



# OIL ANALYSIS REPORT

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

Machine Id  
**ST212**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON UHP 5W40 (38 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>PC0078304</b>   | PC0071524   | PC0057091   |
| Sample Date    |     | Client Info |           | <b>13 Feb 2024</b> | 14 Feb 2023 | 08 Mar 2022 |
| Machine Age    | hrs | Client Info |           | <b>11421</b>       | 10978       | 10468       |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 500         | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 500         | 0           |
| 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>11</b>    | 13 | 4  |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>0</b>     | <1 | <1 |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>0</b>     | 0  | <1 |
| Titanium | ppm | ASTM D5185(m) |      | <b>0</b>     | <1 | 0  |
| Silver   | ppm | ASTM D5185(m) | >3   | <b>0</b>     | 0  | 0  |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>3</b>     | 1  | <1 |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>&lt;1</b> | 2  | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>&lt;1</b> | 3  | <1 |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>     | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

## CONTAMINATION

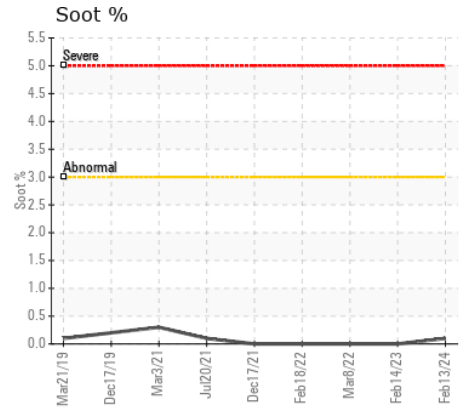
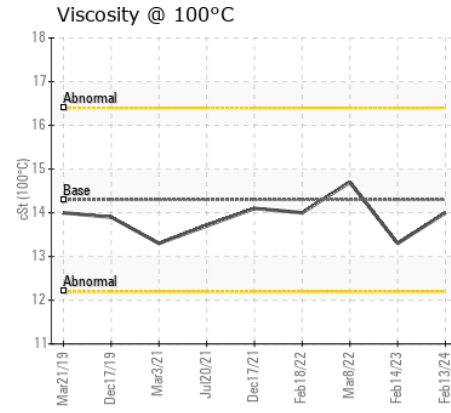
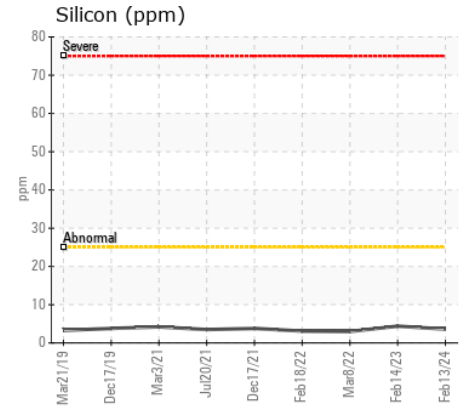
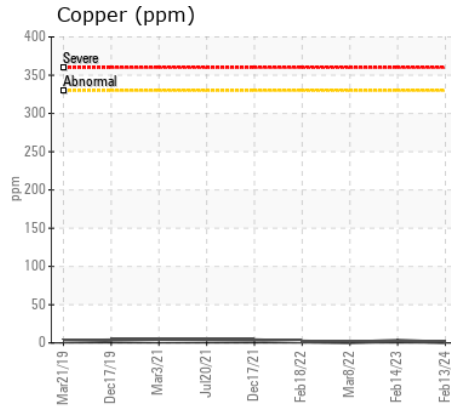
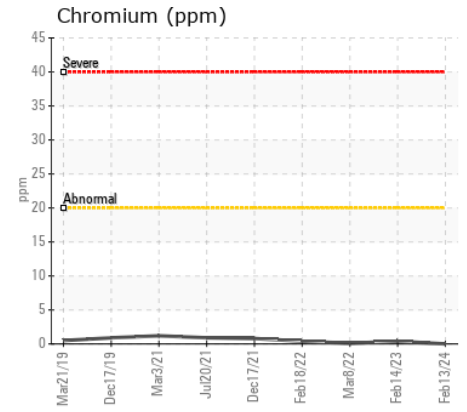
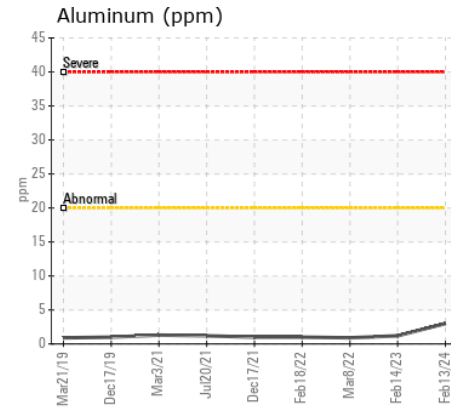
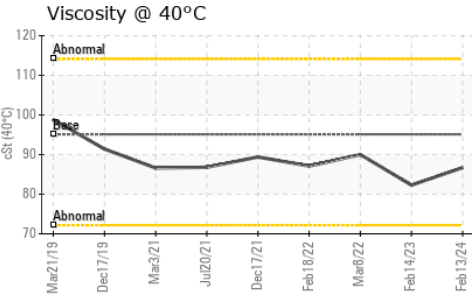
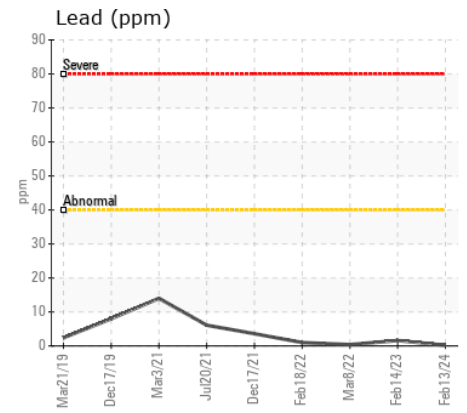
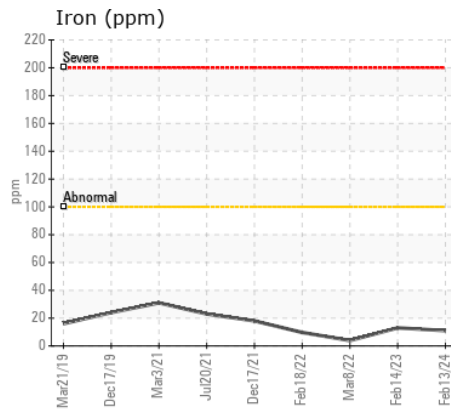
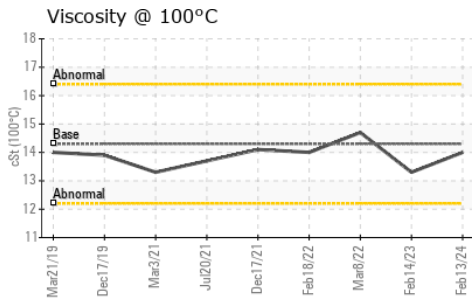
There is no indication of any contamination in the oil.

