



Area  
**SHARP BUS LINES**  
Machine Id  
**IC 1088**

Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**



**DIAGNOSIS**

**Recommendation**  
We advise that you check the fuel injection system. The oil is near the end of its useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.

**Wear**  
All component wear rates are normal.

**Contamination**  
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**Fluid Condition**  
Calcium ppm levels are abnormally low. Visc @ 100°C is abnormally low. Visc @ 40°C is abnormally low. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|----------|----------|
| Sample Number      | Client Info |             |            | <b>PC0081571</b>   | ---      | ---      |
| Sample Date        | Client Info |             |            | <b>31 Oct 2023</b> | ---      | ---      |
| Machine Age        | kms         | Client Info |            | <b>0</b>           | ---      | ---      |
| Oil Age            | kms         | Client Info |            | <b>3128</b>        | ---      | ---      |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | ---      | ---      |
| Sample Status      |             |             |            | <b>SEVERE</b>      | ---      | ---      |

| CONTAMINATION |           | method | limit/base | current    | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water         | WC Method | >0.2   |            | <b>NEG</b> | ---      | ---      |
| Glycol        | WC Method |        |            | <b>NEG</b> | ---      | ---      |

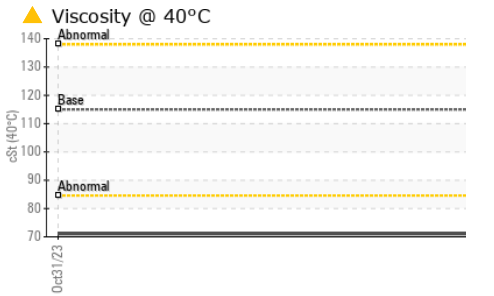
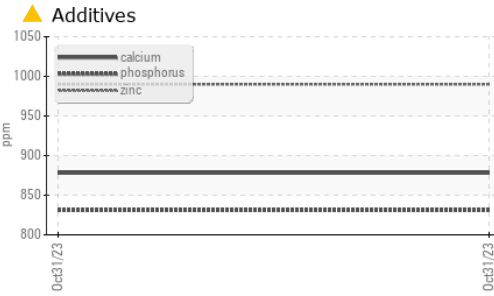
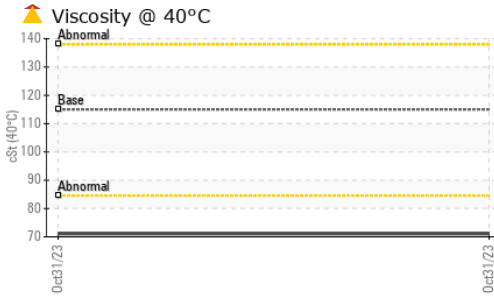
| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >100       | <b>43</b>    | ---      | ---      |
| Chromium    | ppm | ASTM D5185(m) | >20        | <b>&lt;1</b> | ---      | ---      |
| Nickel      | ppm | ASTM D5185(m) | >4         | <b>&lt;1</b> | ---      | ---      |
| Titanium    | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Silver      | ppm | ASTM D5185(m) | >3         | <b>&lt;1</b> | ---      | ---      |
| Aluminum    | ppm | ASTM D5185(m) | >20        | <b>5</b>     | ---      | ---      |
| Lead        | ppm | ASTM D5185(m) | >40        | <b>&lt;1</b> | ---      | ---      |
| Copper      | ppm | ASTM D5185(m) | >330       | <b>&lt;1</b> | ---      | ---      |
| Tin         | ppm | ASTM D5185(m) | >15        | <b>0</b>     | ---      | ---      |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |

| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) | 250        | <b>3</b>     | ---      | ---      |
| Barium     | ppm | ASTM D5185(m) | 10         | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm | ASTM D5185(m) | 100        | <b>54</b>    | ---      | ---      |
| Manganese  | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Magnesium  | ppm | ASTM D5185(m) | 450        | <b>788</b>   | ---      | ---      |
| Calcium    | ppm | ASTM D5185(m) | 3000       | <b>878</b>   | ---      | ---      |
| Phosphorus | ppm | ASTM D5185(m) | 1150       | <b>831</b>   | ---      | ---      |
| Zinc       | ppm | ASTM D5185(m) | 1350       | <b>990</b>   | ---      | ---      |
| Sulfur     | ppm | ASTM D5185(m) | 4250       | <b>2122</b>  | ---      | ---      |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | ---      | ---      |

| CONTAMINANTS |     | method        | limit/base | current   | history1 | history2 |
|--------------|-----|---------------|------------|-----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >25        | <b>4</b>  | ---      | ---      |
| Sodium       | ppm | ASTM D5185(m) | >158       | <b>2</b>  | ---      | ---      |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>0</b>  | ---      | ---      |
| Fuel         | %   | ASTM D7593*   | >5         | <b>13</b> | ---      | ---      |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* | >3         | <b>2.3</b>  | ---      | ---      |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>12.1</b> | ---      | ---      |
| Sulfation | Abs./1mm | ASTM D7415* | >30        | <b>26.8</b> | ---      | ---      |

