

## **OIL ANALYSIS REPORT**

Sample Rating Trend

FUEL



## NEW FLYER 0805

Component **Diesel Engine** Fluid

SAFETY-KLEEN PERFORMANCE

| E PLUS XHD-7 15W40 ( GAL)  |   |   |   |  |  |  |
|--|---|---|---|--|--|--|
| SAMPLE INFORM  | . ,   | method  | limit/base                                    | Feb2021 Oct2021 Jun2022 F  | history1   | history2   |
| Sample Number  |   | Client Info   |   | WC0830257  | WC0791463  | WC0811521  |
| Sample Date  |   | Client Info   |   | 27 Aug 2023  | 15 Jul 2023  | 04 Jun 2023  |
| Vachine Age  | kms   | Client Info   |   | 0  | 0  | 1206266  |
| Dil Age  | kms   | Client Info   |   | 0  | 0  | 0  |
| Dil Changed  |   | Client Info   |   | N/A  | N/A  | N/A  |
| Sample Status  |   |   |   | ABNORMAL   | ABNORMAL   | ABNORMAL   |
| CONTAMINATION  | N   | method  | limit/base                                    | current  | history1   | history2   |
| Glycol   |   | WC Method   |   | NEG  | NEG  | NEG  |
| WEAR METALS  |   | method  | limit/base                                    | current  | history1   | history2   |
| ron  | ppm   | ASTM D5185(m)   | >75   | 29   | 27   | 19   |
| Chromium   | ppm   | ASTM D5185(m)   | >5  | 1  | 1  | <1   |
| Nickel   | ppm   | ASTM D5185(m)   | >4  | 0  | 0  | 0  |
| Fitanium   | ppm   | ASTM D5185(m)   | >2  | 0  | 0  | 0  |
| Silver   | ppm   | ASTM D5185(m)   | >2  | <1   | <1   | 0  |
| Aluminum   | ppm   | ASTM D5185(m)   | >15   | 3  | 2  | 2  |
| _ead   | ppm   | ASTM D5185(m)   | >25   | <1   | <1   | <1   |
| Copper   | ppm   | ASTM D5185(m)   | >100  | 7  | 2  | 1  |
| Гin  | ppm   | ASTM D5185(m)   | >4  | <1   | <1   | 0  |
| Antimony   | ppm   | ASTM D5185(m)   |   | 0  | 0  | 0  |
| /anadium   | 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  |
| Nolybdenum   | ppm   | ASTM D5185(m)   |   | 57   | 54   | 57   |
| Vanganese  | ppm   | ASTM D5185(m)   |   | <1   | <1   | <1   |
| Ananocium  | 00000   |   |   |  |  |  |
| viaynesium   | ppm   | ASTM D5185(m)   |   | 936  | 914  | 914  |
| -  | ppm<br>ppm  | ASTM D5185(m)<br>ASTM D5185(m)  |   | 936<br>999   | 914<br>981   |  |
| Calcium  |   | ( )   |   |  |  | 914<br>995<br>1027   |
| Calcium<br>Phosphorus  | ppm   | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   |   | 999  | 981  | 914<br>995<br>1027<br>1125   |
| Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm  | ASTM D5185(m)<br>ASTM D5185(m)  |   | 999<br>1002  | 981<br>997   | 914<br>995<br>1027   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm   | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   |   | 999<br>1002<br>1137  | 981<br>997<br>1116   | 914<br>995<br>1027<br>1125   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                           | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | limit/base                                    | 999<br>1002<br>1137<br>2388  | 981<br>997<br>1116<br>2369   | 914<br>995<br>1027<br>1125<br>2425   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS   | ppm<br>ppm<br>ppm<br>ppm<br>ppm                           | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | limit/base<br>>25                             | 999<br>1002<br>1137<br>2388<br><1  | 981<br>997<br>1116<br>2369<br><1   | 914<br>995<br>1027<br>1125<br>2425<br><1   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                           | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br><b>method</b>  |   | 999<br>1002<br>1137<br>2388<br><1<br>current   | 981<br>997<br>1116<br>2369<br><1<br>history1   | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                           | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br><b>method</b><br>ASTM D5185(m)   |   | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3  | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3  | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3  |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm                           | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | >25   | 999<br>1002<br>1137<br>2388<br><1<br><u>current</u><br>3<br>2  | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2   | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm      | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)  | >25<br>>20                                    | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3<br>2<br><1<br>▲ 4.9                                  | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2<br><1                                     | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2<br>1  |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>Fuel<br>INFRA-RED                        | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm      | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | >25<br>>20<br>>3.0                            | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3<br>2<br><1<br>▲ 4.9                                  | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2<br><1<br><1<br>▲ 5.9                      | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2<br>1<br>1<br>▲ 5.9                            |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>Fuel<br>INFRA-RED<br>Soot %              | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>% | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D7593*   | >25<br>>20<br>>3.0<br>limit/base              | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3<br>2<br><1<br>▲ 4.9<br>current                       | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2<br><1<br>▲ 5.9<br>history1                | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2<br>1<br>1<br>\$.9<br>history2                 |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>Lithium<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>Fuel<br>INFRA-RED<br>Soot %<br>Nitration | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>% | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D7593*<br>method<br>ASTM D7844* | >25<br>>20<br>>3.0<br>limit/base<br>>6        | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3<br>2<br><1<br>▲ 4.9<br>current<br>0.6                | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2<br><1<br>▲ 5.9<br>history1<br>0.6         | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2<br>1<br>3<br>2<br>1<br>5.9<br>history2<br>0.4 |
| Silicon<br>Sodium<br>Potassium<br>Fuel   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>% | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D7593*<br>method<br>ASTM D7844*<br>ASTM D7624*   | >25<br>>20<br>>3.0<br>limit/base<br>>6<br>>20 | 999<br>1002<br>1137<br>2388<br><1<br>current<br>3<br>2<br><1<br>▲ 4.9<br>current<br>0.6<br>9.9<br>24.8 | 981<br>997<br>1116<br>2369<br><1<br>history1<br>3<br>2<br><1<br>▲ 5.9<br>history1<br>0.6<br>10.7 | 914<br>995<br>1027<br>1125<br>2425<br><1<br>history2<br>3<br>2<br>1<br>\$.9<br>history2<br>0.4<br>9.4        |

