



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

Machine Id  
**199 BAY ST. TORONTO, UNIT 3 QUADRAL 36J411**

Component  
**Front Diesel Engine**

Fluid  
**ESSO XD-3 EXTRA 15W40 (140 LTR)**

**RECOMMENDATION**

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>PN0005772</b>   | PN0003985   | PN0002251   |
| Sample Date    |     | Client Info |           | <b>15 Feb 2024</b> | 12 Aug 2022 | 28 Mar 2021 |
| Machine Age    | hrs | Client Info |           | <b>724</b>         | 671         | 639         |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Not Chngd   | Not Chngd   |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Not Chngd   |
| Sample Status  |     |             |           | <b>MARGINAL</b>    | ABNORMAL    | MARGINAL    |

**WEAR**

Metal levels are typical for a new component breaking in.

|          |     |               |      |              |    |    |
|----------|-----|---------------|------|--------------|----|----|
| Iron     | ppm | ASTM D5185(m) | >100 | <b>3</b>     | 3  | 3  |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>0</b>     | 0  | <1 |
| Nickel   | ppm | ASTM D5185(m) | >2   | <b>&lt;1</b> | 0  | <1 |
| Titanium | ppm | ASTM D5185(m) | >2   | <b>0</b>     | <1 | 0  |
| Silver   | ppm | ASTM D5185(m) | >2   | <b>0</b>     | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >25  | <b>2</b>     | 2  | 2  |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>&lt;1</b> | <1 | 0  |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>&lt;1</b> | 1  | <1 |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>&lt;1</b> | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

**CONTAMINATION**

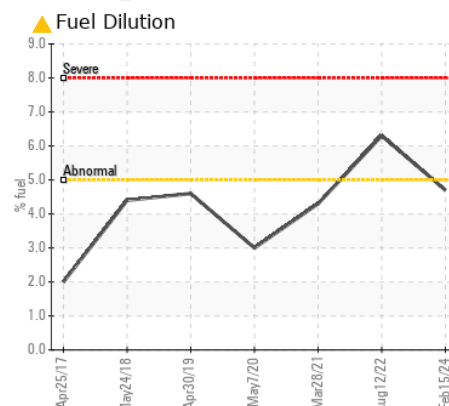
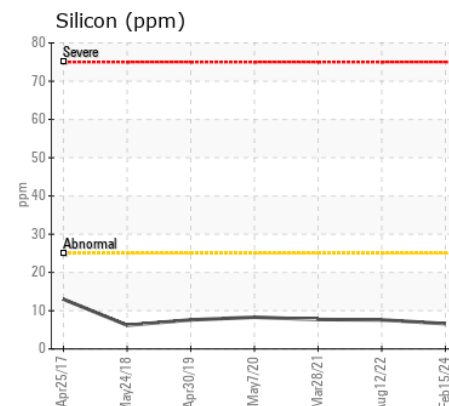
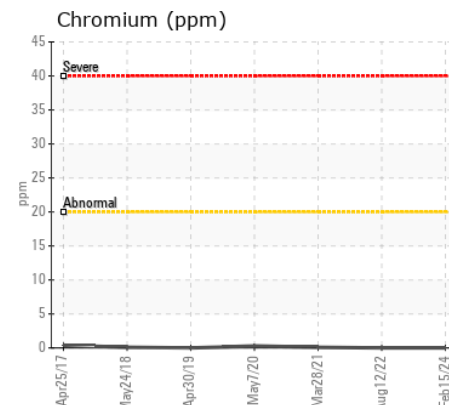
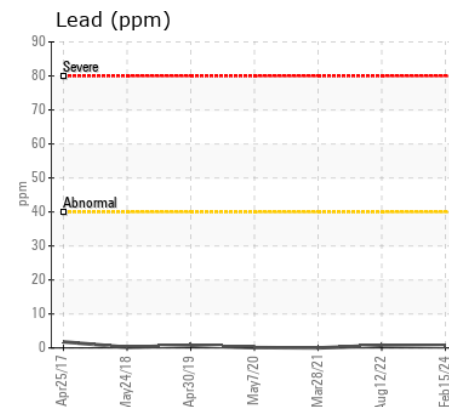
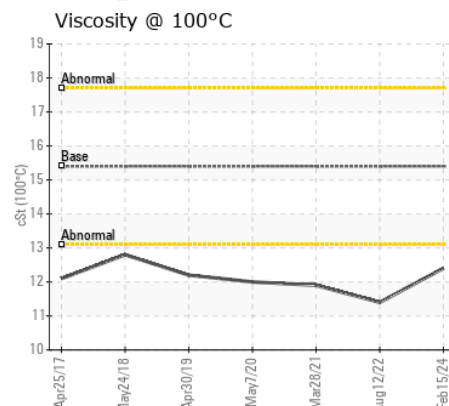
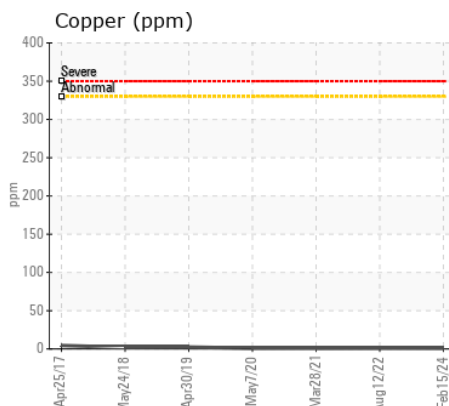
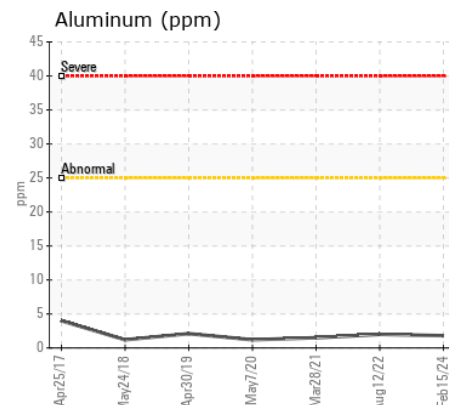
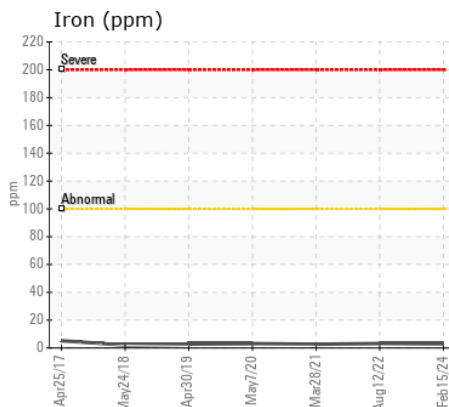
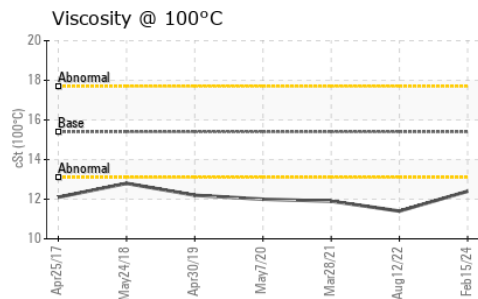
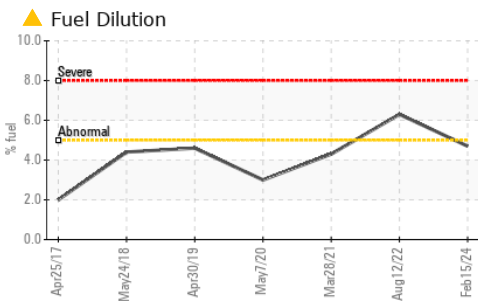
Light fuel dilution occurring. No other contaminants were detected in the oil.

