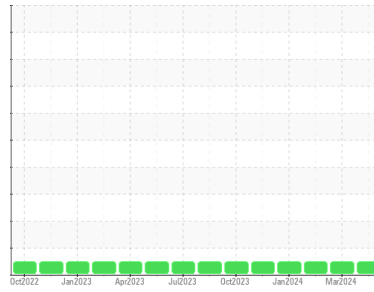




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**2112**

Component

**Natural Gas Engine**

Fluid

**VALVOLINE PREMIUM BLUE 9200 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

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

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>WC0877887</b>   | WC0917549   | WC0878145   |
| Sample Date        | Client Info |             |            | <b>04 Apr 2024</b> | 28 Mar 2024 | 18 Feb 2024 |
| Machine Age        | kms         | Client Info |            | <b>110877</b>      | 101806      | 94268       |
| Oil Age            | kms         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | Changed     | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

| CONTAMINATION |           | method | limit/base | current    | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water         | WC Method |        | >0.1       | <b>NEG</b> | NEG      | NEG      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >50        | <b>6</b>     | 13       | 12       |
| Chromium    | ppm | ASTM D5185(m) | >4         | <b>&lt;1</b> | <1       | <1       |
| Nickel      | ppm | ASTM D5185(m) | >2         | <b>0</b>     | <1       | <1       |
| Titanium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Silver      | ppm | ASTM D5185(m) | >3         | <b>0</b>     | 0        | 0        |
| Aluminum    | ppm | ASTM D5185(m) | >9         | <b>1</b>     | 1        | 2        |
| Lead        | ppm | ASTM D5185(m) | >30        | <b>0</b>     | 0        | <1       |
| Copper      | ppm | ASTM D5185(m) | >35        | <b>&lt;1</b> | <1       | <1       |
| Tin         | ppm | ASTM D5185(m) | >4         | <b>0</b>     | 0        | 0        |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |

| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) |            | <b>12</b>    | 14       | 14       |
| Barium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185(m) |            | <b>53</b>    | 57       | 54       |
| Manganese  | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm | ASTM D5185(m) |            | <b>803</b>   | 869      | 819      |
| Calcium    | ppm | ASTM D5185(m) |            | <b>1237</b>  | 1317     | 1253     |
| Phosphorus | ppm | ASTM D5185(m) |            | <b>624</b>   | 718      | 700      |
| Zinc       | ppm | ASTM D5185(m) |            | <b>842</b>   | 906      | 865      |
| Sulfur     | ppm | ASTM D5185(m) |            | <b>1968</b>  | 1968     | 2091     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

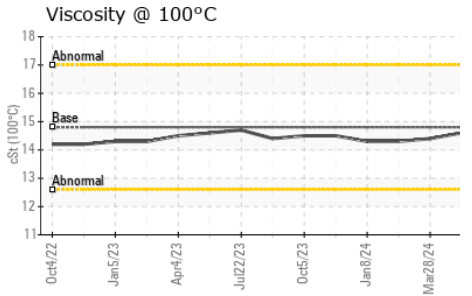
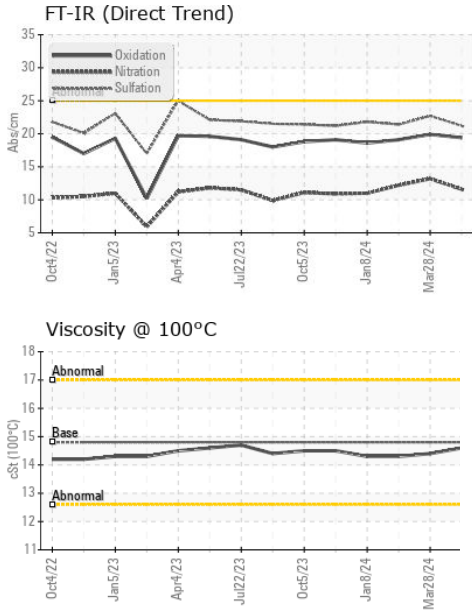
| CONTAMINANTS |     | method        | limit/base | current  | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >+100      | <b>2</b> | 3        | 7        |
| Sodium       | ppm | ASTM D5185(m) |            | <b>1</b> | 3        | 4        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>0</b> | <1       | <1       |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* |            | <b>0</b>    | 0        | 0        |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>11.6</b> | 13.2     | 12.2     |
| Sulfation | Abs/.1mm | ASTM D7415* | >30        | <b>21.2</b> | 22.7     | 21.4     |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | ASTM D7414* | >25        | <b>19.4</b> | 19.9     | 19.1     |



