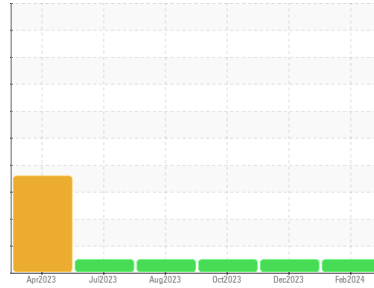


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**G.LOPES CONSTRUCTION INC./OFF-ROAD**  
 Machine Id  
**L-63**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- 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            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>PCA0098337</b>  | PCA0109862  | PCA0098627  |
| Sample Date   | Client Info |             | <b>14 Feb 2024</b> | 20 Dec 2023 | 18 Oct 2023 |
| Machine Age   | hrs         | Client Info | <b>1924</b>        | 1924        | 1513        |
| Oil Age       | hrs         | Client Info | <b>1924</b>        | 1924        | 0           |
| 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     |
| Water  | WC Method | >0.2       | <b>NEG</b>     | NEG      | NEG      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >100 | <b>16</b>    | 11       | 14       |
| 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>&lt;1</b> | <1       | <1       |
| Silver   | ppm    | ASTM D5185m >3   | <b>0</b>     | <1       | <1       |
| Aluminum | ppm    | ASTM D5185m >20  | <b>2</b>     | 1        | 2        |
| Lead     | ppm    | ASTM D5185m >40  | <b>&lt;1</b> | 0        | 2        |
| Copper   | ppm    | ASTM D5185m >330 | <b>6</b>     | 6        | 26       |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</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>3</b>    | 5        | 3        |
| Barium     | ppm    | ASTM D5185m 0    | <b>10</b>   | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 60   | <b>75</b>   | 57       | 63       |
| Manganese  | ppm    | ASTM D5185m 0    | <b>0</b>    | <1       | 0        |
| Magnesium  | ppm    | ASTM D5185m 1010 | <b>1196</b> | 915      | 943      |
| Calcium    | ppm    | ASTM D5185m 1070 | <b>1318</b> | 1003     | 1081     |
| Phosphorus | ppm    | ASTM D5185m 1150 | <b>1365</b> | 1030     | 1065     |
| Zinc       | ppm    | ASTM D5185m 1270 | <b>1558</b> | 1215     | 1230     |
| Sulfur     | ppm    | ASTM D5185m 2060 | <b>4503</b> | 2936     | 3489     |

## CONTAMINANTS

|           | method | limit/base      | current  | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>6</b> | 5        | 8        |
| Sodium    | ppm    | ASTM D5185m     | <b>0</b> | 0        | 0        |
| Potassium | ppm    | ASTM D5185m >20 | <b>2</b> | 0        | 2        |

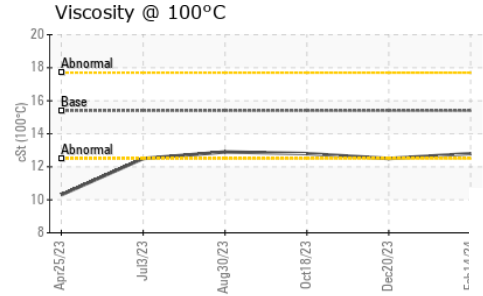
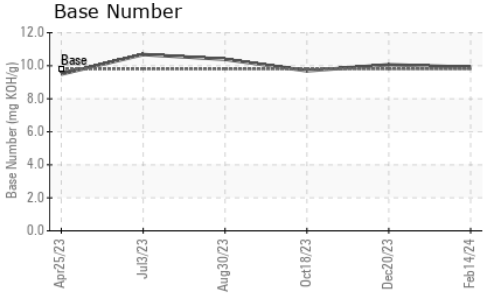
## INFRA-RED

|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>0.3</b>  | 0.3      | 0.4      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>7.9</b>  | 7.9      | 7.4      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>18.8</b> | 19.0     | 19.9     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>15.4</b> | 16.2     | 16.3     |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8  | <b>9.91</b> | 10.06    | 9.69     |