|                  |          |               |      |              |       |       |
|------------------|----------|---------------|------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>7</b>     | 8     | 8     |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>1</b>     | <1    | <1    |
| Fuel             | %        | ASTM D7593*   | >5   | <b>▲ 4.7</b> | ▲ 6.3 | ▲ 4.3 |
| Water            |          | WC Method     | >0.2 | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method     |      | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | ASTM D7844*   | >3   | <b>0</b>     | 0     | 0     |
| Nitration        | Abs/cm   | ASTM D7624*   | >20  | <b>5.8</b>   | 6.7   | 5.5   |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>18.9</b>  | 20.8  | 20.5  |
| 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) | >192 | <b>2</b>    | 3      | 2    |
| Boron        | ppm      | ASTM D5185(m) |      | <b>30</b>   | 51     | 51   |
| Barium       | ppm      | ASTM D5185(m) |      | <b>0</b>    | 0      | <1   |
| Molybdenum   | ppm      | ASTM D5185(m) |      | <b>48</b>   | 46     | 42   |
| Manganese    | ppm      | ASTM D5185(m) |      | <b>0</b>    | <1     | <1   |
| Magnesium    | ppm      | ASTM D5185(m) |      | <b>563</b>  | 403    | 430  |
| Calcium      | ppm      | ASTM D5185(m) | 3780 | <b>1497</b> | 1643   | 1516 |
| Phosphorus   | ppm      | ASTM D5185(m) | 1370 | <b>890</b>  | 833    | 736  |
| Zinc         | ppm      | ASTM D5185(m) | 1500 | <b>990</b>  | 879    | 887  |
| Sulfur       | ppm      | ASTM D5185(m) | 3800 | <b>2518</b> | 2305   | 2269 |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>16.1</b> | 19.1   | 17.7 |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.4 | <b>12.4</b> | ▲ 11.4 | 11.9 |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PN0005772 **Received** : 21 Feb 2024  
**Lab Number** : 02616978 **Tested** : 22 Feb 2024  
**Unique Number** : 5734088 **Diagnosed** : 22 Feb 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

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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