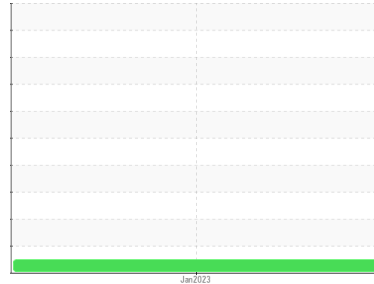


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**PME 512100765**

Component  
**Port Main Engine**

Fluid  
**PETRO CANADA DURON HP 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>WA0017759</b>   | ---      | ---      |
| Sample Date        | Client Info |             |            | <b>07 Jan 2023</b> | ---      | ---      |
| Machine Age        | hrs         | Client Info |            | <b>683</b>         | ---      | ---      |
| Oil Age            | hrs         | Client Info |            | <b>268</b>         | ---      | ---      |
| Oil Changed        | Client Info |             |            | <b>Not Chngd</b>   | ---      | ---      |
| Sample Status      |             |             |            | <b>NORMAL</b>      | ---      | ---      |

| CONTAMINATION |           | method | limit/base | current        | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel          | WC Method | >4.0   |            | <b>&lt;1.0</b> | ---      | ---      |
| Glycol        | WC Method |        |            | <b>NEG</b>     | ---      | ---      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >75        | <b>10</b>    | ---      | ---      |
| Chromium    | ppm | ASTM D5185(m) | >8         | <b>&lt;1</b> | ---      | ---      |
| Nickel      | ppm | ASTM D5185(m) | >2         | <b>&lt;1</b> | ---      | ---      |
| Titanium    | ppm | ASTM D5185(m) | >3         | <b>1</b>     | ---      | ---      |
| Silver      | ppm | ASTM D5185(m) | >2         | <b>0</b>     | ---      | ---      |
| Aluminum    | ppm | ASTM D5185(m) | >15        | <b>1</b>     | ---      | ---      |
| Lead        | ppm | ASTM D5185(m) | >18        | <b>2</b>     | ---      | ---      |
| Copper      | ppm | ASTM D5185(m) | >80        | <b>13</b>    | ---      | ---      |
| Tin         | ppm | ASTM D5185(m) | >14        | <b>2</b>     | ---      | ---      |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | ---      | ---      |

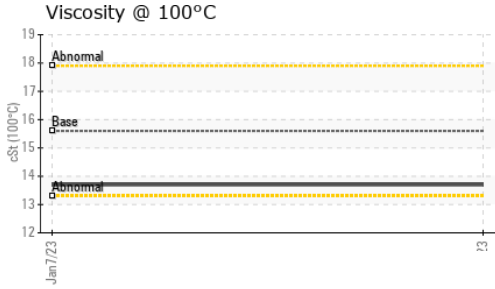
| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) | 0          | <b>37</b>    | ---      | ---      |
| Barium     | ppm | ASTM D5185(m) | 0          | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm | ASTM D5185(m) | 60         | <b>43</b>    | ---      | ---      |
| Manganese  | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | ---      | ---      |
| Magnesium  | ppm | ASTM D5185(m) | 1010       | <b>731</b>   | ---      | ---      |
| Calcium    | ppm | ASTM D5185(m) | 1070       | <b>1545</b>  | ---      | ---      |
| Phosphorus | ppm | ASTM D5185(m) | 1150       | <b>1075</b>  | ---      | ---      |
| Zinc       | ppm | ASTM D5185(m) | 1270       | <b>1204</b>  | ---      | ---      |
| Sulfur     | ppm | ASTM D5185(m) | 2060       | <b>2752</b>  | ---      | ---      |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | ---      | ---      |

| CONTAMINANTS |     | method        | limit/base | current  | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >20        | <b>2</b> | ---      | ---      |
| Sodium       | ppm | ASTM D5185(m) | >75        | <b>2</b> | ---      | ---      |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>2</b> | ---      | ---      |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* |            | <b>0.1</b>  | ---      | ---      |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>8.8</b>  | ---      | ---      |
| Sulfation | Abs/.1mm | ASTM D7415* | >30        | <b>21.5</b> | ---      | ---      |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | ASTM D7414* | >25        | <b>17.2</b> | ---      | ---      |

