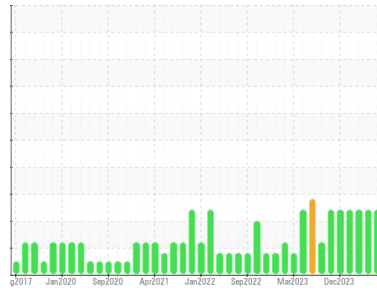




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
NEW FLYER 1012
 Component
Diesel Engine
 Fluid
SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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

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 | | WC0937165 | WC0917552 | WC0917599 |
| Sample Date | Client Info | | 18 Jun 2024 | 27 Apr 2024 | 14 Mar 2024 |
| Machine Age | kms | Client Info | 1082117 | 1071194 | 1061541 |
| Oil Age | kms | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | SEVERE | SEVERE | SEVERE |

CONTAMINATION

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

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185(m) | >75 | 29 | 22 | 17 |
| Chromium | ppm | ASTM D5185(m) | >5 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | 2 | 1 | 2 |
| Lead | ppm | ASTM D5185(m) | >25 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185(m) | >100 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|---------------|---------|--------------|----------|------|
| Boron | ppm | ASTM D5185(m) | | 4 | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 57 | 58 | 60 |
| Manganese | ppm | ASTM D5185(m) | | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | 903 | 944 | 943 |
| Calcium | ppm | ASTM D5185(m) | | 1010 | 981 | 1010 |
| Phosphorus | ppm | ASTM D5185(m) | | 892 | 931 | 971 |
| Zinc | ppm | ASTM D5185(m) | | 1141 | 1136 | 1137 |
| Sulfur | ppm | ASTM D5185(m) | | 2171 | 2218 | 2490 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

CONTAMINANTS

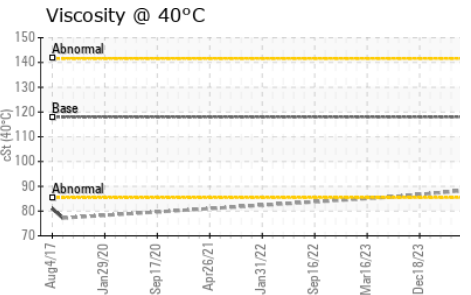
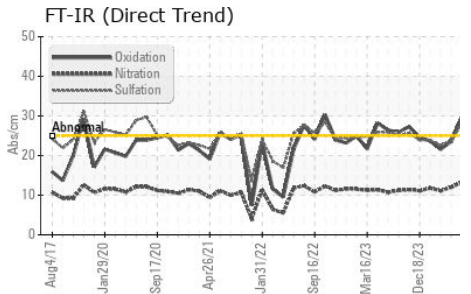
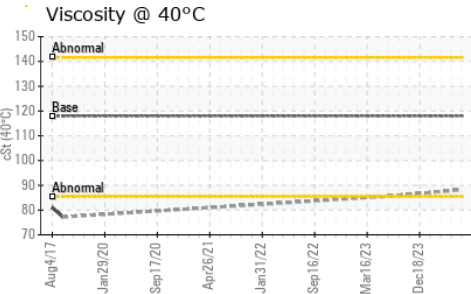
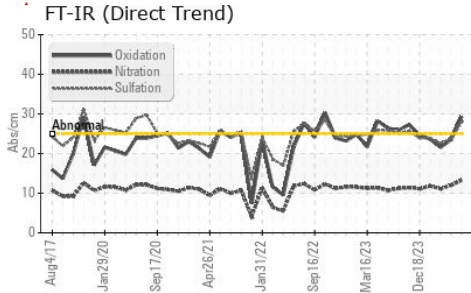
| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|-------|
| Silicon | ppm | ASTM D5185(m) | >25 | 5 | 3 | 4 |
| Sodium | ppm | ASTM D5185(m) | | 10 | 8 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | 5 | 4 | 4 |
| Fuel | % | ASTM D7593* | >3.0 | ▲ 7.4 | ▲ 6.5 | ▲ 6.8 |

INFRA-RED

| | method | limit/base | current | history1 | history2 | |
|-----------|----------|-------------|---------|-------------|----------|------|
| Soot % | % | ASTM D7844* | >6 | 1.1 | 0.8 | 0.7 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 13.3 | 12.0 | 11.1 |
| Sulfation | Abs./1mm | ASTM D7415* | >30 | 27.8 | 23.8 | 22.6 |