# OIL ANALYSIS REPORT

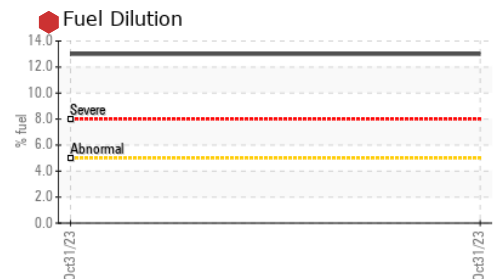
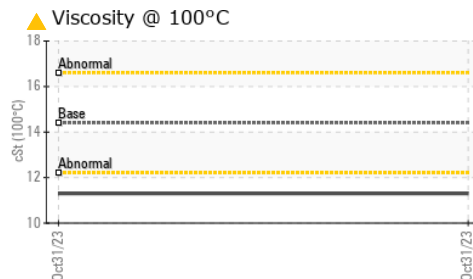
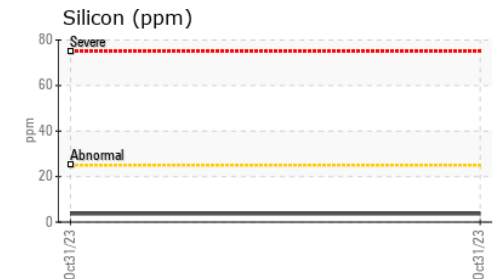
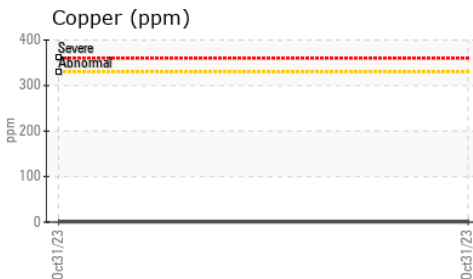
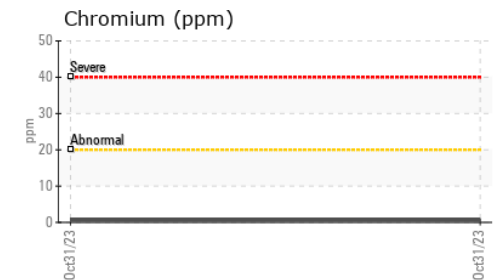
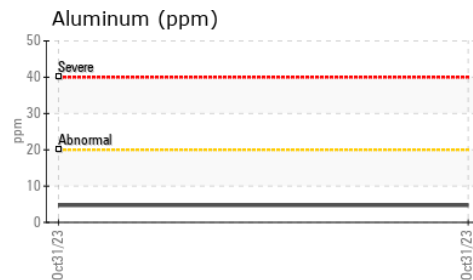
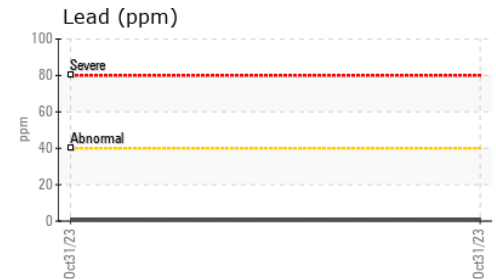
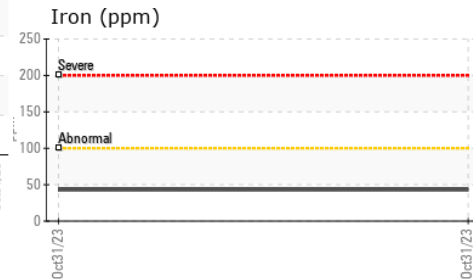


| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs./1mm | ASTM D7414* | >25        | <b>23.1</b> | ---      | ---      |

| VISUAL           |        | method  | limit/base | current    | history1 | history2 |
|------------------|--------|---------|------------|------------|----------|----------|
| Emulsified Water | scalar | Visual* | >0.2       | <b>NEG</b> | ---      | ---      |
| Free Water       | scalar | Visual* |            | <b>NEG</b> | ---      | ---      |

| FLUID PROPERTIES     |       | method        | limit/base | current       | history1 | history2 |
|----------------------|-------|---------------|------------|---------------|----------|----------|
| Visc @ 40°C          | cSt   | ASTM D7279(m) | 115        | <b>▲ 71.1</b> | ---      | ---      |
| Visc @ 100°C         | cSt   | ASTM D7279(m) | 14.4       | <b>▲ 11.3</b> | ---      | ---      |
| Viscosity Index (VI) | Scale | ASTM D2270*   | 126        | <b>151</b>    | ---      | ---      |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0081571 **Received** : 24 Nov 2023  
**Lab Number** : **02598636** **Diagnosed** : 27 Nov 2023  
**Unique Number** : 5683716 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, KV40, PercentFuel, VI )

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 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.