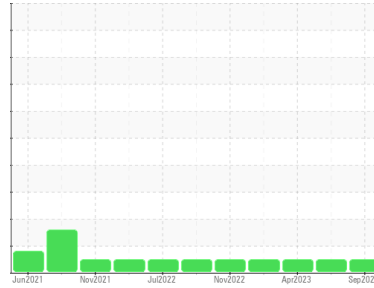




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**401100**

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 condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>GFL0084124</b>  | GFL0084149  | GFL0073213  |
| Sample Date   | Client Info |             | <b>06 Sep 2023</b> | 14 Aug 2023 | 17 Apr 2023 |
| Machine Age   | hrs         | Client Info | <b>21181</b>       | 20485       | 19915       |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 600         |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | ---         | 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      | 0.0      |

## WEAR METALS

|           | method | limit/base         | current      | history1 | history2 |
|-----------|--------|--------------------|--------------|----------|----------|
| Iron      | ppm    | ASTM D5185(m) >100 | <b>22</b>    | 35       | 26       |
| Chromium  | ppm    | ASTM D5185(m) >20  | <b>2</b>     | 3        | 1        |
| Nickel    | ppm    | ASTM D5185(m) >4   | <b>0</b>     | 0        | <1       |
| Titanium  | ppm    | ASTM D5185(m)      | <b>&lt;1</b> | <1       | <1       |
| Silver    | ppm    | ASTM D5185(m) >3   | <b>&lt;1</b> | 0        | 0        |
| Aluminum  | ppm    | ASTM D5185(m) >20  | <b>4</b>     | 5        | 2        |
| Lead      | ppm    | ASTM D5185(m) >40  | <b>&lt;1</b> | <1       | 2        |
| Copper    | ppm    | ASTM D5185(m) >330 | <b>&lt;1</b> | <1       | <1       |
| Tin       | ppm    | ASTM D5185(m) >15  | <b>0</b>     | 0        | <1       |
| Antimony  | ppm    | ASTM D5185(m)      | <b>0</b>     | 0        | 0        |
| 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>4</b>     | 4        | 4        |
| Barium     | ppm    | ASTM D5185(m) 0    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185(m) 60   | <b>58</b>    | 60       | 63       |
| Manganese  | ppm    | ASTM D5185(m) 0    | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185(m) 1010 | <b>958</b>   | 971      | 1002     |
| Calcium    | ppm    | ASTM D5185(m) 1070 | <b>1027</b>  | 1043     | 1139     |
| Phosphorus | ppm    | ASTM D5185(m) 1150 | <b>1061</b>  | 1061     | 1128     |
| Zinc       | ppm    | ASTM D5185(m) 1270 | <b>1167</b>  | 1193     | 1233     |
| Sulfur     | ppm    | ASTM D5185(m) 2060 | <b>2613</b>  | 2621     | 2656     |
| 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>15</b> | 16       | 4        |
| Sodium    | ppm    | ASTM D5185(m)     | <b>3</b>  | 4        | 3        |
| Potassium | ppm    | ASTM D5185(m) >20 | <b>1</b>  | 2        | 17       |

## INFRA-RED

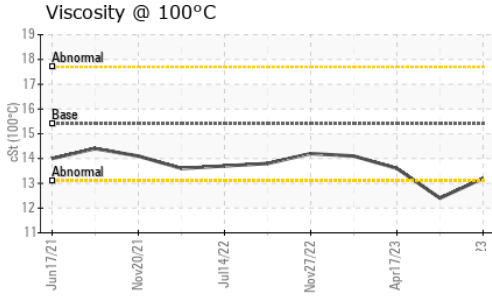
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* >3  | <b>0.3</b>  | 1        | 1.8      |
| Nitration | Abs/cm   | ASTM D7624* >20 | <b>6.6</b>  | 8.9      | 9.6      |
| Sulfation | Abs/.1mm | ASTM D7415* >30 | <b>19.9</b> | 21.7     | 22.9     |

## FLUID DEGRADATION

|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* >25 | <b>14.1</b> | 15.6     | 16.4     |



