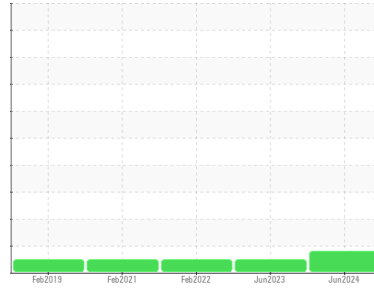




# OIL ANALYSIS REPORT

## Sample Rating Trend



FUEL



Machine Id  
**1477 MISSISSAUGA VALLEY BLVD**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA XR 4 SAE 15W40 (--- GAL)**

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

Light fuel dilution occurring. No other contaminants were detected 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>WC0940198</b>   | WC0830001   | WC0647782   |
| Sample Date   | Client Info | <b>18 Jun 2024</b> | 26 Jun 2023 | 15 Feb 2022 |
| Machine Age   | hrs         | <b>0</b>           | 0           | 270         |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>MARGINAL</b>    | NORMAL      | NORMAL      |

### CONTAMINATION

| method | limit/base     | current    | history1 | history2 |
|--------|----------------|------------|----------|----------|
| 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 D5185(m) >100 | <b>2</b>     | 2        | 2        |
| Chromium  | ppm ASTM D5185(m) >20  | <b>0</b>     | 0        | <1       |
| Nickel    | ppm ASTM D5185(m) >4   | <b>&lt;1</b> | 0        | <1       |
| Titanium  | ppm ASTM D5185(m)      | <b>0</b>     | 0        | 0        |
| Silver    | ppm ASTM D5185(m) >3   | <b>0</b>     | 0        | 0        |
| Aluminum  | ppm ASTM D5185(m) >20  | <b>&lt;1</b> | <1       | <1       |
| Lead      | ppm ASTM D5185(m) >40  | <b>&lt;1</b> | 2        | 1        |
| 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>&lt;1</b> | <1       | <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) 1    | <b>13</b>    | 92       | 2        |
| Barium     | ppm ASTM D5185(m) 1    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm ASTM D5185(m) 1    | <b>58</b>    | 61       | 58       |
| Manganese  | ppm ASTM D5185(m)      | <b>0</b>     | 0        | 0        |
| Magnesium  | ppm ASTM D5185(m) 10   | <b>910</b>   | 829      | 997      |
| Calcium    | ppm ASTM D5185(m) 3032 | <b>1024</b>  | 1089     | 1017     |
| Phosphorus | ppm ASTM D5185(m) 1054 | <b>950</b>   | 1048     | 1047     |
| Zinc       | ppm ASTM D5185(m) 1332 | <b>1136</b>  | 1150     | 1216     |
| Sulfur     | ppm ASTM D5185(m) 3985 | <b>2631</b>  | 2634     | 2782     |
| Lithium    | ppm ASTM D5185(m)      | <b>&lt;1</b> | <1       | 0        |

### CONTAMINANTS

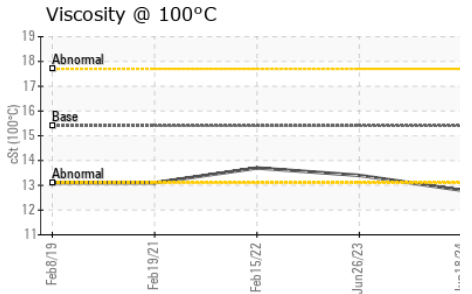
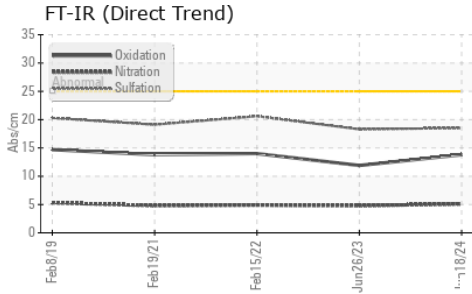
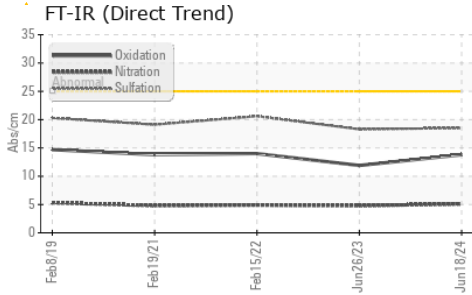
| method    | limit/base            | current      | history1 | history2 |
|-----------|-----------------------|--------------|----------|----------|
| Silicon   | ppm ASTM D5185(m) >25 | <b>4</b>     | 6        | 23       |
| Sodium    | ppm ASTM D5185(m)     | <b>2</b>     | 2        | 1        |
| Potassium | ppm ASTM D5185(m) >20 | <b>2</b>     | <1       | 1        |
| Fuel      | % ASTM D7593* >5      | <b>▲ 2.2</b> | <1.0     | <1.0     |