|                  |          |               |      |                |      |      |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>4</b>       | 4    | 3    |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>&lt;1</b>   | 0    | 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>0.1</b>     | 0    | 0    |
| Nitration        | Abs/cm   | ASTM D7624*   | >20  | <b>9.5</b>     | 2.8  | 3.7  |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>20.6</b>    | 10.6 | 14.5 |
| 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>41</b>   | 32   | 48   |
| Barium               | ppm      | ASTM D5185(m) | 0    | <b>0</b>    | 0    | 0    |
| Molybdenum           | ppm      | ASTM D5185(m) | 65   | <b>61</b>   | 53   | 53   |
| Manganese            | ppm      | ASTM D5185(m) | 0    | <b>0</b>    | <1   | 0    |
| Magnesium            | ppm      | ASTM D5185(m) | 1160 | <b>1133</b> | 1037 | 1087 |
| Calcium              | ppm      | ASTM D5185(m) | 820  | <b>877</b>  | 859  | 806  |
| Phosphorus           | ppm      | ASTM D5185(m) | 1160 | <b>1026</b> | 1031 | 1021 |
| Zinc                 | ppm      | ASTM D5185(m) | 1260 | <b>1229</b> | 1128 | 1161 |
| Sulfur               | ppm      | ASTM D5185(m) | 3000 | <b>2897</b> | 2653 | 2683 |
| Oxidation            | Abs/.1mm | ASTM D7414*   | >25  | <b>20.0</b> | 4.3  | 7.5  |
| Visc @ 40°C          | cSt      | ASTM D7279(m) | 95.1 | <b>86.7</b> | 82.3 | 90.0 |
| Visc @ 100°C         | cSt      | ASTM D7279(m) | 14.3 | <b>14.0</b> | 13.3 | 14.7 |
| Viscosity Index (VI) | Scale    | ASTM D2270*   | 169  | <b>166</b>  | 163  | 170  |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0078304  
**Lab Number** : 02617398  
**Unique Number** : 5734508  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI )  
**Received** : 22 Feb 2024  
**Tested** : 22 Feb 2024  
**Diagnosed** : 22 Feb 2024 - Wes Davis

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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.

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F: