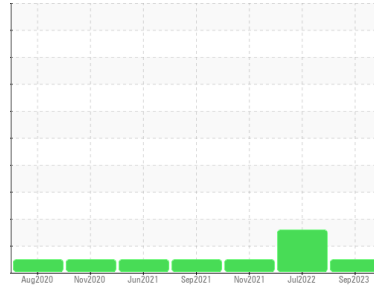


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**594**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### 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>PCA0082806</b>  | PCA0058496  | PCA0052998  |
| Sample Date        | Client Info |             |            | <b>26 Sep 2023</b> | 12 Jul 2022 | 23 Nov 2021 |
| Machine Age        | hrs         | Client Info |            | <b>0</b>           | 3002        | 3002        |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 1407        | 523         |
| Oil Changed        | Client Info |             |            | <b>Not Chngd</b>   | N/A         | 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     |
| Glycol        | WC Method |        |            | <b>NEG</b>     | NEG      | NEG      |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >100       | <b>9</b>     | 17       | 11       |
| 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>     | <1       | 0        |
| Aluminum    | ppm | ASTM D5185m | >20        | <b>3</b>     | 4        | 10       |
| Lead        | ppm | ASTM D5185m | >40        | <b>1</b>     | 2        | 0        |
| Copper      | ppm | ASTM D5185m | >330       | <b>&lt;1</b> | <1       | <1       |
| Tin         | ppm | ASTM D5185m | >15        | <b>&lt;1</b> | <1       | <1       |
| Antimony    | ppm | ASTM D5185m |            | <b>---</b>   | ---      | <1       |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |

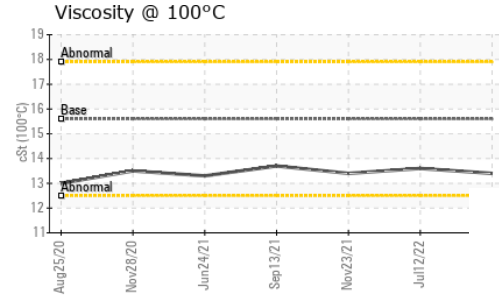
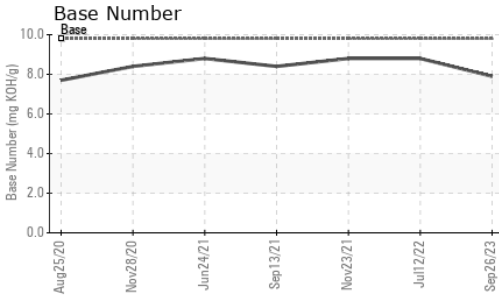
| ADDITIVES  |     | method      | limit/base | current     | history1 | history2 |
|------------|-----|-------------|------------|-------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>4</b>    | 5        | 7        |
| Barium     | ppm | ASTM D5185m |            | <b>0</b>    | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>64</b>   | 61       | 59       |
| Manganese  | ppm | ASTM D5185m |            | <b>0</b>    | <1       | 0        |
| Magnesium  | ppm | ASTM D5185m |            | <b>936</b>  | 962      | 972      |
| Calcium    | ppm | ASTM D5185m |            | <b>1096</b> | 1137     | 1194     |
| Phosphorus | ppm | ASTM D5185m |            | <b>1045</b> | 1019     | 1030     |
| Zinc       | ppm | ASTM D5185m |            | <b>1243</b> | 1241     | 1276     |
| Sulfur     | ppm | ASTM D5185m |            | <b>3758</b> | 3447     | 2967     |

| CONTAMINANTS |     | method      | limit/base | current  | history1 | history2 |
|--------------|-----|-------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>5</b> | ▲ 50     | 5        |
| Sodium       | ppm | ASTM D5185m |            | <b>0</b> | 2        | 2        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>7</b> | 6        | 28       |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 | >3         | <b>0.2</b>  | 0.4      | 0.3      |
| Nitration | Abs/cm   | *ASTM D7624 | >20        | <b>6.9</b>  | 10.5     | 8.3      |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30        | <b>18.6</b> | 22.3     | 21.2     |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | *ASTM D7414 | >25        | <b>14.7</b> | 18.9     | 17.2     |
| Base Number (BN)  | mg KOH/g | ASTM D2896  | 9.8        | <b>7.9</b>  | 8.8      | 8.8      |

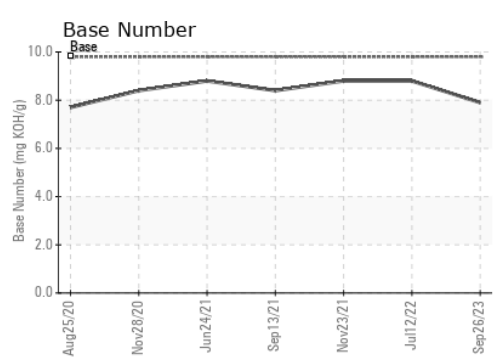
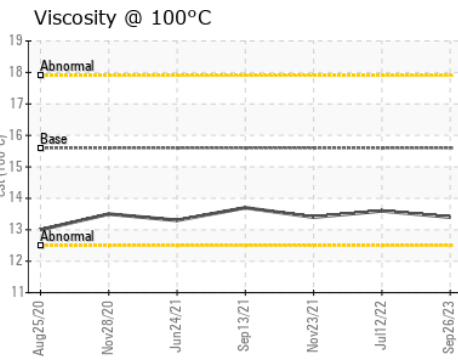
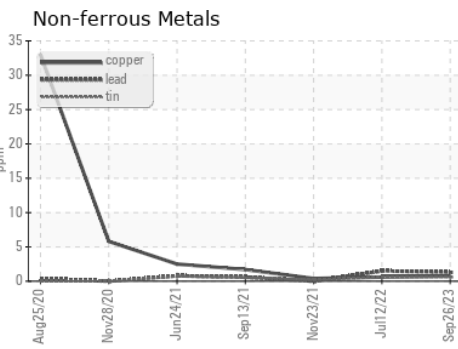
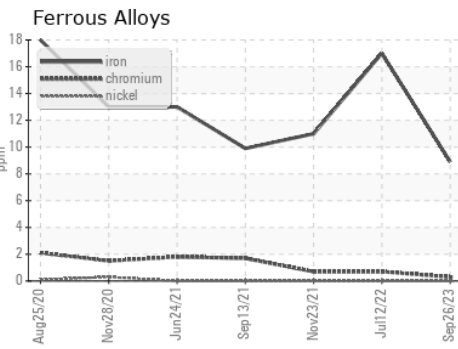
# OIL ANALYSIS REPORT



| 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>13.4</b> | 13.6     | 13.4 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0082806 **Received** : 23 Oct 2023  
**Lab Number** : **05986218** **Diagnosed** : 24 Oct 2023  
**Unique Number** : 10708880 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**AVR - APPLE VALLEY READY MIX**  
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 APPLE VALLEY, MN  
 US 55124  
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Certificate L2367  
 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)