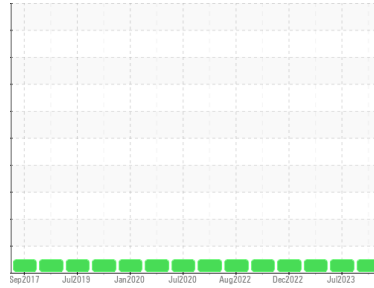


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**20354**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 10W30 (9 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>PCA0104896</b>  | PCA0102013  | PCA0100093  |
| Sample Date   | Client Info |             | <b>11 Sep 2023</b> | 12 Jul 2023 | 05 Jun 2023 |
| Machine Age   | days        | Client Info | <b>30</b>          | 30          | 30          |
| Oil Age       | days        | Client Info | <b>30</b>          | 30          | 30          |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | 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>2</b>     | 2        | 3        |
| Chromium | ppm    | ASTM D5185m >20  | <b>0</b>     | <1       | 0        |
| 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>&lt;1</b> | <1       | <1       |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | 0        | 0        |
| Copper   | ppm    | ASTM D5185m >330 | <b>&lt;1</b> | <1       | <1       |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | 0        | 0        |
| 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 2    | <b>2</b>     | 3        | 6        |
| Barium     | ppm    | ASTM D5185m 0    | <b>0</b>     | 0        | 2        |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>63</b>    | 56       | 61       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | <1       | 0        |
| Magnesium  | ppm    | ASTM D5185m 950  | <b>994</b>   | 933      | 878      |
| Calcium    | ppm    | ASTM D5185m 1050 | <b>1141</b>  | 995      | 1063     |
| Phosphorus | ppm    | ASTM D5185m 995  | <b>1043</b>  | 1017     | 1031     |
| Zinc       | ppm    | ASTM D5185m 1180 | <b>1264</b>  | 1235     | 1186     |
| Sulfur     | ppm    | ASTM D5185m 2600 | <b>3687</b>  | 3665     | 3355     |

## CONTAMINANTS

|           | method | limit/base      | current      | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>2</b>     | 2        | 4        |
| Sodium    | ppm    | ASTM D5185m     | <b>&lt;1</b> | <1       | <1       |
| Potassium | ppm    | ASTM D5185m >20 | <b>2</b>     | 0        | 3        |

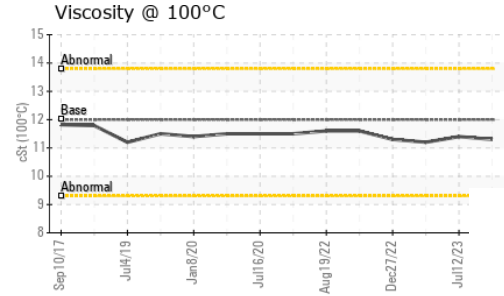
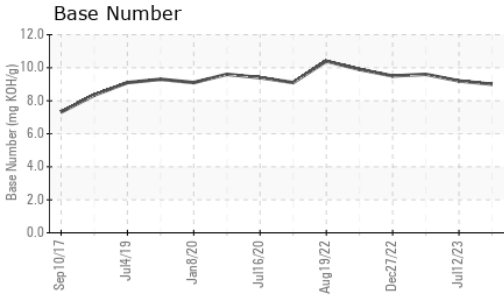
## INFRA-RED

|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>0.2</b>  | 0.2      | 0.2      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>4.7</b>  | 4.9      | 5.6      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>16.6</b> | 17.2     | 17.3     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>12.3</b> | 13.3     | 12.9     |
| Base Number (BN) | mg KOH/g | ASTM D2896      | <b>9.0</b>  | 9.2      | 9.6      |

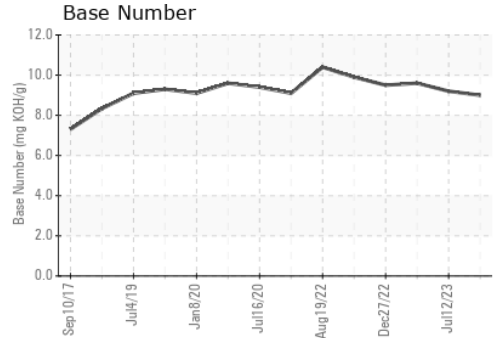
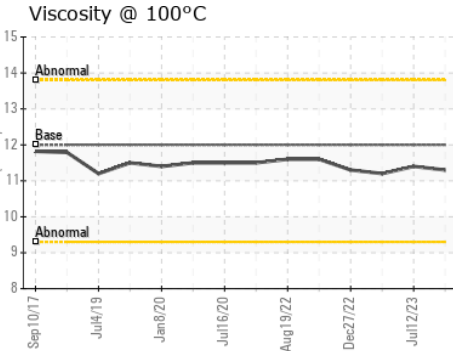
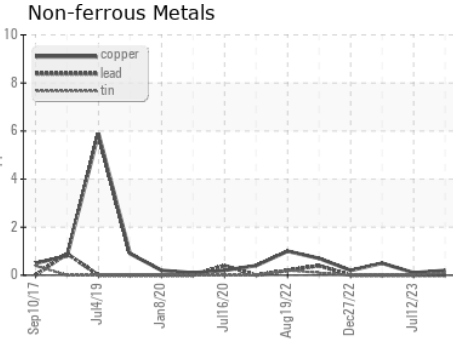
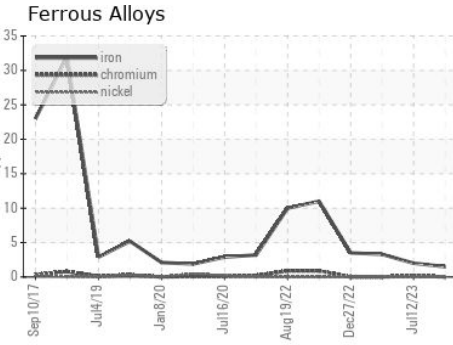
# OIL ANALYSIS REPORT



| 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  | 12.00   | <b>11.3</b> | 11.4     | 11.2 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0104896 **Received** : 21 Sep 2023  
**Lab Number** : **05957435** **Diagnosed** : 22 Sep 2023  
**Unique Number** : 10658648 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**PERDUE FARMS - DILLON**  
 2047 HWY 9 WEST  
 DILLON, SC  
 US 29536  
 Contact: KEVIN HOOKS  
 kevin.hooks@perdue.com  
 T: (843)841-8069  
 F: (843)841-8070

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)