



# RAPPORT D'ANALYSE D'HUILE

|                |               |
|----------------|---------------|
| USURE          | <b>NORMAL</b> |
| CONTAMINATION  | <b>NORMAL</b> |
| ÉTAT DU FLUIDE | <b>NORMAL</b> |

Secteur

**52000 series**

Identité de la machine

**INTERNATIONAL 52846**

Composant

**Moteur diesel**

Fluide

**PETRO CANADA DURON SHP 10W30 (40 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test                | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|---------------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Numéro d'échant.    |     | Client Info |           | <b>WC0836026</b>   | WC0787327   | WC0758571   |
| Date d'échant.      |     | Client Info |           | <b>18 Aug 2023</b> | 06 Mar 2023 | 02 Dec 2022 |
| Âge d la Machine    | mls | Client Info |           | <b>262121</b>      | 206830      | 179886      |
| Âge de l'huile      | mls | Client Info |           | <b>25120</b>       | 26937       | 47000       |
| Âge du filtre       | mls | Client Info |           | <b>25120</b>       | 26937       | 47000       |
| Huile changée       |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filtre changé       |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Statut de l'échant. |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## USURE

All component wear rates are normal.

|           |     |               |      |              |    |    |
|-----------|-----|---------------|------|--------------|----|----|
| Fer       | ppm | ASTM D5185(m) | >100 | <b>11</b>    | 24 | 18 |
| Chrome    | ppm | ASTM D5185(m) | >20  | <b>&lt;1</b> | 2  | 1  |
| Nickel    | ppm | ASTM D5185(m) | >4   | <b>&lt;1</b> | <1 | <1 |
| Titane    | ppm | ASTM D5185(m) |      | <b>&lt;1</b> | <1 | <1 |
| Argent    | ppm | ASTM D5185(m) | >3   | <b>0</b>     | 0  | 0  |
| Aluminium | ppm | ASTM D5185(m) | >20  | <b>5</b>     | 5  | 6  |
| Plomb     | ppm | ASTM D5185(m) | >40  | <b>&lt;1</b> | <1 | <1 |
| Cuivre    | ppm | ASTM D5185(m) | >330 | <b>1</b>     | 4  | 5  |
| Étain     | ppm | ASTM D5185(m) | >15  | <b>0</b>     | <1 | <1 |
| Vanadium  | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

## CONTAMINATION

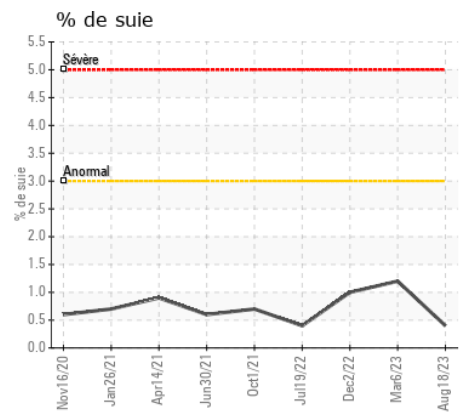
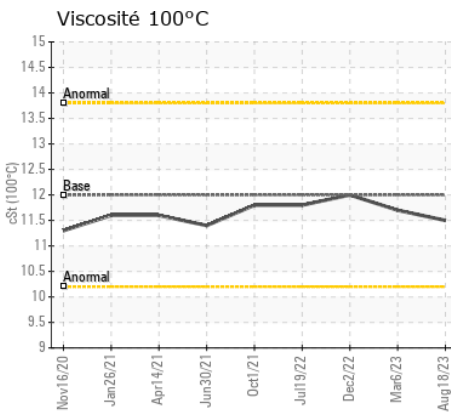
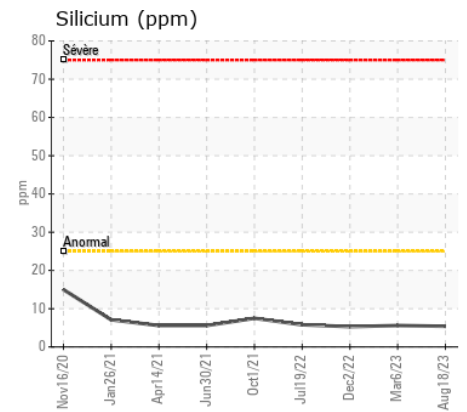
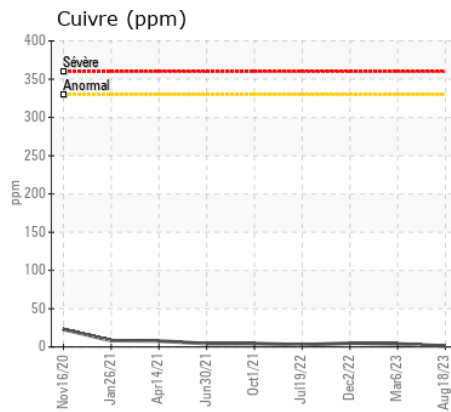
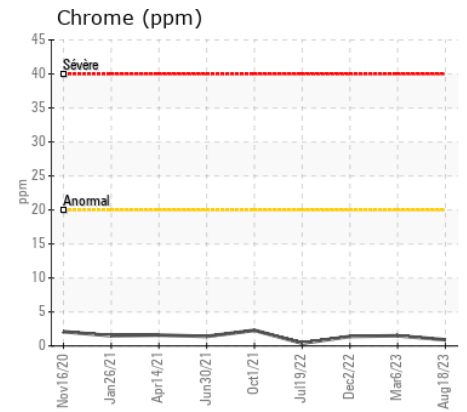
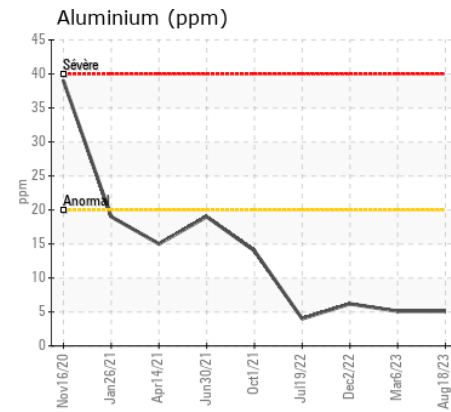
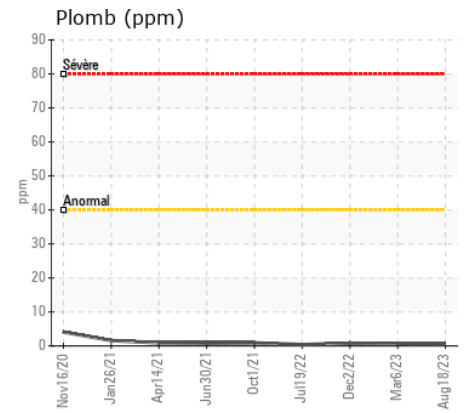
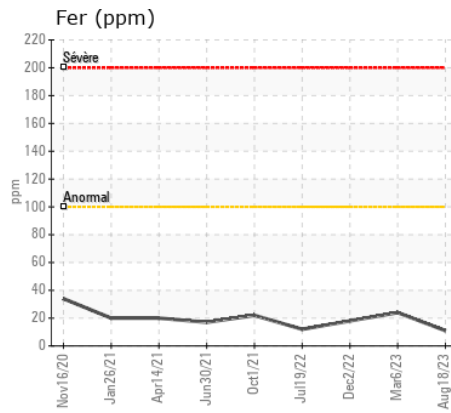
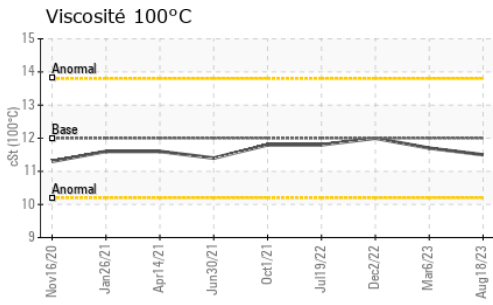
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