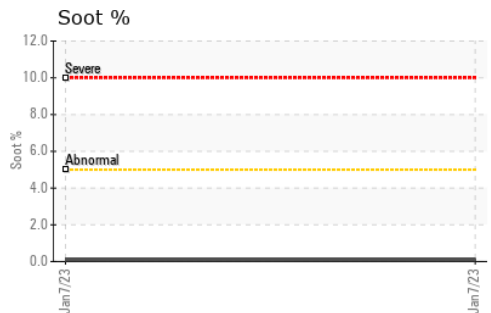
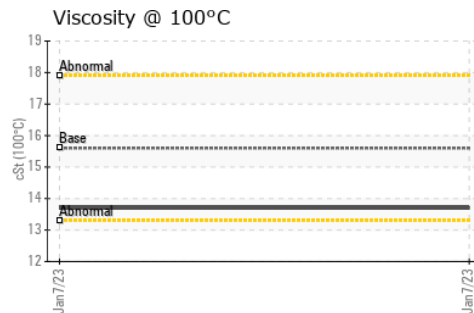
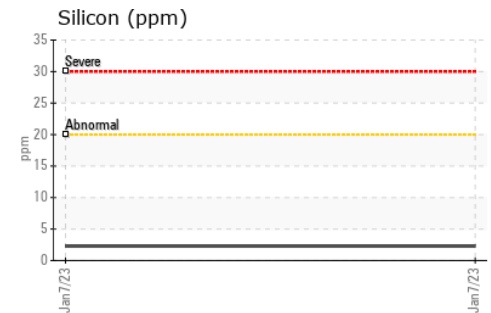
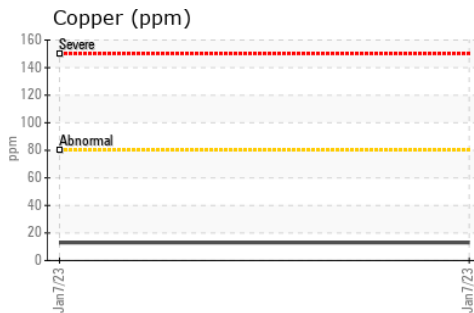
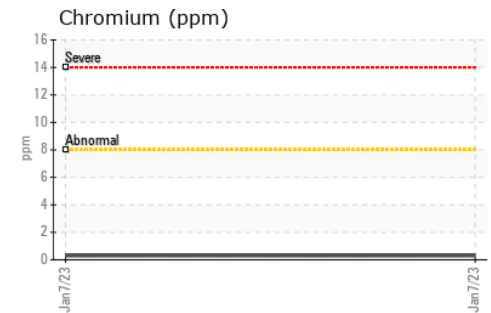
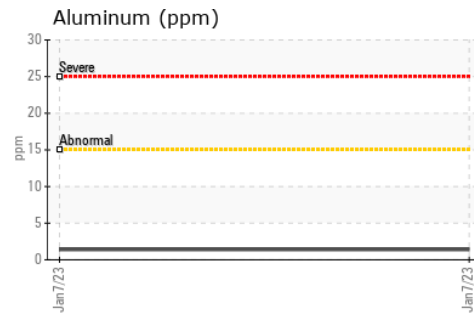
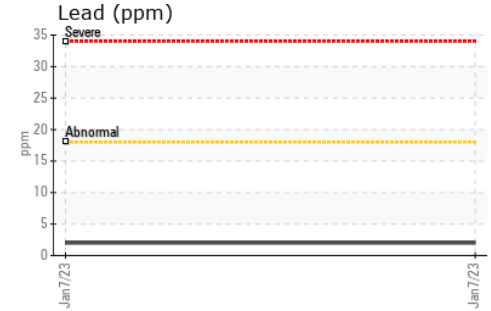
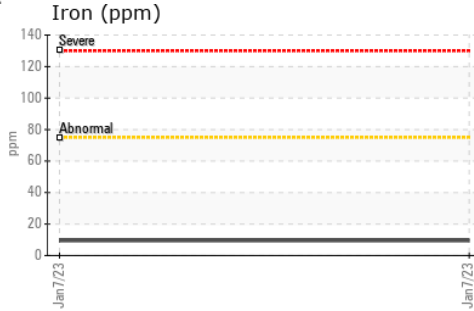
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Emulsified Water | scalar | Visual*    | >0.1    | NEG      | ---      |
| Free Water       | scalar | Visual*    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 15.6    | 13.7     | ---      |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WA0017759  
**Lab Number** : 02533626  
**Unique Number** : 5514625  
**Test Package** : MOB 1

**CANADIAN COAST GUARD**  
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 SAMBRO, NS  
 CA B3V 1M7  
 Contact: Engineer  
 andrew.prince@dfo-mpo.gc.ca  
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 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.