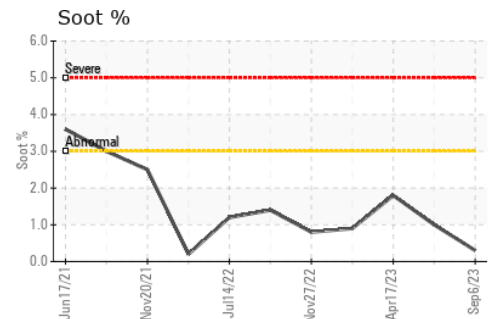
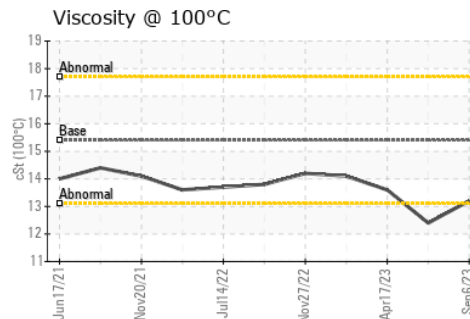
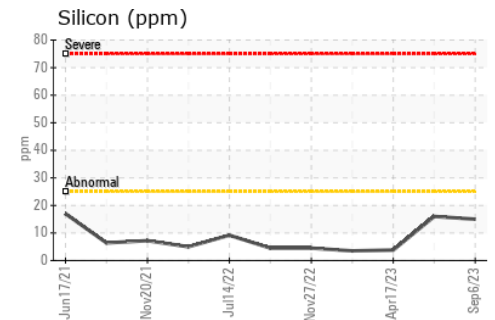
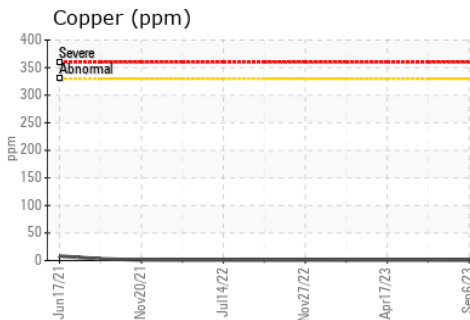
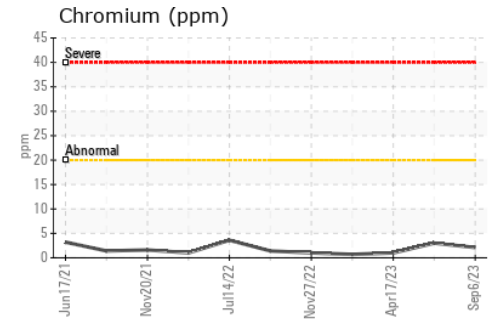
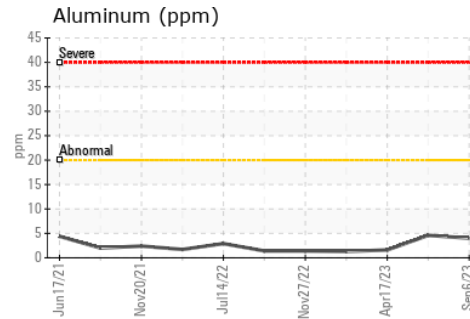
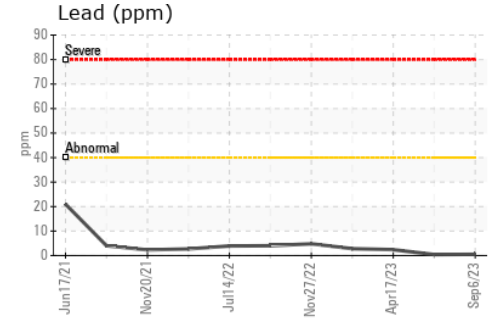
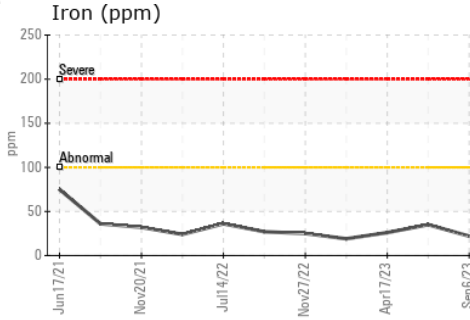
# OIL ANALYSIS REPORT



| 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    | 13.2     | 12.4     |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 573 - Vancouver Hauling  
**Sample No.** : GFL0084124 **Received** : 08 Sep 2023  
**Lab Number** : 02581103 **Diagnosed** : 08 Sep 2023  
**Unique Number** : 5642168 **Diagnostician** : Wes Davis  
**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.

Contact: Catia Klagenberg Alves  
 cklagenbergalves@gflenv.com

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