



OIL ANALYSIS REPORT

|                 |          |
|-----------------|----------|
| WEAR            | NORMAL   |
| CONTAMINATION   | ABNORMAL |
| FLUID CONDITION | ABNORMAL |

Machine Id  
**QC230725MOB2**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Please specify the component make and model with your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0936550</b>   | WC0936549   | WC0936548   |
| Sample Date    |     | Client Info |           | <b>09 May 2024</b> | 08 May 2024 | 07 May 2024 |
| Machine Age    | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| 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>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

**WEAR**

All component wear rates are normal.

|          |     |               |      |              |    |    |
|----------|-----|---------------|------|--------------|----|----|
| Iron     | ppm | ASTM D5185(m) | >100 | <b>20</b>    | 20 | 19 |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>&lt;1</b> | <1 | <1 |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>0</b>     | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) |      | <b>3</b>     | 3  | 3  |
| Silver   | ppm | ASTM D5185(m) | >3   | <b>0</b>     | 0  | 0  |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>4</b>     | 4  | 4  |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>&lt;1</b> | <1 | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>10</b>    | 9  | 9  |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>     | 0  | 0  |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

**CONTAMINATION**

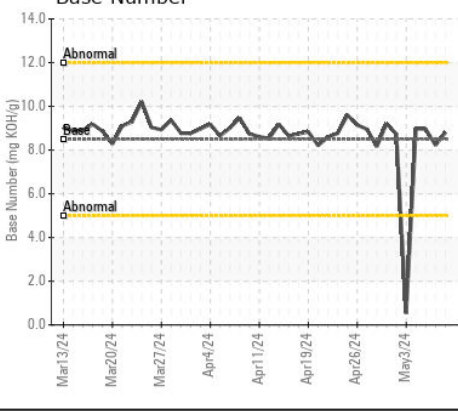
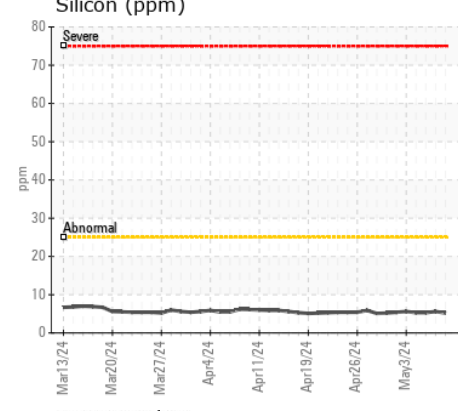
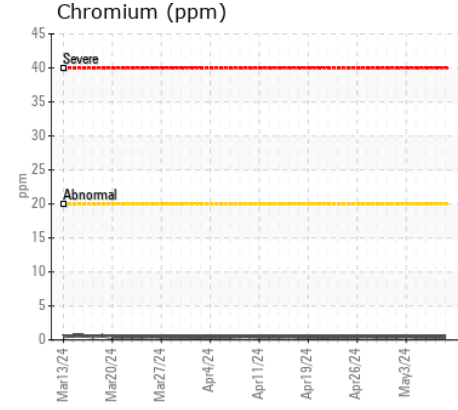
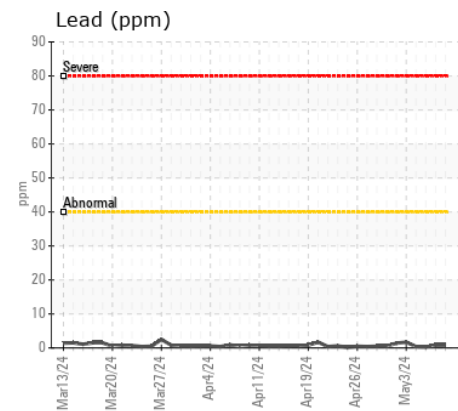
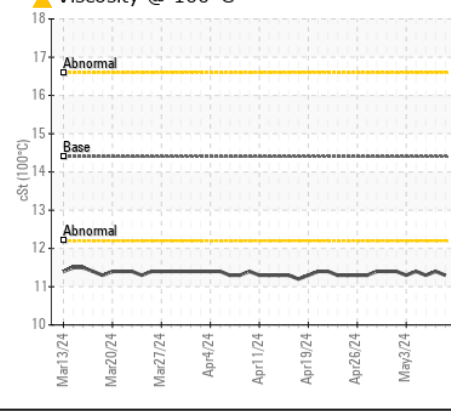
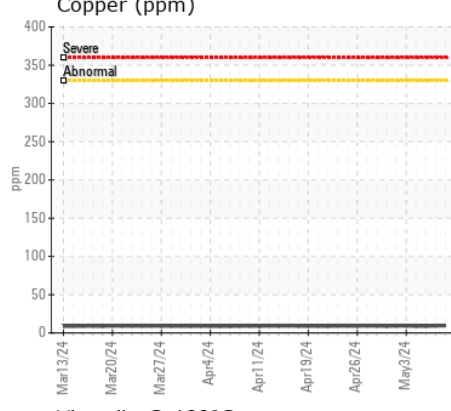
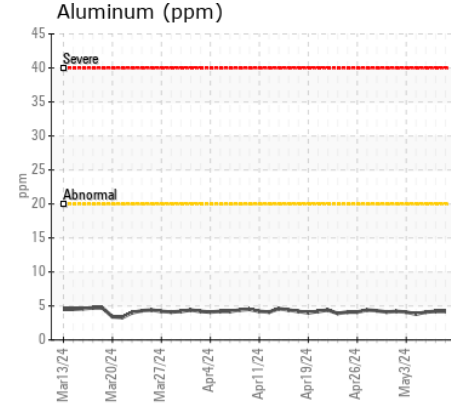
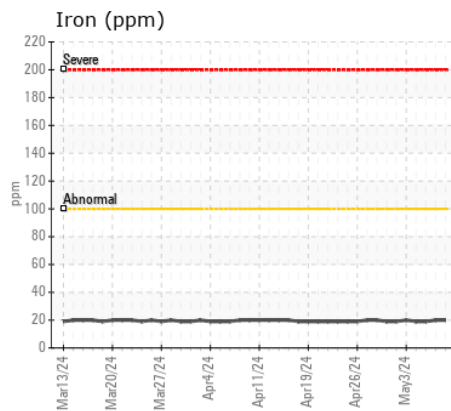
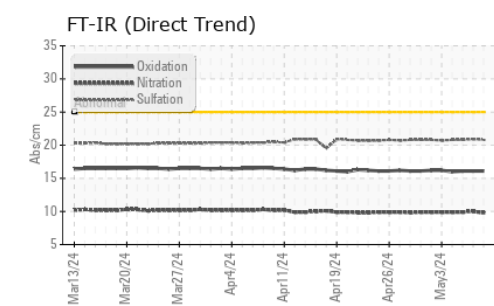
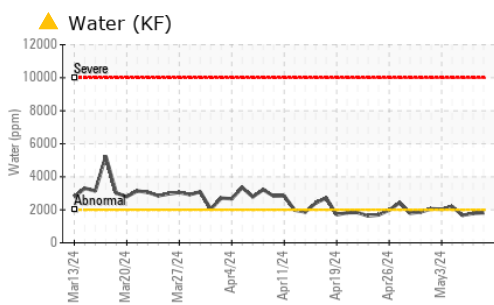
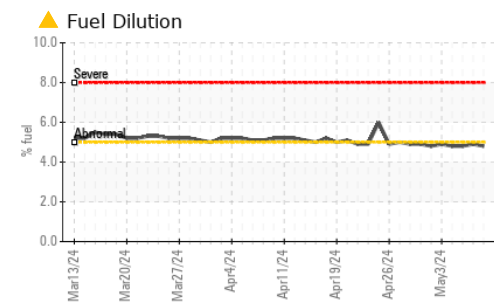
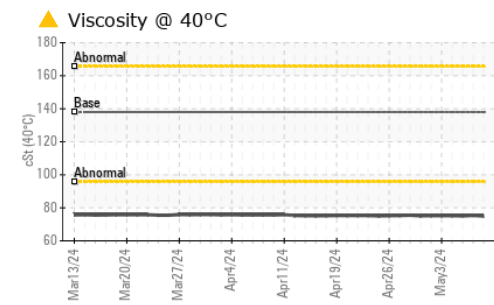
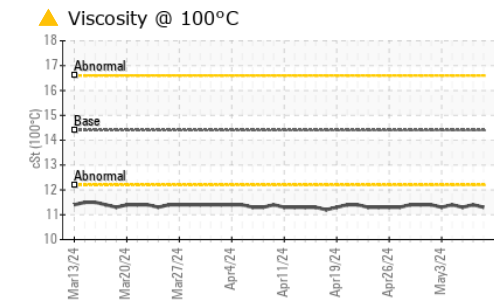
Light fuel dilution occurring. There is a trace of moisture present in the oil. No other contaminants were detected in the oil.