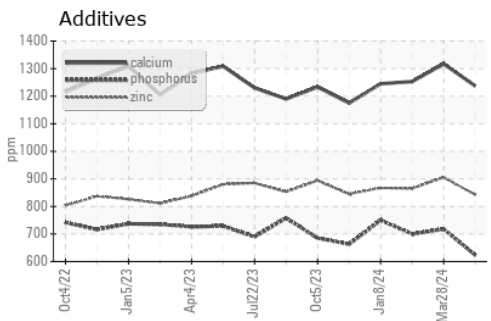
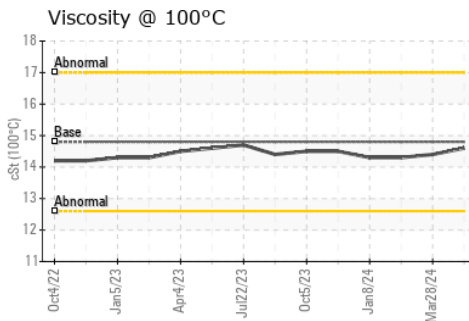
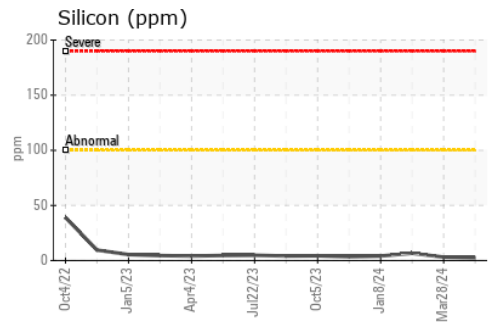
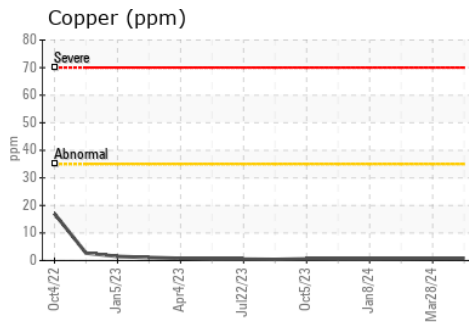
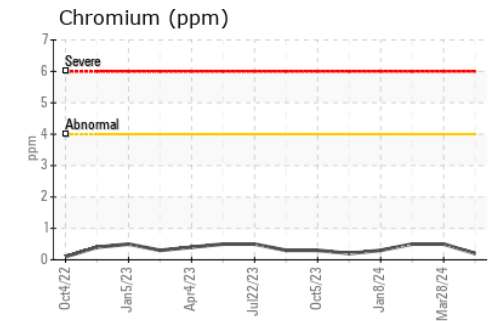
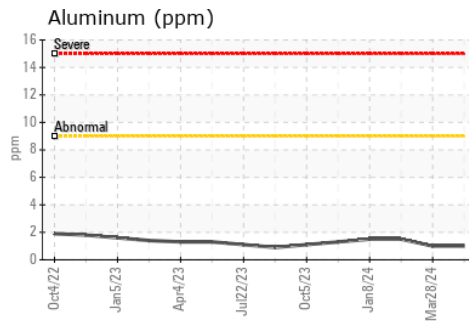
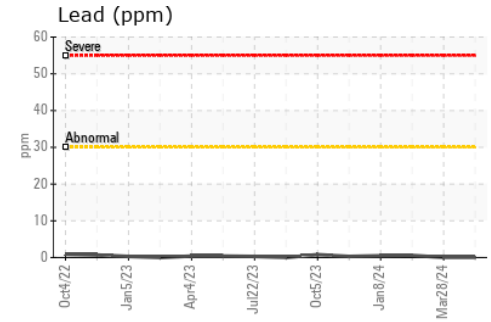
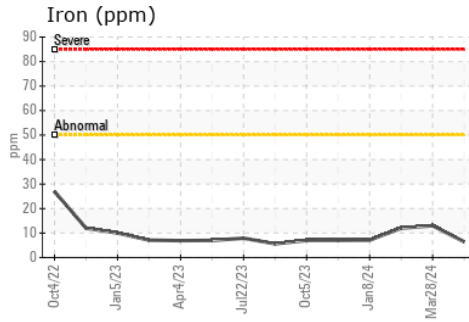
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Emulsified Water | scalar | Visual*    | >0.1    | NEG      | NEG      |
| Free Water       | scalar | Visual*    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 14.8    | 14.6     | 14.4     |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0877887  
**Lab Number** : 02627654  
**Unique Number** : 5760786  
**Test Package** : MOB 1  
**Received** : 09 Apr 2024  
**Tested** : 09 Apr 2024  
**Diagnosed** : 09 Apr 2024 - Wes Davis

**CITY OF HAMILTON**  
 2200 UPPER JAMES., MOUNTAIN TRANSIT STOREROOM  
 MOUNT HOPE, ON  
 CA L0R LW0  
 Contact: Jeff Parr  
 jeff.parr@hamilton.ca  
 T: (905)546-2424  
 F: (905)679-4502

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.