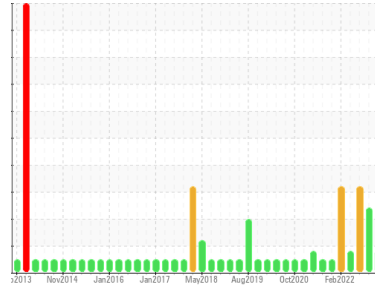




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area  
**G.LOPES CONSTRUCTION INC./On-Road**  
 Machine Id  
**244**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring. No other contaminants were detected 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>PCA0098427</b>  | PCA0072078  | PCA0083451  |
| Sample Date   | Client Info | <b>19 Jul 2023</b> | 22 Mar 2023 | 21 Nov 2022 |
| Machine Age   | mls         | Client Info        | 532000      | 520000      |
| Oil Age       | mls         | Client Info        | 472166      | 484166      |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>MARGINAL</b>    | SEVERE      | SEVERE      |

## CONTAMINATION

| method | limit/base | current    | history1 | history2 |
|--------|------------|------------|----------|----------|
| Glycol | WC Method  | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron     | ppm ASTM D5185m >100 | <b>27</b>    | 63       | ▲ 101    |
| Chromium | ppm ASTM D5185m >20  | <b>1</b>     | 3        | 7        |
| Nickel   | ppm ASTM D5185m >4   | <b>&lt;1</b> | 0        | <1       |
| Titanium | ppm ASTM D5185m      | <b>&lt;1</b> | 0        | <1       |
| Silver   | ppm ASTM D5185m >3   | <b>0</b>     | 0        | 0        |
| Aluminum | ppm ASTM D5185m >20  | <b>2</b>     | 2        | 4        |
| Lead     | ppm ASTM D5185m >40  | <b>&lt;1</b> | <1       | <1       |
| Copper   | ppm ASTM D5185m >330 | <b>&lt;1</b> | 1        | 3        |
| Tin      | ppm ASTM D5185m >15  | <b>0</b>     | <1       | <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 0    | <b>4</b>     | 3        | 2        |
| Barium     | ppm ASTM D5185m 0    | <b>2</b>     | 0        | 0        |
| Molybdenum | ppm ASTM D5185m 60   | <b>64</b>    | 52       | 49       |
| Manganese  | ppm ASTM D5185m 0    | <b>&lt;1</b> | <1       | 1        |
| Magnesium  | ppm ASTM D5185m 1010 | <b>967</b>   | 789      | 761      |
| Calcium    | ppm ASTM D5185m 1070 | <b>1154</b>  | 936      | 879      |
| Phosphorus | ppm ASTM D5185m 1150 | <b>1063</b>  | 842      | 774      |
| Zinc       | ppm ASTM D5185m 1270 | <b>1278</b>  | 1063     | 981      |
| Sulfur     | ppm ASTM D5185m 2060 | <b>3272</b>  | 2286     | 2412     |

## CONTAMINANTS

| method    | limit/base          | current      | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon   | ppm ASTM D5185m >25 | <b>6</b>     | 9        | 17       |
| Sodium    | ppm ASTM D5185m     | <b>0</b>     | <1       | 3        |
| Potassium | ppm ASTM D5185m >20 | <b>&lt;1</b> | 2        | <1       |
| Fuel      | % ASTM D3524 >5     | ▲ <b>4.2</b> | ◆ 15.3   | ◆ 14.8   |

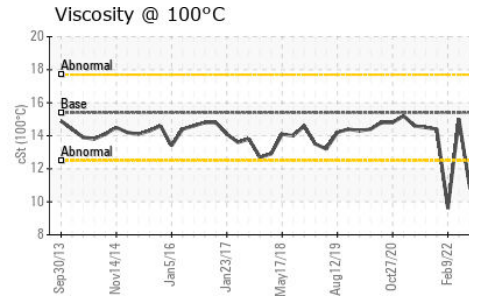
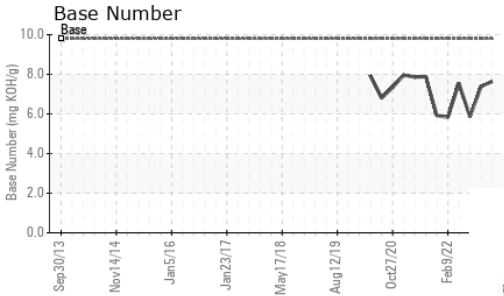
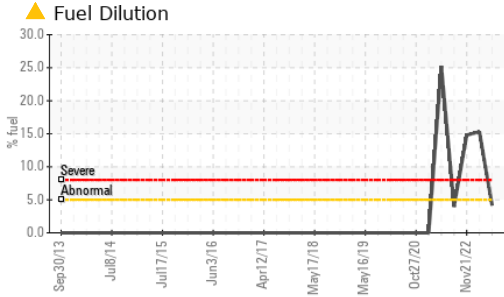
## INFRA-RED

| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >3         | <b>0.4</b>  | 1        | 2.7      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>10.5</b> | 14.2     | 19.8     |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>22.7</b> | 28.0     | 33.7     |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>22.6</b> | 33.0     | 38.6     |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8  | <b>7.64</b> | 7.38     | 5.85     |

