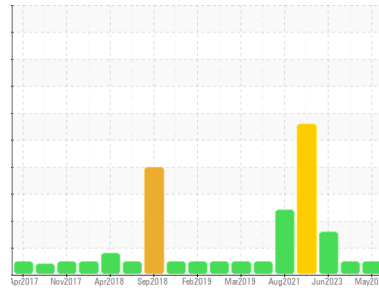




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**4786**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 10W30 (--- 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>GFL0118962</b>  | GFL0101733  | GFL0085944  |
| Sample Date   | Client Info |             | <b>05 May 2024</b> | 30 Nov 2023 | 20 Jun 2023 |
| Machine Age   | hrs         | Client Info | <b>14587</b>       | 14283       | 13144       |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>N/A</b>         | Changed     | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

## 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      | 0.0      |

## WEAR METALS

|           | method | limit/base    | current | history1     | history2 |    |
|-----------|--------|---------------|---------|--------------|----------|----|
| Iron      | ppm    | ASTM D5185(m) | >100    | <b>22</b>    | 30       | 19 |
| Chromium  | ppm    | ASTM D5185(m) | >20     | <b>1</b>     | 2        | 4  |
| Nickel    | ppm    | ASTM D5185(m) | >4      | <b>0</b>     | <1       | <1 |
| Titanium  | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | <1 |
| Silver    | ppm    | ASTM D5185(m) | >3      | <b>0</b>     | <1       | <1 |
| Aluminum  | ppm    | ASTM D5185(m) | >20     | <b>2</b>     | 2        | 4  |
| Lead      | ppm    | ASTM D5185(m) | >40     | <b>&lt;1</b> | 3        | 3  |
| Copper    | ppm    | ASTM D5185(m) | >330    | <b>16</b>    | 68       | 16 |
| Tin       | ppm    | ASTM D5185(m) | >15     | <b>&lt;1</b> | <1       | <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) | 2       | <b>5</b>     | 3        | 7    |
| Barium     | ppm    | ASTM D5185(m) | 0       | <b>0</b>     | <1       | <1   |
| Molybdenum | ppm    | ASTM D5185(m) | 50      | <b>58</b>    | 56       | 56   |
| Manganese  | ppm    | ASTM D5185(m) | 0       | <b>&lt;1</b> | <1       | 6    |
| Magnesium  | ppm    | ASTM D5185(m) | 950     | <b>938</b>   | 906      | 877  |
| Calcium    | ppm    | ASTM D5185(m) | 1050    | <b>1041</b>  | 991      | 1026 |
| Phosphorus | ppm    | ASTM D5185(m) | 995     | <b>955</b>   | 905      | 987  |
| Zinc       | ppm    | ASTM D5185(m) | 1180    | <b>1143</b>  | 1111     | 1091 |
| Sulfur     | ppm    | ASTM D5185(m) | 2600    | <b>2369</b>  | 2065     | 2556 |
| Lithium    | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | <1   |

## CONTAMINANTS

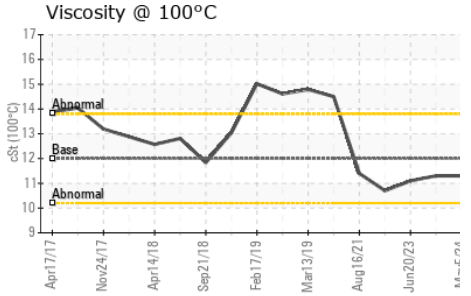
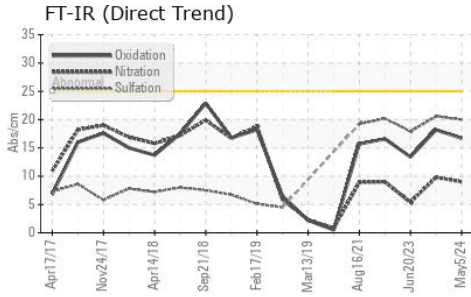
|           | method | limit/base    | current | history1 | history2 |      |
|-----------|--------|---------------|---------|----------|----------|------|
| Silicon   | ppm    | ASTM D5185(m) | >25     | <b>4</b> | 6        | ▲ 40 |
| Sodium    | ppm    | ASTM D5185(m) |         | <b>6</b> | 8        | 10   |
| Potassium | ppm    | ASTM D5185(m) | >20     | <b>1</b> | 2        | 5    |

## INFRA-RED

|           | method  | limit/base  | current | history1    | history2 |      |
|-----------|---------|-------------|---------|-------------|----------|------|
| Soot %    | %       | ASTM D7844* | >3      | <b>0.5</b>  | 0.6      | 0    |
| Nitration | Abs/cm  | ASTM D7624* | >20     | <b>9.0</b>  | 9.8      | 5.4  |
| Sulfation | Abs.1mm | ASTM D7415* | >30     | <b>20.0</b> | 20.6     | 17.9 |



