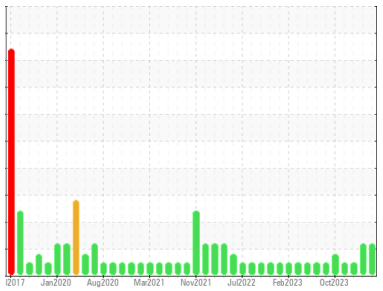
# OIL ANALYSIS REPORT

Sample Rating Trend



**FUEL**

Machine Id
## NEW FLYER 1203
Component
**Diesel Engine**
Fluid
**SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

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

**Contamination**
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**Fluid Condition**
The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0877885** | WC0878095 | WC0890961 |
| Sample Date | | Client Info | | **04 Apr 2024** | 27 Feb 2024 | 10 Jan 2024 |
| Machine Age | kms | Client Info | | **914537** | 905879 | 895133 |
| Oil Age | kms | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | NORMAL |

| 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 | **12** | 17 | 16 |
| Chromium | ppm | ASTM D5185(m) | >5 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | **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) | >15 | **1** | 2 | 2 |
| Lead | ppm | ASTM D5185(m) | >25 | **0** | <1 | <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 |

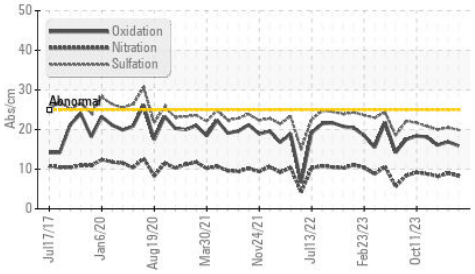
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **<1** | 1 | <1 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **58** | 58 | 57 |
| Manganese | ppm | ASTM D5185(m) | | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | **949** | 932 | 935 |
| Calcium | ppm | ASTM D5185(m) | | **993** | 968 | 1016 |
| Phosphorus | ppm | ASTM D5185(m) | | **984** | 992 | 992 |
| Zinc | ppm | ASTM D5185(m) | | **1156** | 1178 | 1142 |
| Sulfur | ppm | ASTM D5185(m) | | **2542** | 2605 | 2591 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **2** | 4 | 3 |
| Sodium | ppm | ASTM D5185(m) | | **<1** | 2 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | 0 |
| Fuel | % | ASTM D7593* | >3.0 | ▲ **3.6** | ▲ 3.6 | <1.0 |

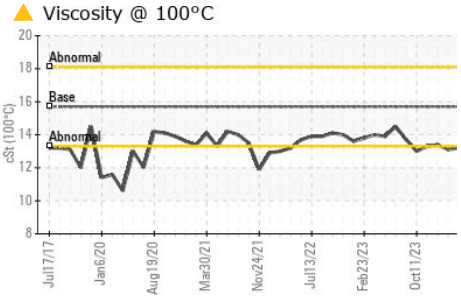
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0.5** | 0.6 | 0.5 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **8.3** | 9.0 | 8.2 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **19.9** | 20.5 | 20.0 |

# OIL ANALYSIS REPORT

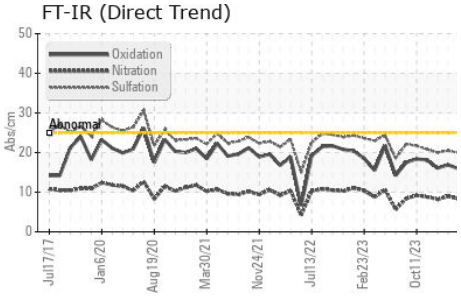
FT-IR (Direct Trend)




Viscosity @ 100°C




FT-IR (Direct Trend)