|                |          |               |      |                |      |      |
|----------------|----------|---------------|------|----------------|------|------|
| Silicium       | ppm      | ASTM D5185(m) | >25  | <b>5</b>       | 6    | 5    |
| Potassium      | ppm      | ASTM D5185(m) | >20  | <b>11</b>      | 5    | 10   |
| Essence        |          | WC Method     | >5   | <b>&lt;1.0</b> | <1.0 | <1.0 |
| Glycol         |          | WC Method     |      | <b>NEG</b>     | NEG  | NEG  |
| % de suie      | %        | ASTM D7844*   | >3   | <b>0.4</b>     | 1.2  | 1    |
| Nitration      | Abs/cm   | ASTM D7624*   | >20  | <b>8.8</b>     | 9.4  | 8.5  |
| Sulfatation    | Abs/.1mm | ASTM D7415*   | >30  | <b>20.1</b>    | 21.5 | 21.8 |
| Eau émulsifiée | scalar   | Visual*       | >0.2 | <b>NEG</b>     | NEG  | NEG  |

## ÉTAT DU FLUIDE

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

|            |          |               |       |              |      |      |
|------------|----------|---------------|-------|--------------|------|------|
| Sodium     | ppm      | ASTM D5185(m) |       | <b>2</b>     | 2    | 2    |
| Bore       | ppm      | ASTM D5185(m) | 2     | <b>1</b>     | 3    | 4    |
| Baryum     | ppm      | ASTM D5185(m) | 0     | <b>0</b>     | 0    | 0    |
| Molybdène  | ppm      | ASTM D5185(m) | 50    | <b>60</b>    | 62   | 55   |
| Manganèse  | ppm      | ASTM D5185(m) | 0     | <b>&lt;1</b> | <1   | <1   |
| Magnésium  | ppm      | ASTM D5185(m) | 950   | <b>1001</b>  | 987  | 892  |
| Calcium    | ppm      | ASTM D5185(m) | 1050  | <b>1101</b>  | 1236 | 1188 |
| Phosphore  | ppm      | ASTM D5185(m) | 995   | <b>1098</b>  | 1151 | 1051 |
| Zinc       | ppm      | ASTM D5185(m) | 1180  | <b>1229</b>  | 1264 | 1172 |
| Soufre     | ppm      | ASTM D5185(m) | 2600  | <b>2580</b>  | 2729 | 2584 |
| Oxydation  | Abs/.1mm | ASTM D7414*   | >25   | <b>15.8</b>  | 15.8 | 14.9 |
| Visc 100°C | cSt      | ASTM D7279(m) | 12.00 | <b>11.5</b>  | 11.7 | 12.0 |



ISO 17025:2017  
Accredited  
Laboratory

**Laboratoire** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**N° d'échantillon** : WC0836026  
**N° de laboratoire** : 02582656  
**Numéro unique** : 5643721  
**Analyse** : MOB 1

**Reçu** : 15 Sep 2023  
**Diagnostiqué** : 15 Sep 2023  
**Diagnostiqueur** : Wes Davis

**MANITOU LIN TRANSPORT**  
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Pour discuter ce rapport, contacter le service à la clientèle au 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 La validez de los resultados y la interpretación se basan en la muestra y la información proporcionada.