### INFRA-RED

| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % ASTM D7844* >3         | <b>0</b>    | 0        | 0        |
| Nitration | Abs/cm ASTM D7624* >20   | <b>5.1</b>  | 4.8      | 4.9      |
| Sulfation | Abs/.1mm ASTM D7415* >30 | <b>18.5</b> | 18.3     | 20.6     |



# OIL ANALYSIS REPORT

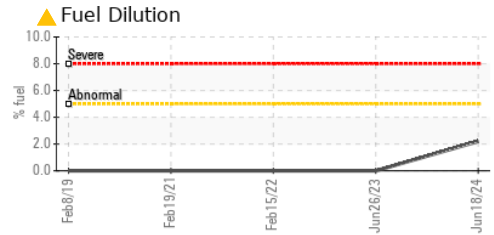
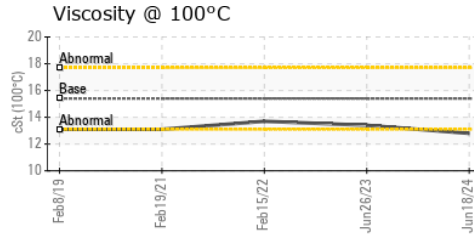
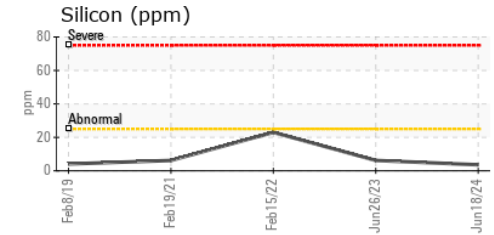
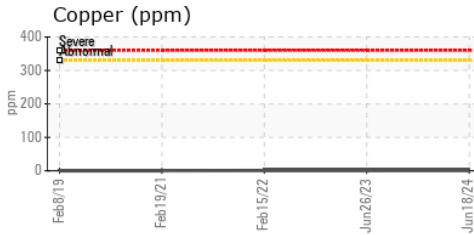
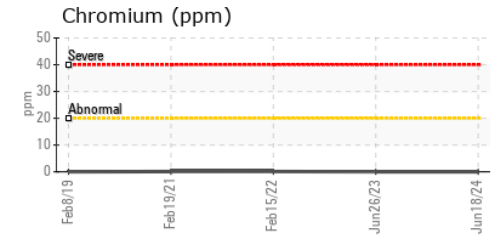
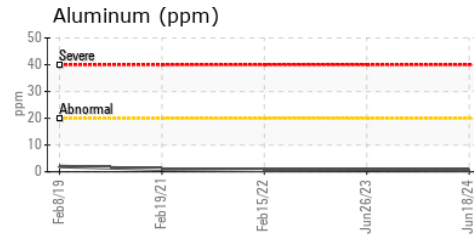
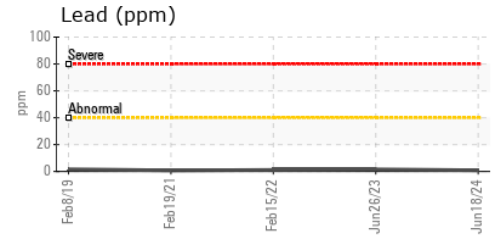
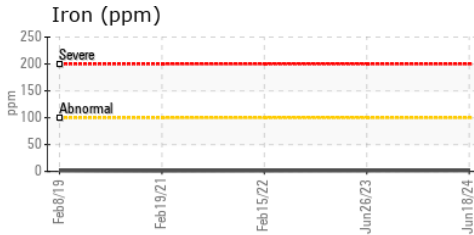


| FLUID DEGRADATION | method   | limit/base  | current | history1    | history2 |      |
|-------------------|----------|-------------|---------|-------------|----------|------|
| Oxidation         | Abs./1mm | ASTM D7414* | >25     | <b>13.8</b> | 11.9     | 14.0 |

| VISUAL           | method | limit/base | current | history1     | history2 |       |
|------------------|--------|------------|---------|--------------|----------|-------|
| White Metal      | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | ---   |
| Yellow Metal     | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | ---   |
| Precipitate      | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | ---   |
| Silt             | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | ---   |
| Debris           | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | ---   |
| Sand/Dirt        | scalar | Visual*    | NONE    | <b>VLITE</b> | ---      | ---   |
| Appearance       | scalar | Visual*    | NORML   | <b>NORML</b> | ---      | ---   |
| Odor             | scalar | Visual*    | NORML   | <b>NORML</b> | NORML    | NORML |
| Emulsified Water | scalar | Visual*    | >0.2    | <b>NEG</b>   | NEG      | NEG   |
| Free Water       | scalar | Visual*    |         | <b>NEG</b>   | NEG      | NEG   |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |      |
|------------------|--------|---------------|---------|-------------|----------|------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 15.4    | <b>12.8</b> | 13.4     | 13.7 |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0940198  
**Lab Number** : **02643153**  
**Unique Number** : 5800692  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, Visual )

**NORTHERN GENERATOR CO. LTD.**  
 80 ASHBRIDGE CIRCLE., UNIT #1 & 2  
 WOODBRIDGE, ON  
 CA L4L 3R5

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.

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