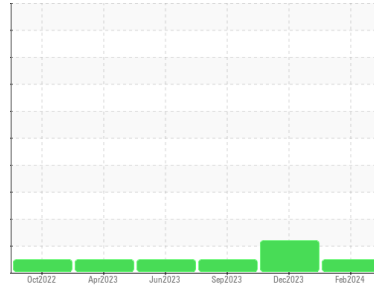




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**BLUE BIRD 116**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>WC0905889</b>   | WC0792744   | WC0792647   |
| Sample Date   | Client Info |             | <b>13 Feb 2024</b> | 18 Dec 2023 | 13 Sep 2023 |
| Machine Age   | mls         | Client Info | <b>0</b>           | 139497      | 132454      |
| Oil Age       | mls         | Client Info | <b>0</b>           | 5000        | 5000        |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | Not Chngd   | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | ABNORMAL    | NORMAL      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >5         | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Water  | WC Method | >0.2       | <b>NEG</b>     | NEG      | NEG      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >100 | <b>29</b>    | 17       | 39       |
| Chromium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | <1       | <1       |
| Nickel   | ppm    | ASTM D5185m >4   | <b>0</b>     | 0        | 0        |
| Titanium | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >3   | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >20  | <b>5</b>     | 4        | 4        |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | 2        | 0        |
| Copper   | ppm    | ASTM D5185m >330 | <b>1</b>     | <1       | 0        |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | <1       | 0        |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current      | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | <b>6</b>     | 9        | 8        |
| Barium     | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m | <b>57</b>    | 62       | 66       |
| Manganese  | ppm    | ASTM D5185m | <b>&lt;1</b> | 0        | <1       |
| Magnesium  | ppm    | ASTM D5185m | <b>929</b>   | 910      | 889      |
| Calcium    | ppm    | ASTM D5185m | <b>1111</b>  | 1054     | 1245     |
| Phosphorus | ppm    | ASTM D5185m | <b>937</b>   | 947      | 966      |
| Zinc       | ppm    | ASTM D5185m | <b>1195</b>  | 1239     | 1272     |
| Sulfur     | ppm    | ASTM D5185m | <b>2871</b>  | 3042     | 3428     |

## CONTAMINANTS

|           | method | limit/base      | current  | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>4</b> | 3        | 4        |
| Sodium    | ppm    | ASTM D5185m     | <b>2</b> | 2        | 2        |
| Potassium | ppm    | ASTM D5185m >20 | <b>9</b> | ▲ 42     | 14       |

## INFRA-RED

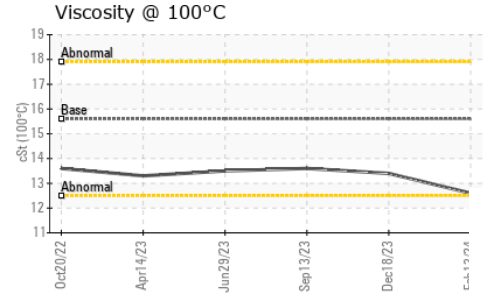
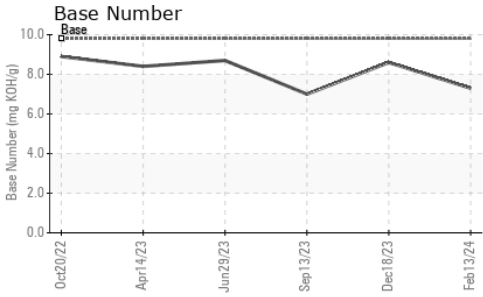
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>1.5</b>  | 0.8      | 1.6      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>11.6</b> | 8.4      | 11.7     |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>22.8</b> | 19.7     | 24.4     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>19.1</b> | 15.3     | 20.4     |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>7.3</b>  | 8.6      | 7.0      |