OIL ANALYSIS REPORT

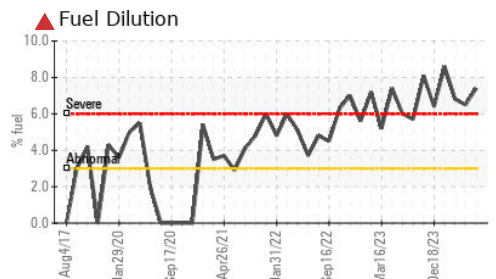
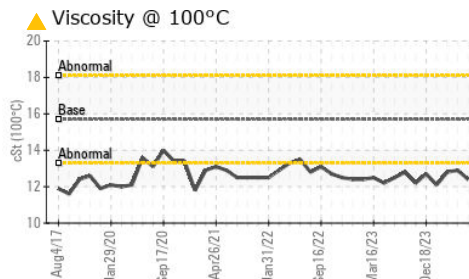
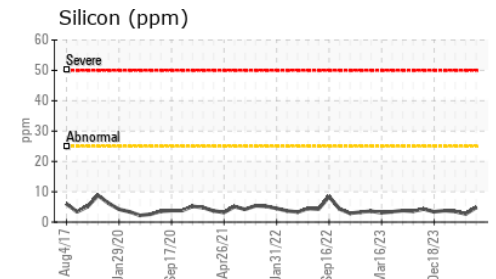
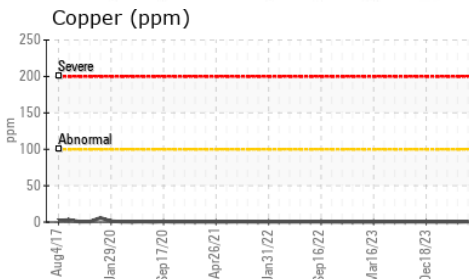
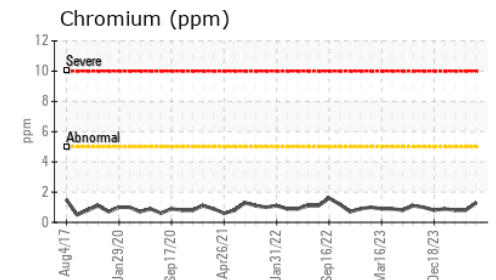
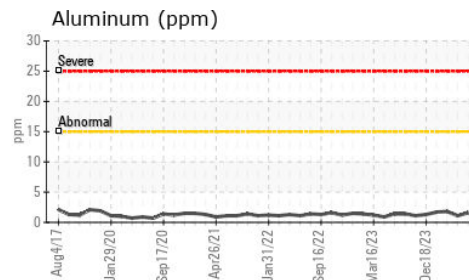
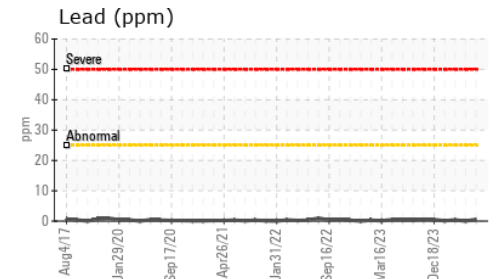
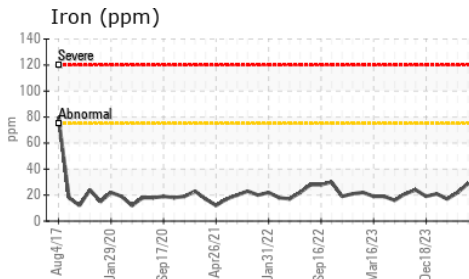


| FLUID DEGRADATION | method | limit/base | current | history1 | history2 | |
|-------------------|----------|-------------|---------|----------|----------|------|
| Oxidation | Abs./1mm | ASTM D7414* | >25 | 29.3 | 23.5 | 21.6 |

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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|----------------------|--------|---------------|---------|----------|----------|------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 118 | 88.2 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.7 | 12.4 | 12.9 | 12.8 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 140 | 136 | --- | --- |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0937165
Lab Number : 02643344
Unique Number : 5800883
Test Package : MOB 1 (Additional Tests: KV40, PercentFuel, VI)

CITY OF HAMILTON
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 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.*