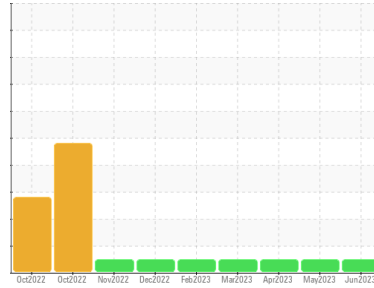


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**221003**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (9 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            | history 1   | history 2   |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>PCA0098095</b>  | PCA0098122  | PCA0095340  |
| Sample Date   | Client Info |             | <b>30 Jun 2023</b> | 25 May 2023 | 21 Apr 2023 |
| Machine Age   | hrs         | Client Info | <b>2874</b>        | 2576        | 2280        |
| Oil Age       | hrs         | Client Info | <b>298</b>         | 296         | 220         |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | Not Chngd   | Not Chngd   |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|        | method    | limit/base | current        | history 1 | history 2 |
|--------|-----------|------------|----------------|-----------|-----------|
| Fuel   | WC Method | >3.0       | <b>&lt;1.0</b> | <1.0      | <1.0      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG       | NEG       |

## WEAR METALS

|          | method | limit/base       | current      | history 1 | history 2 |
|----------|--------|------------------|--------------|-----------|-----------|
| Iron     | ppm    | ASTM D5185m >120 | <b>4</b>     | 10        | 5         |
| Chromium | ppm    | ASTM D5185m >20  | <b>0</b>     | 1         | <1        |
| Nickel   | ppm    | ASTM D5185m >5   | <b>0</b>     | 2         | <1        |
| Titanium | ppm    | ASTM D5185m >2   | <b>0</b>     | <1        | 0         |
| Silver   | ppm    | ASTM D5185m >2   | <b>0</b>     | <1        | 0         |
| Aluminum | ppm    | ASTM D5185m >20  | <b>0</b>     | 1         | 1         |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | 2         | 0         |
| Copper   | ppm    | ASTM D5185m >330 | <b>&lt;1</b> | 2         | 1         |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | 1         | 0         |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | <1        | 0         |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | <1        | 0         |

## ADDITIVES

|            | method | limit/base       | current     | history 1 | history 2 |
|------------|--------|------------------|-------------|-----------|-----------|
| Boron      | ppm    | ASTM D5185m 0    | <b>0</b>    | 2         | 2         |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>    | 4         | 0         |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>55</b>   | 50        | 60        |
| Manganese  | ppm    | ASTM D5185m 0    | <b>0</b>    | 1         | <1        |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>884</b>  | 772       | 978       |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>969</b>  | 906       | 1054      |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>904</b>  | 812       | 1027      |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>1111</b> | 1028      | 1268      |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>3411</b> | 2770      | 3728      |

## CONTAMINANTS

|           | method | limit/base      | current  | history 1 | history 2 |
|-----------|--------|-----------------|----------|-----------|-----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>3</b> | 6         | 5         |
| Sodium    | ppm    | ASTM D5185m     | <b>7</b> | 9         | 6         |
| Potassium | ppm    | ASTM D5185m >20 | <b>2</b> | 8         | 2         |

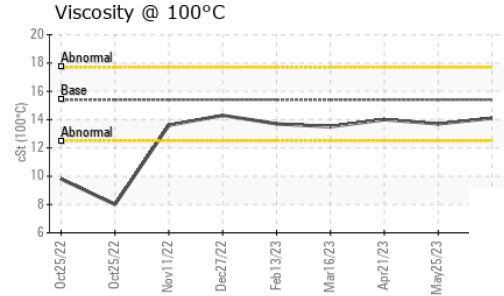
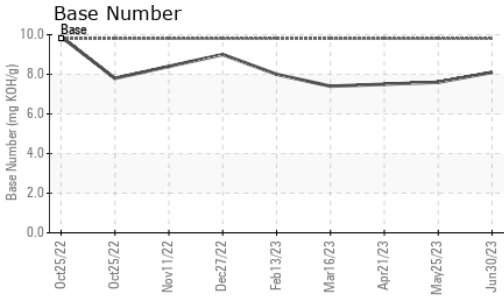
## INFRA-RED

|           | method   | limit/base      | current     | history 1 | history 2 |
|-----------|----------|-----------------|-------------|-----------|-----------|
| Soot %    | %        | *ASTM D7844 >4  | <b>0.2</b>  | 0.3       | 0.2       |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>6.8</b>  | 8.3       | 6.2       |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>19.6</b> | 20.2      | 16.9      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history 1 | history 2 |
|------------------|----------|-----------------|-------------|-----------|-----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>16.1</b> | 16.1      | 13.8      |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>8.1</b>  | 7.6       | 7.5       |

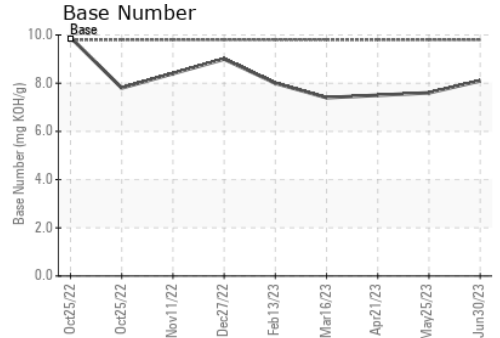
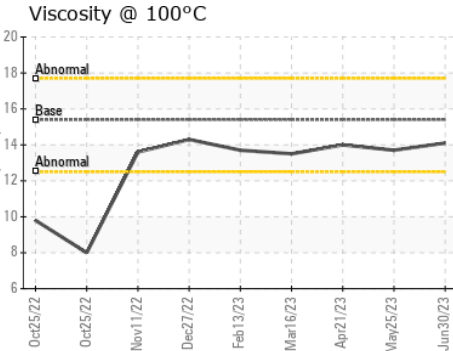
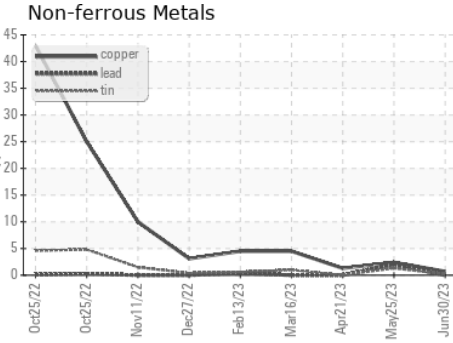
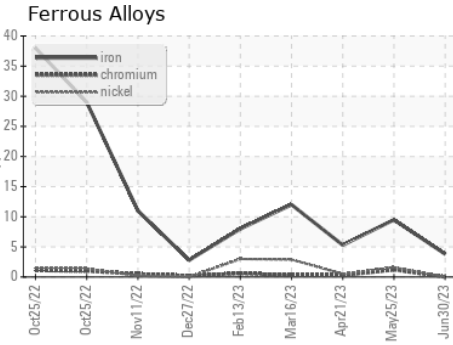
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| 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 | history 1   | history 2 |      |
|------------------|--------|------------|---------|-------------|-----------|------|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | <b>14.1</b> | 13.7      | 14.0 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0098095  
**Lab Number** : **05889569**  
**Unique Number** : 10540052  
**Test Package** : FLEET

**LRS - BETHEL HEIGHTS (NWA AR)**  
 848 HWY 264 E  
 BETHEL HEIGHTS, AR  
 US 72764  
 Contact: JAMIE HAYWORTH  
 jhayworth@lrsrecycles.com  
 T: (479)878-1384  
 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)