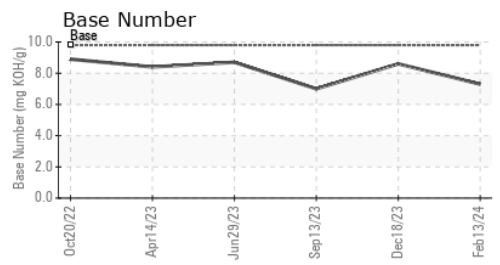
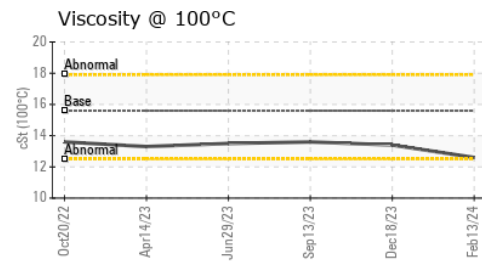
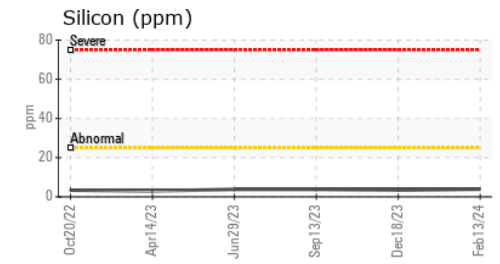
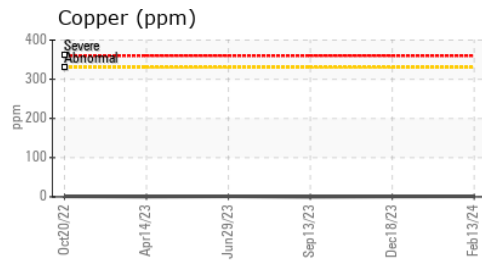
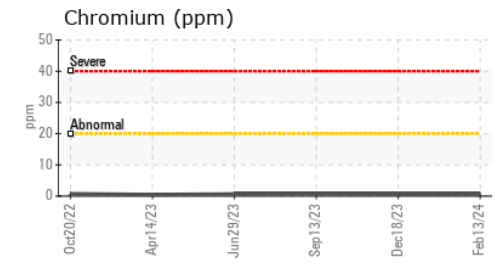
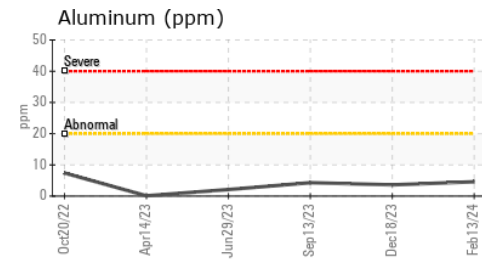
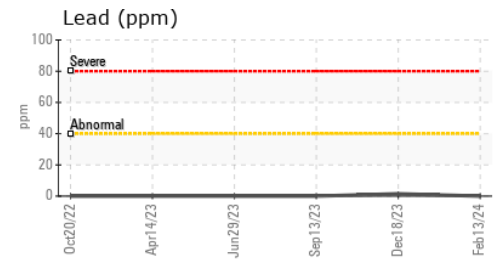
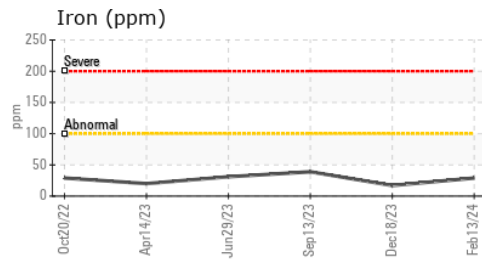
# OIL ANALYSIS REPORT



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

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |      |
|------------------|--------|------------|---------|-------------|----------|------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.6    | <b>12.6</b> | 13.4     | 13.6 |

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0905889      **Received** : 23 Feb 2024  
**Lab Number** : 06098970      **Tested** : 26 Feb 2024  
**Unique Number** : 10897200      **Diagnosed** : 26 Feb 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**WAYNE CO SCHOOL BUS GARAGE**  
 1603 SALEM CHURCH RD  
 GOLDSBORO, NC  
 US 27530  
 Contact: BRANDON BRIGGS  
 brandonbriggs@wcps.org  
 T:  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)