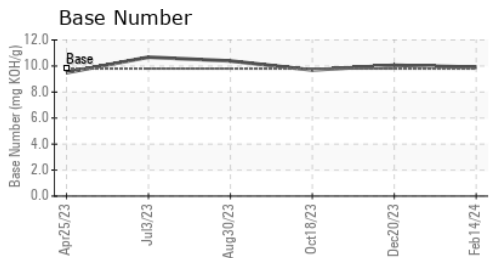
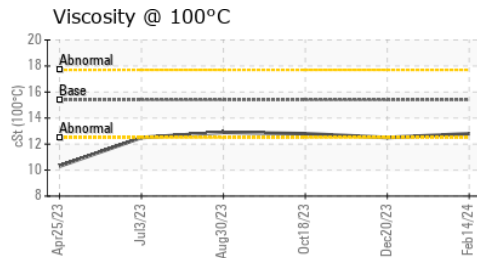
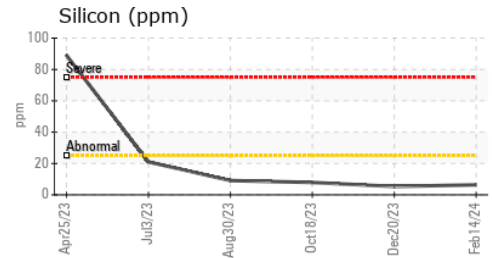
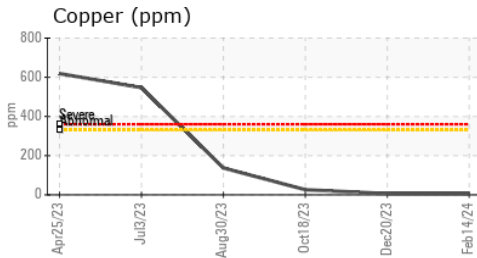
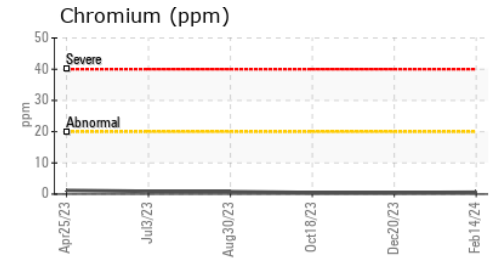
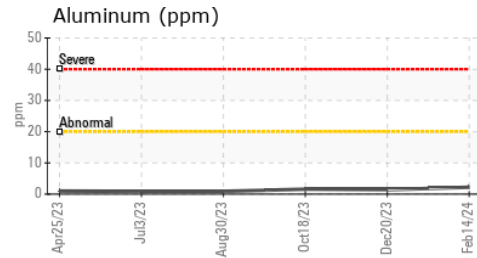
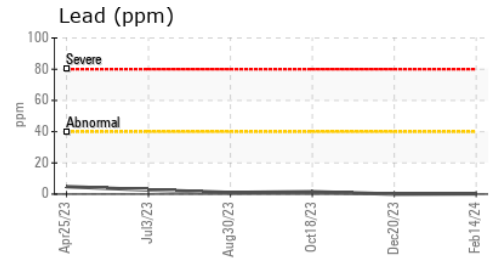
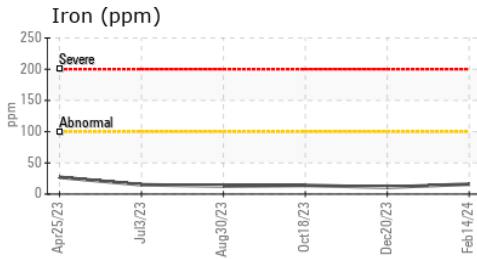
# OIL ANALYSIS REPORT



| 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    | <b>12.8</b> | 12.5     | 12.8 |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0098337 **Received** : 19 Feb 2024  
**Lab Number** : **06093182** **Tested** : 20 Feb 2024  
**Unique Number** : 10886035 **Diagnosed** : 20 Feb 2024 - Sean Felton  
**Test Package** : MOB 2

**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)

T:  
F: