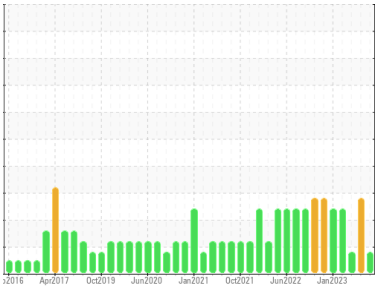
# OIL ANALYSIS REPORT

Sample Rating Trend



**FUEL**

Machine Id
## NEW FLYER 0817
Component
**Diesel Engine**
Fluid
**SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- LTR)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

**Contamination**
Light fuel dilution occurring. No other contaminants were detected 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 | | **WC0849821** | WC0811372 | WC0811451 |
| Sample Date | | Client Info | | **01 Sep 2023** | 14 Jun 2023 | 01 May 2023 |
| Machine Age | kms | Client Info | | **0** | 0 | 116141 |
| Oil Age | kms | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **MARGINAL** | SEVERE | MARGINAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >75 | **11** | 20 | 7 |
| Chromium | ppm | ASTM D5185(m) | >5 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | **2** | 3 | 2 |
| Lead | ppm | ASTM D5185(m) | >25 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >100 | **6** | 2 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185(m) | | **0** | <1 | <1 |
| 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) | | **1** | <1 | 0 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **55** | 50 | 56 |
| Manganese | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | **943** | 814 | 920 |
| Calcium | ppm | ASTM D5185(m) | | **1015** | 920 | 1021 |
| Phosphorus | ppm | ASTM D5185(m) | | **1079** | 914 | 1053 |
| Zinc | ppm | ASTM D5185(m) | | **1170** | 1020 | 1141 |
| Sulfur | ppm | ASTM D5185(m) | | **2626** | 2228 | 2613 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **3** | 3 | 2 |
| Sodium | ppm | ASTM D5185(m) | | **3** | 2 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | <1 | <1 |
| Fuel | % | ASTM D7593* | >3.0 | ▲ **2** | ⬢ 11.6 | ▲ 4.4 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0** | 0.5 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **5.6** | 10.3 | 5.7 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **20.1** | 25.1 | 18.7 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **15.1** | 27.5 | 14.9 |

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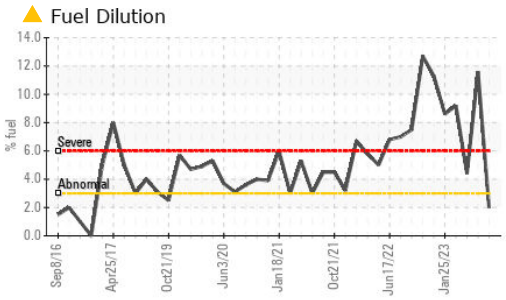
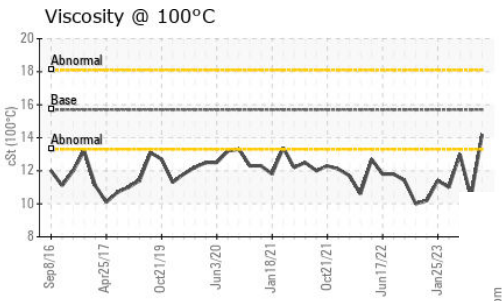
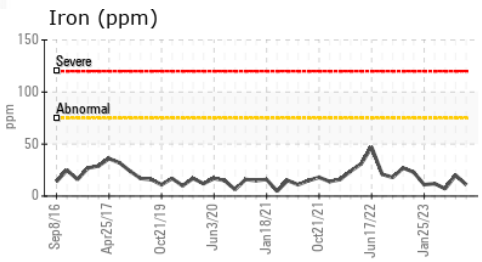


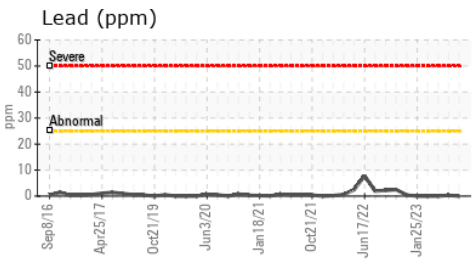



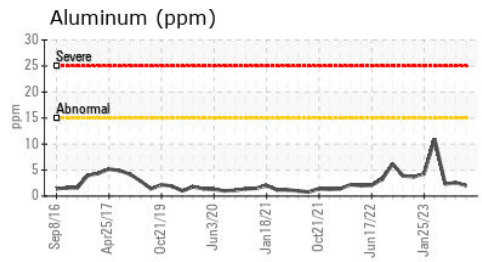

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **VLITE** | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | --- | --- |
| Silt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Debris | scalar | Visual* | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | --- | --- |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

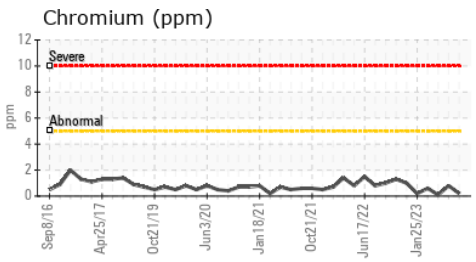
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.7 | **14.2** | 10.4 | 13.0 |

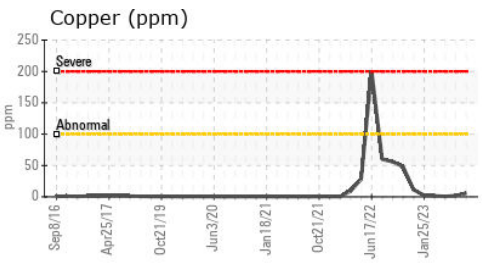
## GRAPHS

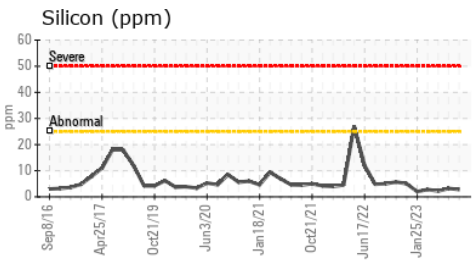


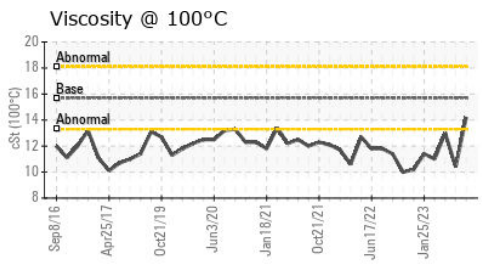



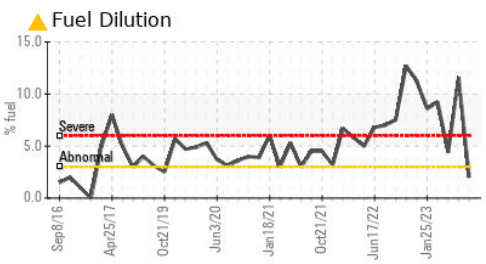




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0849821 **Received** : 06 Sep 2023
**Lab Number** : 02580615 **Diagnosed** : 07 Sep 2023
**Unique Number** : 5633675 **Diagnostician** : Wes Davis
**Test Package** : MOB 1 ( Additional Tests: PercentFuel, Visual )

*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.*

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