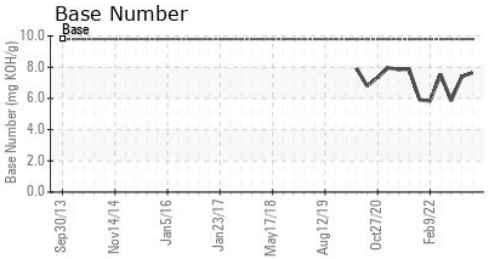
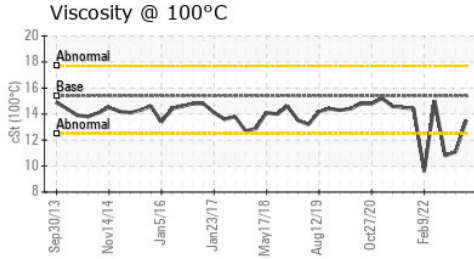
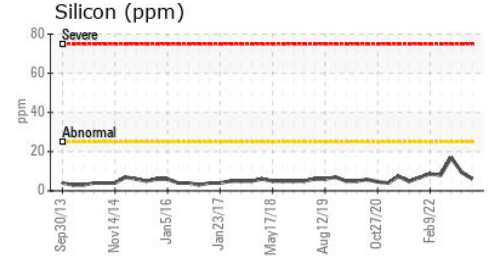
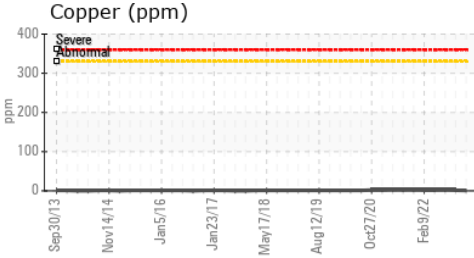
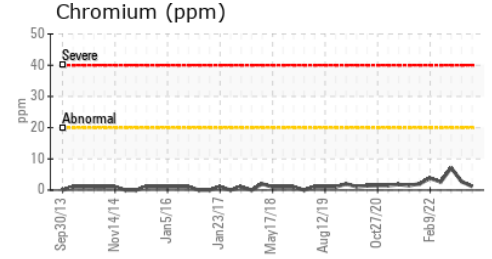
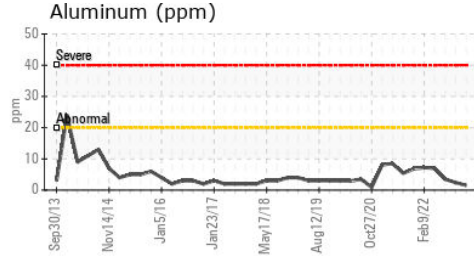
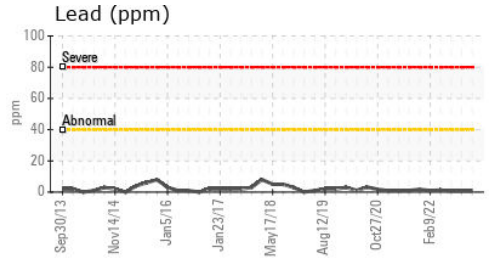
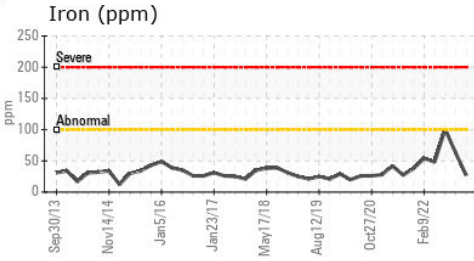
# OIL ANALYSIS REPORT



| 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  | 15.4    | 13.5     | ▲ 11.1 ▲ 10.8 |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0098427 **Received** : 21 Jul 2023  
**Lab Number** : 05904521 **Diagnosed** : 24 Jul 2023  
**Unique Number** : 10565877 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: PercentFuel )

**G LOPES CONSTRUCTION**  
 565 WINTHROP ST  
 TAUNTON, MA  
 US 02780  
 Contact: BUTCH MCGRATH  
 bmcgrath@glopes.com

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)

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F: