



# OIL ANALYSIS REPORT

|                 |        |
|-----------------|--------|
| WEAR            | NORMAL |
| CONTAMINATION   | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id  
**35BASTION**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA XR 4 SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0910601</b>   | WC0795006   | WC0606358   |
| Sample Date    |     | Client Info |           | <b>11 Mar 2024</b> | 20 Mar 2023 | 11 Nov 2021 |
| Machine Age    | hrs | Client Info |           | <b>142</b>         | 0           | 0           |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

Metal levels are typical for a new component breaking in.

|              |        |               |      |              |     |     |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron         | ppm    | ASTM D5185(m) | >100 | <b>2</b>     | 3   | 2   |
| Chromium     | ppm    | ASTM D5185(m) | >20  | <b>0</b>     | 0   | <1  |
| Nickel       | ppm    | ASTM D5185(m) | >4   | <b>0</b>     | 0   | 0   |
| Titanium     | ppm    | ASTM D5185(m) |      | <b>0</b>     | <1  | 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>0</b>     | 1   | 1   |
| Copper       | ppm    | ASTM D5185(m) | >330 | <b>7</b>     | 19  | 24  |
| Tin          | ppm    | ASTM D5185(m) | >15  | <b>0</b>     | <1  | <1  |
| Vanadium     | ppm    | ASTM D5185(m) |      | <b>0</b>     | 0   | 0   |
| White Metal  | scalar | Visual*       | NONE | <b>NONE</b>  | --- | --- |
| Yellow Metal | scalar | Visual*       | NONE | <b>NONE</b>  | --- | --- |

## CONTAMINATION

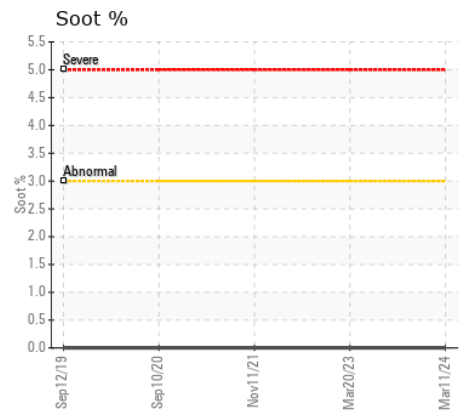
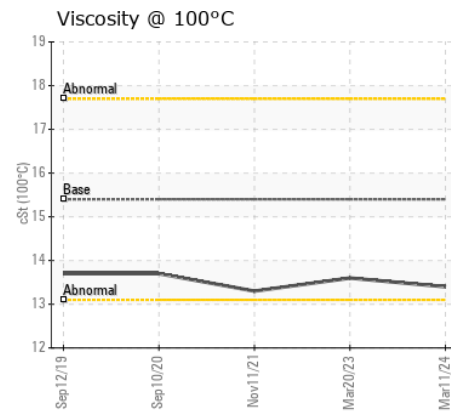
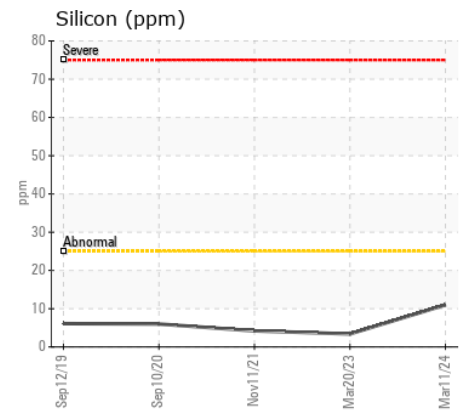
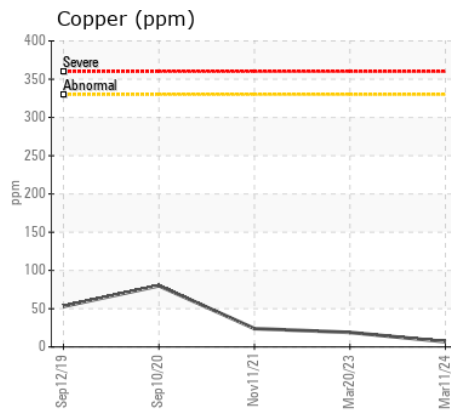
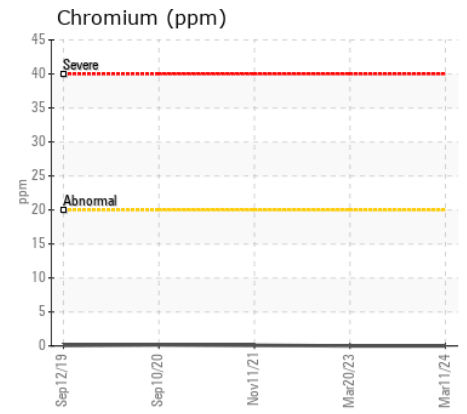
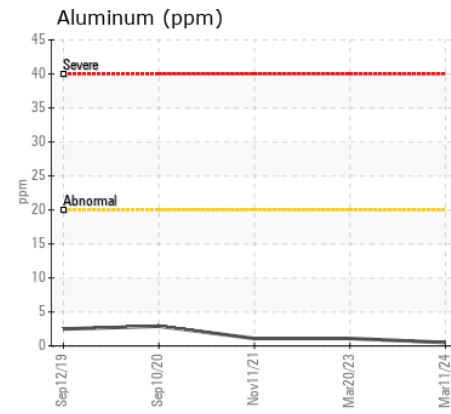
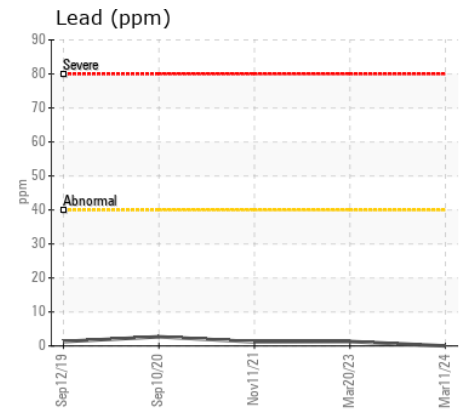
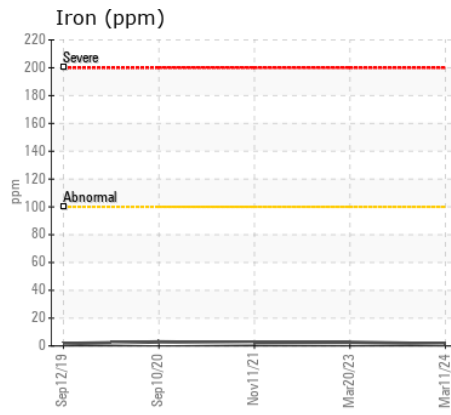
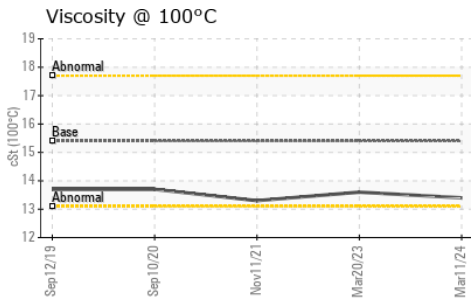
There is no indication of any contamination in the oil.

