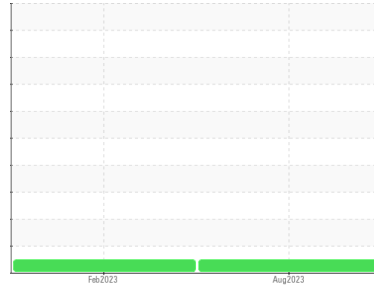


# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**DT823**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 10W30 (36 QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

### 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>PCA0096952</b>  | PCA0091194  | ---      |
| Sample Date   | Client Info |             | <b>18 Aug 2023</b> | 13 Feb 2023 | ---      |
| Machine Age   | mls         | Client Info | <b>50971</b>       | 24693       | ---      |
| Oil Age       | mls         | Client Info | <b>24693</b>       | 24693       | ---      |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | ---      |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | ---      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >3.0       | <b>&lt;1.0</b> | <1.0     | ---      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | ---      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >120 | <b>33</b>    | 66       | ---      |
| Chromium | ppm    | ASTM D5185m >20  | <b>2</b>     | 2        | ---      |
| Nickel   | ppm    | ASTM D5185m >5   | <b>2</b>     | 4        | ---      |
| Titanium | ppm    | ASTM D5185m >2   | <b>0</b>     | <1       | ---      |
| Silver   | ppm    | ASTM D5185m >2   | <b>&lt;1</b> | 0        | ---      |
| Aluminum | ppm    | ASTM D5185m >20  | <b>11</b>    | 26       | ---      |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | <1       | ---      |
| Copper   | ppm    | ASTM D5185m >330 | <b>43</b>    | 120      | ---      |
| Tin      | ppm    | ASTM D5185m >15  | <b>2</b>     | 5        | ---      |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | 0        | ---      |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | ---      |

## ADDITIVES

|            | method | limit/base       | current     | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 2    | <b>4</b>    | 52       | ---      |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>    | 0        | ---      |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>71</b>   | 119      | ---      |
| Manganese  | ppm    | ASTM D5185m 0    | <b>2</b>    | 6        | ---      |
| Magnesium  | ppm    | ASTM D5185m 950  | <b>901</b>  | 660      | ---      |
| Calcium    | ppm    | ASTM D5185m 1050 | <b>1320</b> | 1386     | ---      |
| Phosphorus | ppm    | ASTM D5185m 995  | <b>969</b>  | 671      | ---      |
| Zinc       | ppm    | ASTM D5185m 1180 | <b>1276</b> | 851      | ---      |
| Sulfur     | ppm    | ASTM D5185m 2600 | <b>3186</b> | 2110     | ---      |

## CONTAMINANTS

|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>13</b> | 64       | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>7</b>  | 4        | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>22</b> | 76       | ---      |

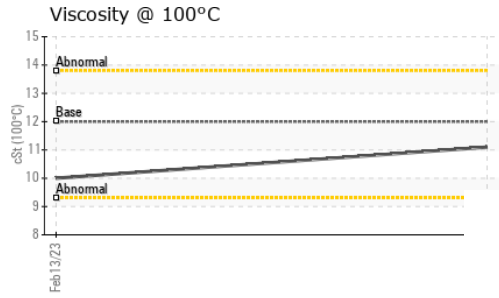
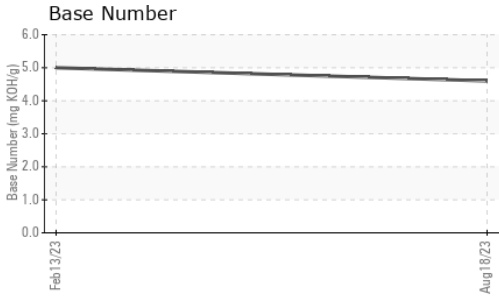
## INFRA-RED

|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >4  | <b>0.7</b>  | 0.5      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>10.6</b> | 12.6     | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>23.3</b> | 24.6     | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>18.4</b> | 24.2     | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896      | <b>4.6</b>  | 5.0      | ---      |

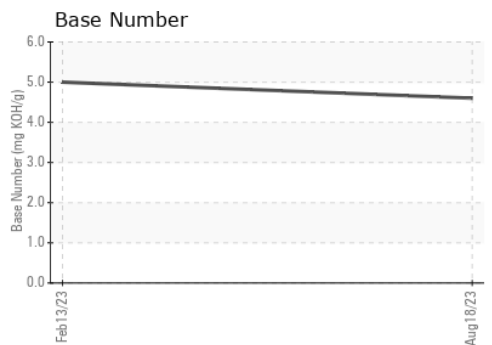
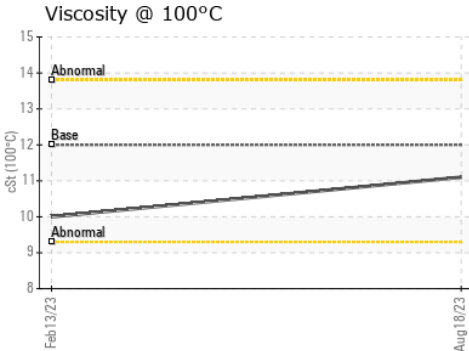
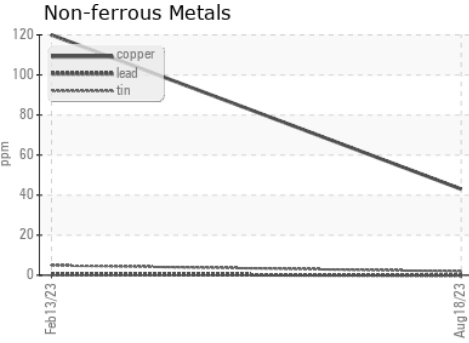
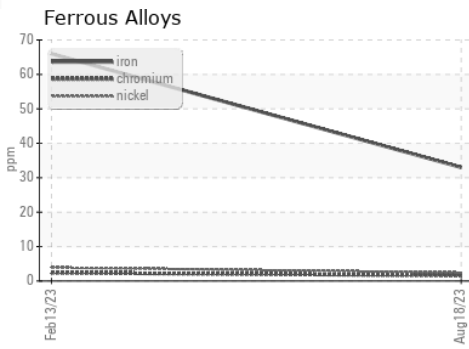
# OIL ANALYSIS REPORT



| PARAMETER        | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| 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    | ---      |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 12.00   | 11.1     | 10.0     |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0096952 **Received** : 28 Aug 2023  
**Lab Number** : 05935924 **Diagnosed** : 28 Aug 2023  
**Unique Number** : 10621195 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**NW WHITE & CO - ANDERSON DIVISION**  
 2605 RIVER RD  
 PIEDMONT, SC  
 US 29673  
 Contact: James Threatt  
 jthreatt@nwwhite.com  
 T: (864)918-4646  
 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)