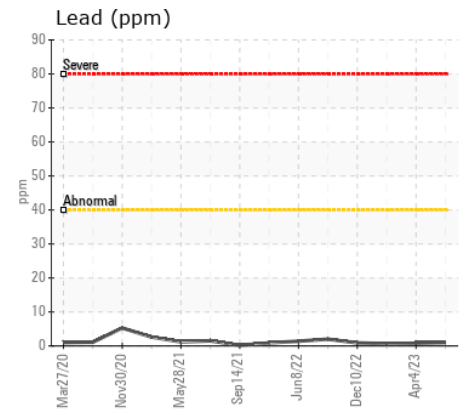
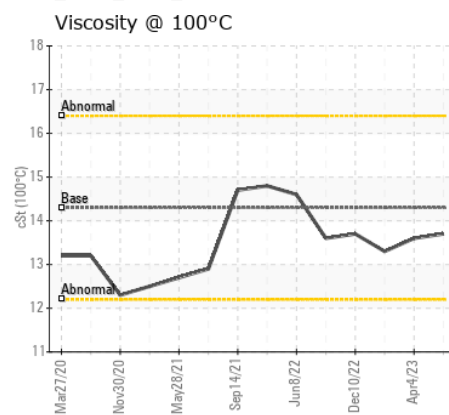
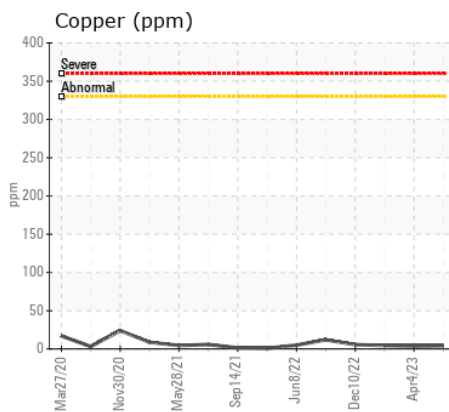
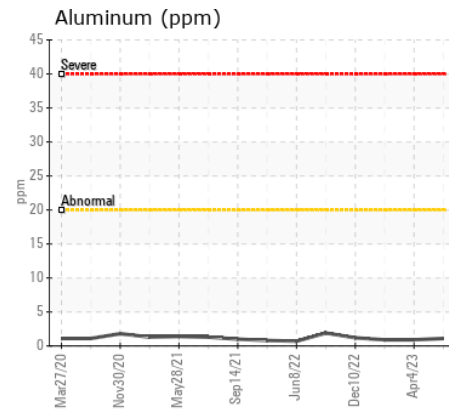
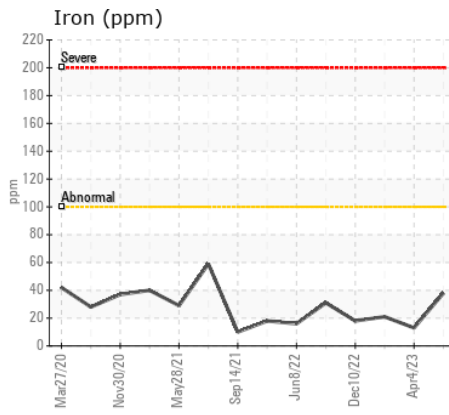
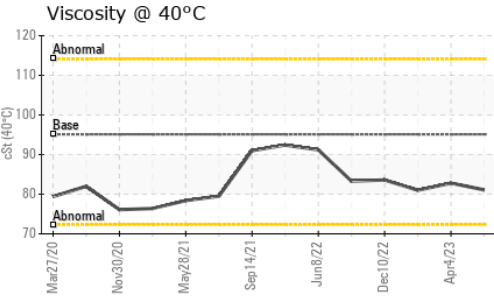
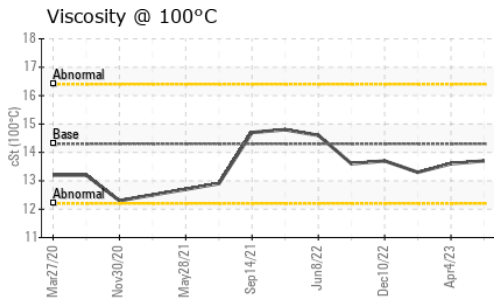
There is no indication of any contamination in the oil.

|                  |          |               |      |                |      |      |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>3</b>       | 3    | 3    |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>&lt;1</b>   | <1   | 0    |
| 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>0.4</b>     | 0.1  | 0    |
| Nitration        | Abs/cm   | ASTM D7624*   | >20  | <b>9.3</b>     | 7.9  | 8.5  |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>21.2</b>    | 20.2 | 22.9 |
| Emulsified Water | scalar   | Visual*       | >0.2 | <b>NEG</b>     | NEG  | NEG  |

**FLUID CONDITION**

The condition of the oil is acceptable for the time in service.

|                      |          |               |      |             |      |      |
|----------------------|----------|---------------|------|-------------|------|------|
| Sodium               | ppm      | ASTM D5185(m) |      | <b>4</b>    | 4    | 4    |
| Boron                | ppm      | ASTM D5185(m) | 65   | <b>36</b>   | 50   | 48   |
| Barium               | ppm      | ASTM D5185(m) | 0    | <b>0</b>    | 0    | 0    |
| Molybdenum           | ppm      | ASTM D5185(m) | 65   | <b>57</b>   | 61   | 60   |
| Manganese            | ppm      | ASTM D5185(m) | 0    | <b>0</b>    | <1   | <1   |
| Magnesium            | ppm      | ASTM D5185(m) | 1160 | <b>1076</b> | 1102 | 1100 |
| Calcium              | ppm      | ASTM D5185(m) | 820  | <b>805</b>  | 842  | 866  |
| Phosphorus           | ppm      | ASTM D5185(m) | 1160 | <b>976</b>  | 1065 | 1082 |
| Zinc                 | ppm      | ASTM D5185(m) | 1260 | <b>1152</b> | 1153 | 1173 |
| Sulfur               | ppm      | ASTM D5185(m) | 3000 | <b>2768</b> | 2873 | 2894 |
| Oxidation            | Abs/.1mm | ASTM D7414*   | >25  | <b>19.0</b> | 17.7 | 17.9 |
| Visc @ 40°C          | cSt      | ASTM D7279(m) | 95.1 | <b>81.1</b> | 82.8 | 81.0 |
| Visc @ 100°C         | cSt      | ASTM D7279(m) | 14.3 | <b>13.7</b> | 13.6 | 13.3 |
| Viscosity Index (VI) | Scale    | ASTM D2270*   | 169  | <b>173</b>  | 168  | 166  |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations  
**Sample No.** : PC0078016 **Received** : 10 Jan 2024 151 Ram Forest Rd,  
**Lab Number** : 02607723 **Diagnosed** : 11 Jan 2024 Stouffville, ON  
**Unique Number** : 5708809 **Diagnostician** : Wes Davis CA L4A 2G8  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI )  
 Contact: Shannon Abbott  
 sabbott@gipi.com  
 T: (905)750-5900  
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.