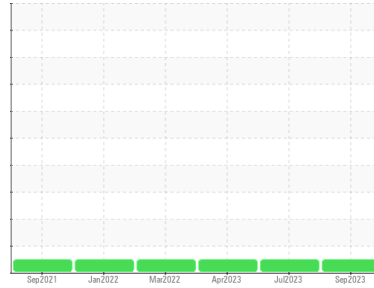




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**401175**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>GFL0094454</b>  | GFL0086762  | GFL0042866  |
| Sample Date        | Client Info |             |            | <b>18 Sep 2023</b> | 06 Jul 2023 | 17 Apr 2023 |
| Machine Age        | hrs         | Client Info |            | <b>7595</b>        | 7595        | 7595        |
| Oil Age            | hrs         | Client Info |            | <b>7595</b>        | 7595        | 0           |
| Oil Changed        |             | Client Info |            | <b>N/A</b>         | Changed     | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

| CONTAMINATION |           | method | limit/base | current        | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| 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      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >120       | <b>4</b>     | 5        | 5        |
| Chromium    | ppm | ASTM D5185(m) | >20        | <b>0</b>     | <1       | 0        |
| Nickel      | ppm | ASTM D5185(m) | >5         | <b>0</b>     | 0        | <1       |
| Titanium    | ppm | ASTM D5185(m) | >2         | <b>&lt;1</b> | <1       | <1       |
| Silver      | ppm | ASTM D5185(m) | >2         | <b>0</b>     | 0        | 0        |
| Aluminum    | ppm | ASTM D5185(m) | >20        | <b>3</b>     | 2        | 2        |
| Lead        | ppm | ASTM D5185(m) | >40        | <b>&lt;1</b> | <1       | <1       |
| Copper      | ppm | ASTM D5185(m) | >330       | <b>&lt;1</b> | <1       | <1       |
| Tin         | ppm | ASTM D5185(m) | >15        | <b>0</b>     | 0        | 0        |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | <1       |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |

| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) | 0          | <b>24</b>    | 15       | 5        |
| Barium     | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185(m) | 60         | <b>80</b>    | 40       | 8        |
| Manganese  | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | <1       |
| Magnesium  | ppm | ASTM D5185(m) | 1010       | <b>32</b>    | 21       | 14       |
| Calcium    | ppm | ASTM D5185(m) | 1070       | <b>2137</b>  | 2280     | 2396     |
| Phosphorus | ppm | ASTM D5185(m) | 1150       | <b>1036</b>  | 993      | 958      |
| Zinc       | ppm | ASTM D5185(m) | 1270       | <b>1139</b>  | 1114     | 1052     |
| Sulfur     | ppm | ASTM D5185(m) | 2060       | <b>2967</b>  | 3060     | 3114     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

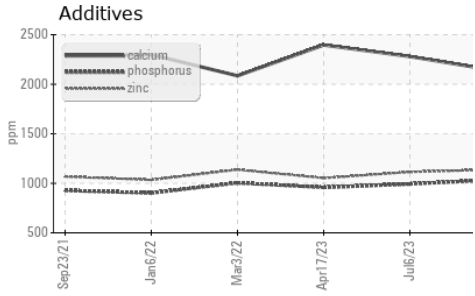
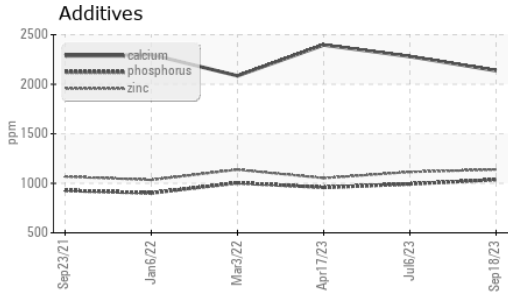
| CONTAMINANTS |     | method        | limit/base | current  | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >25        | <b>3</b> | 3        | 3        |
| Sodium       | ppm | ASTM D5185(m) |            | <b>4</b> | 4        | 2        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>1</b> | 1        | 2        |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* | >4         | <b>0</b>    | 0.1      | 0.1      |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>8.9</b>  | 8.4      | 7.3      |
| Sulfation | Abs/.1mm | ASTM D7415* | >30        | <b>19.3</b> | 19.7     | 19.0     |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | ASTM D7414* | >25        | <b>14.3</b> | 13.0     | 10.9     |