|                  |          |               |       |                |         |         |
|------------------|----------|---------------|-------|----------------|---------|---------|
| Silicon          | ppm      | ASTM D5185(m) | >25   | <b>5</b>       | 6       | 5       |
| Potassium        | ppm      | ASTM D5185(m) | >20   | <b>▲ 15</b>    | ▲ 14    | ▲ 14    |
| Fuel             | %        | ASTM D7593*   | >5    | <b>▲ 4.8</b>   | ▲ 4.9   | ▲ 4.8   |
| Water            | %        | ASTM D6304*   | >0.2  | <b>▲ 0.182</b> | ▲ 0.178 | ▲ 0.166 |
| ppm Water        | ppm      | ASTM D6304*   | >2000 | <b>▲ 1822</b>  | ▲ 1781  | ▲ 1669  |
| Glycol           | %        | ASTM D7922*   |       | <b>NEG</b>     | NEG     | NEG     |
| Soot %           | %        | ASTM D7844*   | >3    | <b>0.3</b>     | 0.3     | 0.3     |
| Nitration        | Abs/cm   | ASTM D7624*   | >20   | <b>9.8</b>     | 10.0    | 9.9     |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30   | <b>20.8</b>    | 20.9    | 20.8    |
| Emulsified Water | scalar   | Visual*       | >0.2  | <b>▲ .2%</b>   | ▲ .2%   | ▲ .2%   |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate.

|                      |          |               |      |               |        |        |
|----------------------|----------|---------------|------|---------------|--------|--------|
| Sodium               | ppm      | ASTM D5185(m) | >216 | <b>● 60</b>   | ● 62   | ● 63   |
| Boron                | ppm      | ASTM D5185(m) | 250  | <b>33</b>     | 36     | 29     |
| Barium               | ppm      | ASTM D5185(m) | 10   | <b>&lt;1</b>  | <1     | <1     |
| Molybdenum           | ppm      | ASTM D5185(m) | 100  | <b>46</b>     | 47     | 47     |
| Manganese            | ppm      | ASTM D5185(m) |      | <b>&lt;1</b>  | <1     | <1     |
| Magnesium            | ppm      | ASTM D5185(m) | 450  | <b>622</b>    | 629    | 620    |
| Calcium              | ppm      | ASTM D5185(m) | 3000 | <b>1491</b>   | 1510   | 1487   |
| Phosphorus           | ppm      | ASTM D5185(m) | 1150 | <b>856</b>    | 858    | 832    |
| Zinc                 | ppm      | ASTM D5185(m) | 1350 | <b>1007</b>   | 1020   | 1002   |
| Sulfur               | ppm      | ASTM D5185(m) | 4250 | <b>2607</b>   | 2612   | 2497   |
| Oxidation            | Abs/.1mm | ASTM D7414*   | >25  | <b>16.1</b>   | 16.1   | 16.1   |
| Base Number (BN)     | mg KOH/g | ASTM D2896*   | 8.5  | <b>8.81</b>   | 8.22   | 8.96   |
| Visc @ 40°C          | cSt      | ASTM D7279(m) | 138  | <b>▲ 74.9</b> | ▲ 75.4 | ▲ 75.0 |
| Visc @ 100°C         | cSt      | ASTM D7279(m) | 14.4 | <b>▲ 11.3</b> | ▲ 11.4 | ▲ 11.3 |
| Viscosity Index (VI) | Scale    | ASTM D2270*   | 102  | <b>142</b>    | 143    | 142    |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **WearCheck Quality Control Sample Results**  
**Sample No.** : WC0936550 **Received** : 09 May 2024  
**Lab Number** : 02634242 **Tested** : 10 May 2024  
**Unique Number** : 5775395 **Diagnosed** : 10 May 2024 - Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, Glycol, KF, KV40, PercentFuel, VI ) **Contact:** Dorian Anderson  
 To discuss this sample report, contact Customer Service at 1-800-268-2131. **dorian.anderson@wearcheck.com**  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. **T: (289)291-4652**  
 Validity of results and interpretation are based on the sample and information as supplied. **F: (905)569-8605**