|                  |          |               |       |                |       |       |
|------------------|----------|---------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185(m) | >25   | <b>11</b>      | 3     | 4     |
| Potassium        | ppm      | ASTM D5185(m) | >20   | <b>0</b>       | 0     | <1    |
| 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   | NEG   |
| Soot %           | %        | ASTM D7844*   | >3    | <b>0</b>       | 0     | 0     |
| Nitration        | Abs/cm   | ASTM D7624*   | >20   | <b>4.9</b>     | 5.9   | 5.7   |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30   | <b>18.3</b>    | 22.0  | 20.5  |
| Silt             | scalar   | Visual*       | NONE  | <b>NONE</b>    | ---   | ---   |
| Debris           | scalar   | Visual*       | NONE  | <b>VLITE</b>   | ---   | ---   |
| Sand/Dirt        | scalar   | Visual*       | NONE  | <b>NONE</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   |

## FLUID CONDITION

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

|              |          |               |      |             |      |      |
|--------------|----------|---------------|------|-------------|------|------|
| Sodium       | ppm      | ASTM D5185(m) |      | <b>1</b>    | 2    | 1    |
| Boron        | ppm      | ASTM D5185(m) | 1    | <b>2</b>    | 11   | 86   |
| Barium       | ppm      | ASTM D5185(m) | 1    | <b>0</b>    | 0    | 0    |
| Molybdenum   | ppm      | ASTM D5185(m) | 1    | <b>61</b>   | 61   | 72   |
| Manganese    | ppm      | ASTM D5185(m) |      | <b>0</b>    | <1   | <1   |
| Magnesium    | ppm      | ASTM D5185(m) | 10   | <b>994</b>  | 967  | 892  |
| Calcium      | ppm      | ASTM D5185(m) | 3032 | <b>1032</b> | 1097 | 1077 |
| Phosphorus   | ppm      | ASTM D5185(m) | 1054 | <b>1017</b> | 1107 | 984  |
| Zinc         | ppm      | ASTM D5185(m) | 1332 | <b>1167</b> | 1199 | 1109 |
| Sulfur       | ppm      | ASTM D5185(m) | 3985 | <b>2750</b> | 2879 | 2622 |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>13.7</b> | 15.0 | 14.9 |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.4 | <b>13.4</b> | 13.6 | 13.3 |



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0910601  
**Lab Number** : 02625640  
**Unique Number** : 5750759  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**Received** : 01 Apr 2024  
**Tested** : 01 Apr 2024  
**Diagnosed** : 01 Apr 2024 - Wes Davis

**NORTHERN GENERATOR CO. LTD.**  
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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.