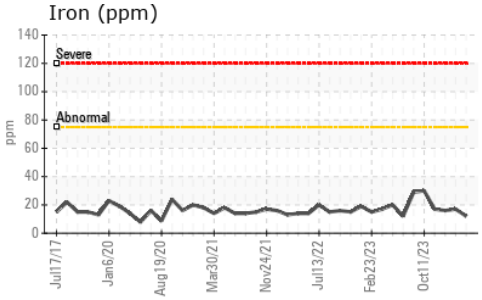

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **15.9** | 16.9 | 16.1 |

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

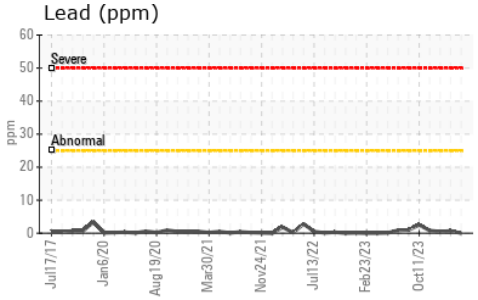
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.7 | ▲ **13.2** | ▲ 13.1 | 13.4 |

GRAPHS

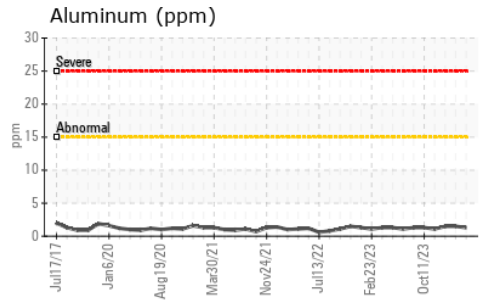
Iron (ppm)



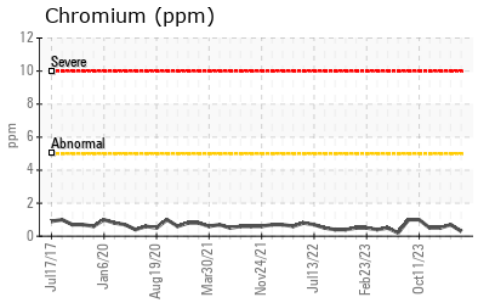

Lead (ppm)



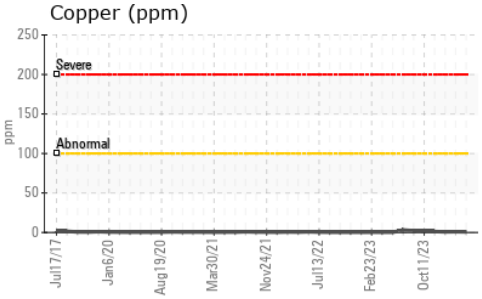

Aluminum (ppm)



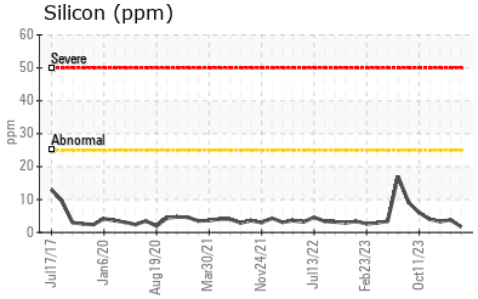

Chromium (ppm)



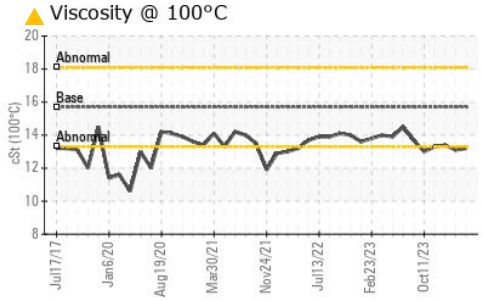

Copper (ppm)



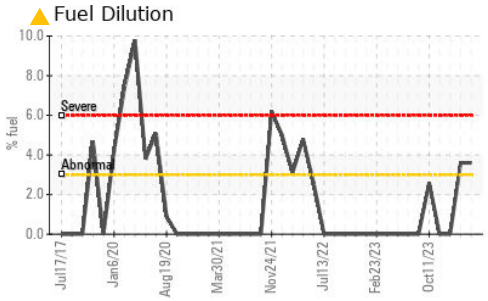

Silicon (ppm)




Viscosity @ 100°C




Fuel Dilution




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0877885 **Received** : 09 Apr 2024
**Lab Number** : 02627649 **Tested** : 10 Apr 2024
**Unique Number** : 5760781 **Diagnosed** : 10 Apr 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

*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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