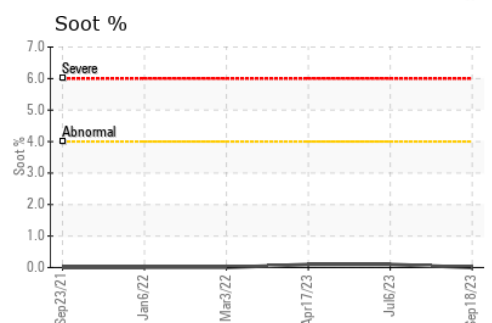
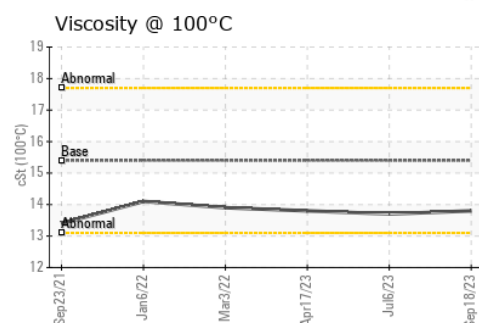
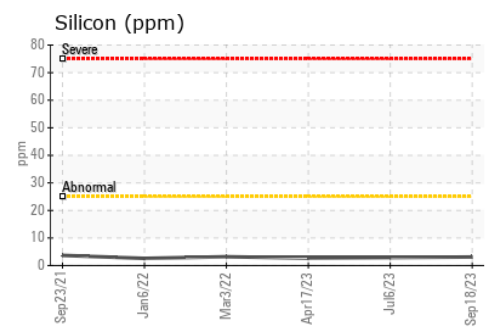
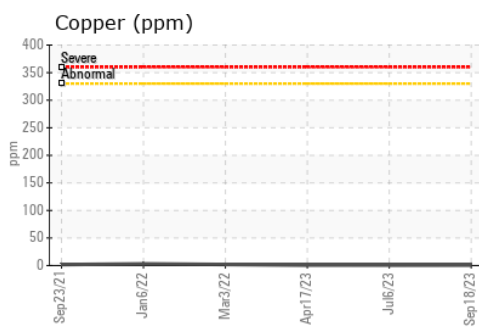
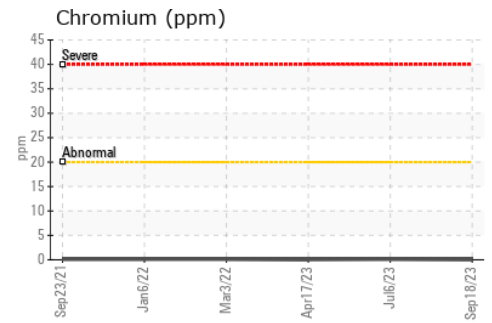
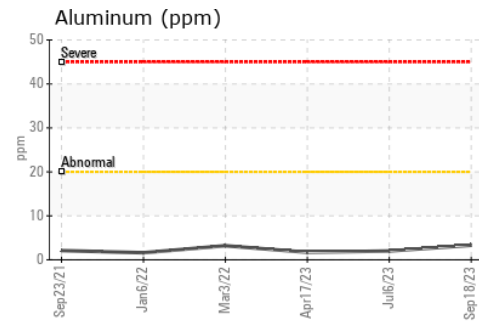
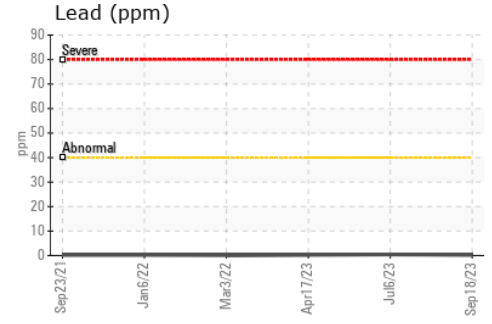
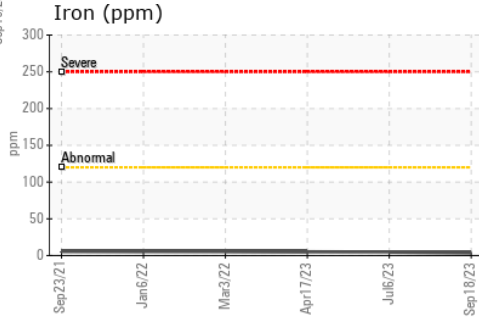
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| 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 D7279(m) | 15.4    | 13.8     | 13.7     |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 222 - Sandhill**  
**Sample No.** : GFL0094454 **Received** : 19 Sep 2023 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD  
**Lab Number** : 02583522 **Diagnosed** : 19 Sep 2023 ORANGEVILLE, ON  
**Unique Number** : 5644587 **Diagnostician** : Wes Davis CA L9W 3X5  
**Test Package** : MOB 1

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.