# OIL ANALYSIS REPORT

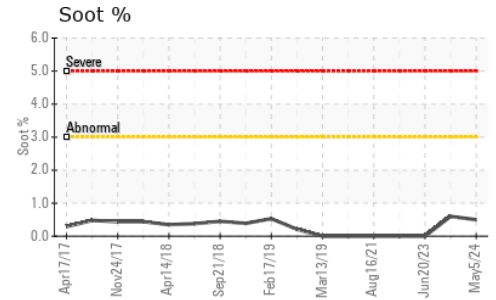
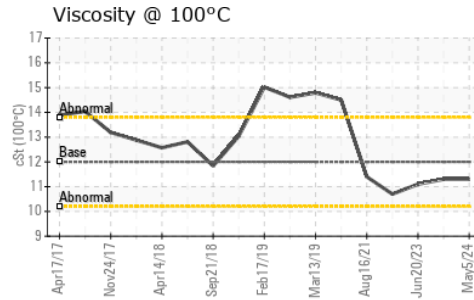
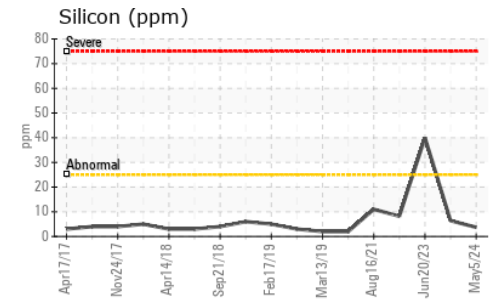
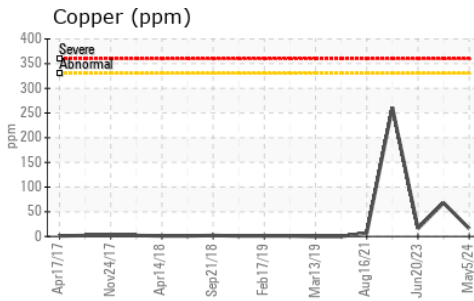
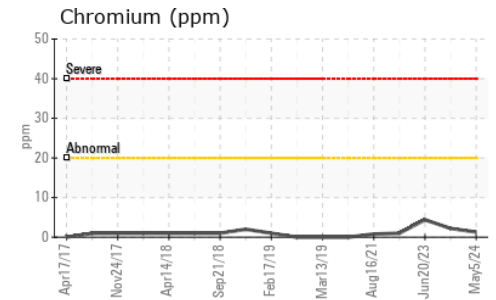
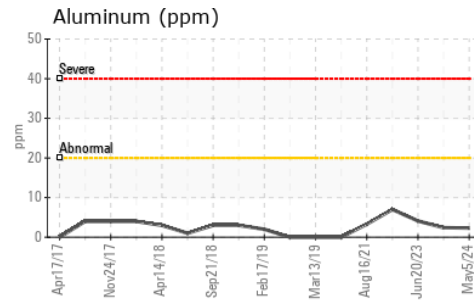
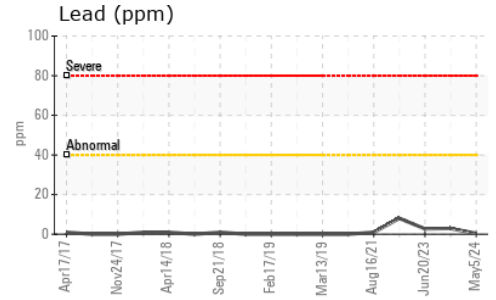
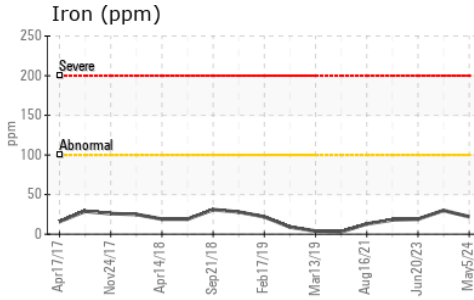


| FLUID DEGRADATION | method   | limit/base  | current | history1 | history2 |      |
|-------------------|----------|-------------|---------|----------|----------|------|
| Oxidation         | Abs./1mm | ASTM D7414* | >25     | 16.7     | 18.2     | 13.4 |

| VISUAL           | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| Emulsified Water | scalar | Visual*    | >0.2    | NEG      | NEG      | NEG |
| Free Water       | scalar | Visual*    |         | NEG      | NEG      | NEG |

| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |      |
|------------------|--------|---------------|---------|----------|----------|------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 12.00   | 11.3     | 11.3     | 11.1 |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0118962  
**Lab Number** : 02634001  
**Unique Number** : 5775154  
**Test Package** : MOB 1  
**Received** : 08 May 2024  
**Tested** : 08 May 2024  
**Diagnosed** : 08 May 2024 - Wes Davis

**GFL Environmental - 554 - Edmonton SW**  
 8409 -15th Street NW  
 Edmonton, AB  
 CA T6P 0B8  
 Contact: Tim Greig  
 tgreig@gflenv.com  
 T: (780)231-0521  
 F:

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.