



OIL ANALYSIS REPORT

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

Machine Id
CUMMINS 233
 Component
Rear Diesel Engine
 Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0866580 | WC0889069 | WC0889071 |
| Sample Date | | Client Info | | 14 May 2024 | 28 Mar 2024 | 25 Mar 2024 |
| Machine Age | kms | Client Info | | 0 | 0 | 0 |
| Oil Age | kms | Client Info | | 8568 | 8824 | 8823 |
| Filter Age | kms | Client Info | | 8568 | 8824 | 8823 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >90 | 6 | 10 | 4 |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 2 | 1 | 1 |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

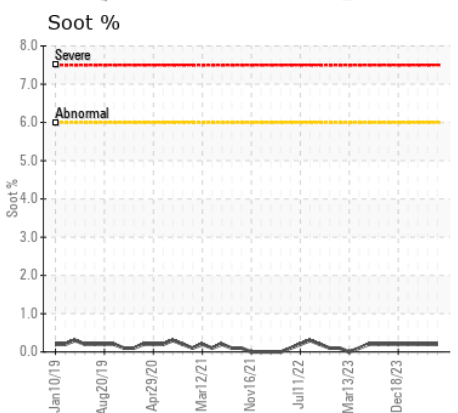
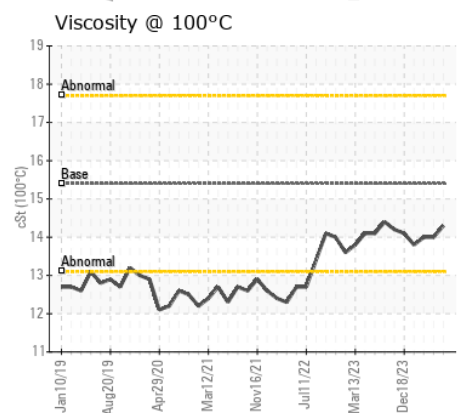
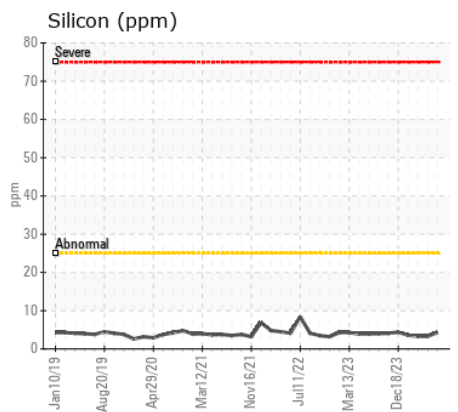
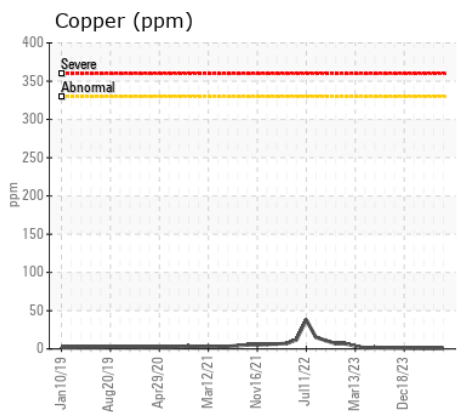
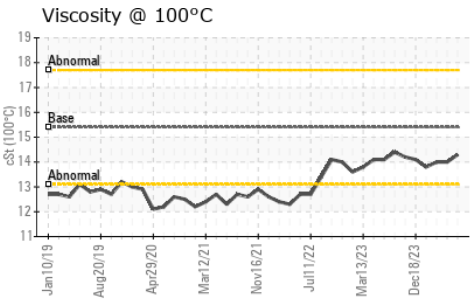
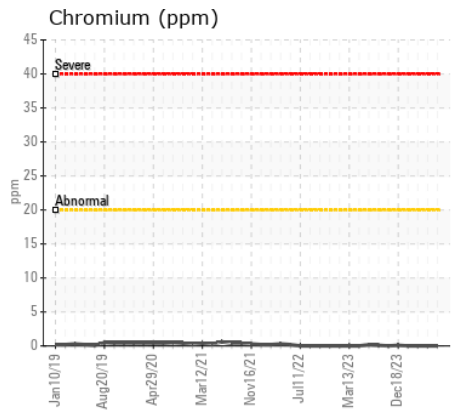
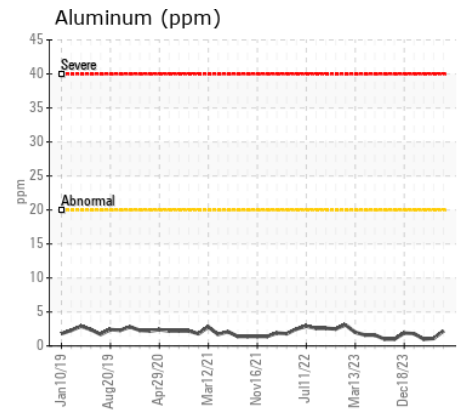
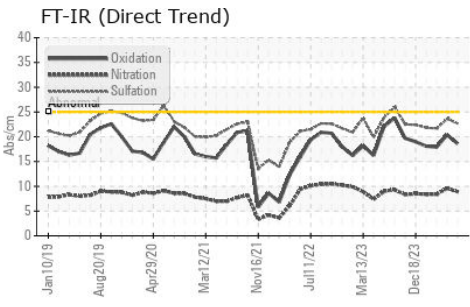
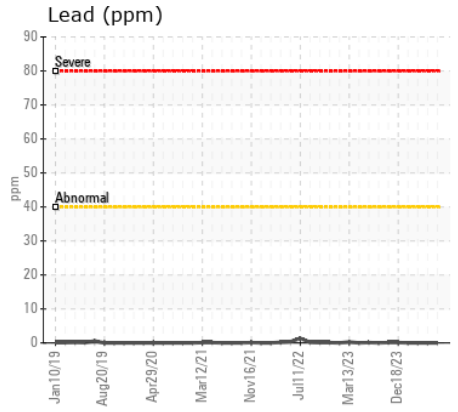
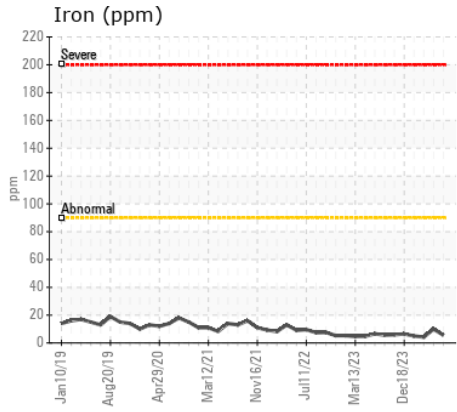
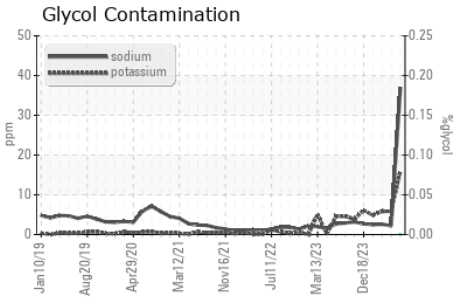
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 3 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | 16 | 6 | 6 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | ASTM D7922* | | 0.0 | NEG | NEG |
| Soot % | % | ASTM D7844* | >6 | 0.2 | 0.2 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.9 | 9.6 | 8.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 22.7 | 23.6 | 21.7 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|--------------|----------|---------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185(m) | >192 | 37 | 2 | 3 |
| Boron | ppm | ASTM D5185(m) | | 76 | 91 | 111 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | 13 | 14 | 14 |
| Calcium | ppm | ASTM D5185(m) | 3780 | 2190 | 2182 | 2151 |
| Phosphorus | ppm | ASTM D5185(m) | 1370 | 936 | 926 | 925 |
| Zinc | ppm | ASTM D5185(m) | 1500 | 1159 | 1166 | 1123 |
| Sulfur | ppm | ASTM D5185(m) | 3800 | 2819 | 2740 | 2755 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 18.6 | 20.4 | 17.9 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | 14.3 | 14.0 | 14.0 |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866580 **Received** : 21 May 2024
Lab Number : 02636553 **Tested** : 21 May 2024
Unique Number : 5785715 **Diagnosed** : 21 May 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol)

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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.