We recommend that you drain the oil from the

recommend an early resample to monitor this

All component wear rates are normal.

component if this has not already been done. We

There is a moderate amount of fuel present in the

oil. Tests confirm the presence of fuel in the oil.

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the

DIAGNOSIS Recommendation

Contamination

Fluid Condition

presence of contaminants.

condition.

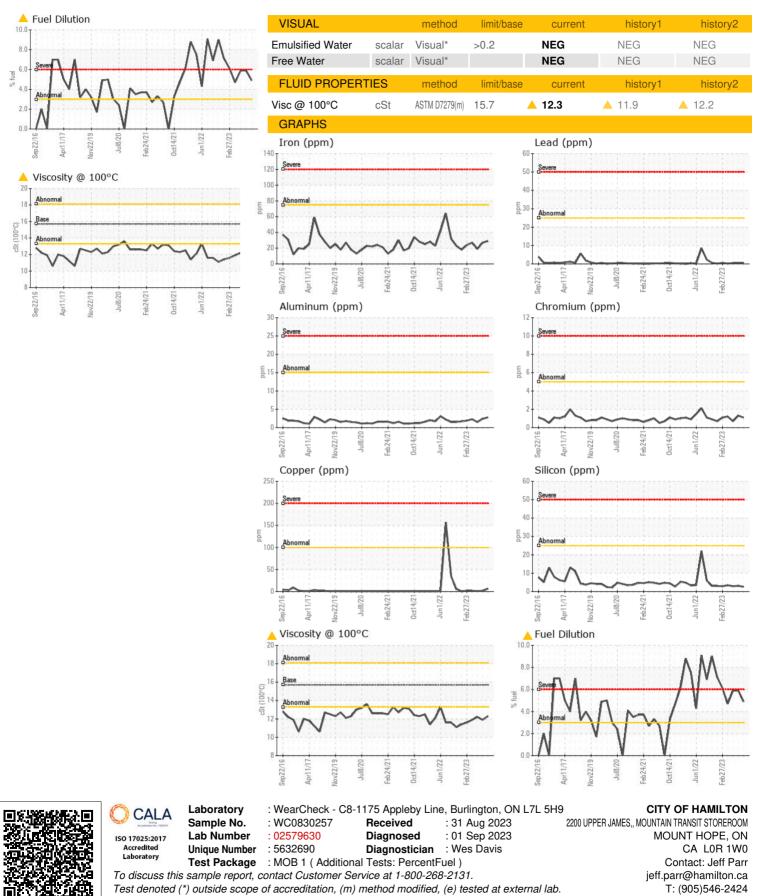
Wear

Report Id: HAMHAM [WCAMIS] 02579630 (Generated: 09/01/2023 09:30:55) Rev: 1

Contact/Location: Jeff Parr - HAMHAM



## **OIL ANALYSIS REPORT**



Validity of results and interpretation are based on the sample and information as supplied.

Report Id: HAMHAM [WCAMIS] 02579630 (Generated: 09/01/2023 09:30:55) Rev: 1

Contact/Location: Jeff Parr - HAMHAM

F: (905)679-4502