



# OIL ANALYSIS REPORT

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

Machine Id  
**400 MCLEVIN**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA XR 4 SAE 15W40 (--- LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0910630</b>   | WC0795010   | WC0647772   |
| Sample Date    |     | Client Info |           | <b>27 Mar 2024</b> | 22 Mar 2023 | 02 Feb 2022 |
| Machine Age    | hrs | Client Info |           | <b>0</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

All component wear rates are normal.

|          |     |               |      |              |    |    |
|----------|-----|---------------|------|--------------|----|----|
| Iron     | ppm | ASTM D5185(m) | >100 | <b>1</b>     | 1  | <1 |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>0</b>     | 0  | 0  |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>0</b>     | 0  | 0  |
| 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>0</b>     | 0  | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>&lt;1</b> | <1 | <1 |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>     | 0  | 0  |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

## CONTAMINATION

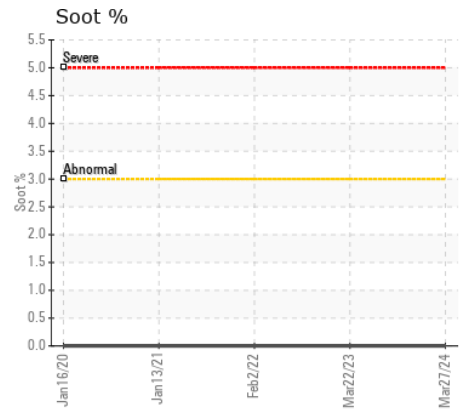
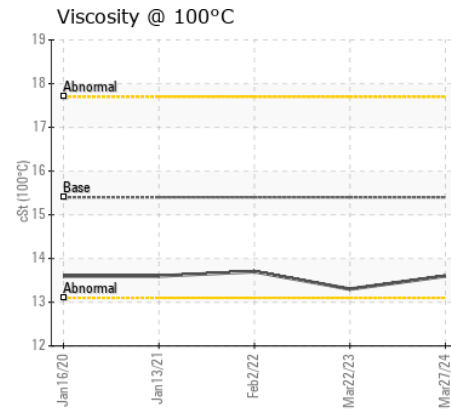
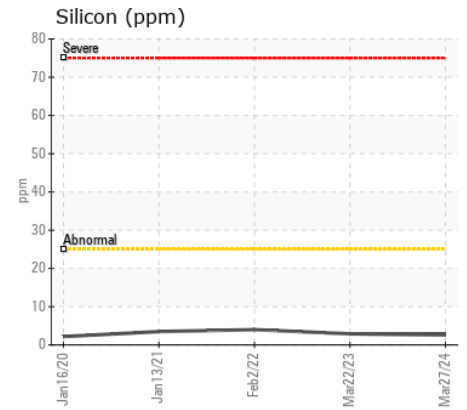
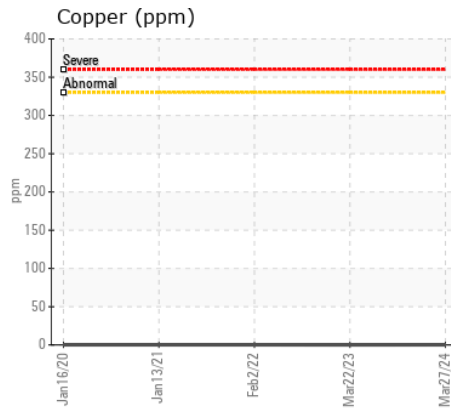
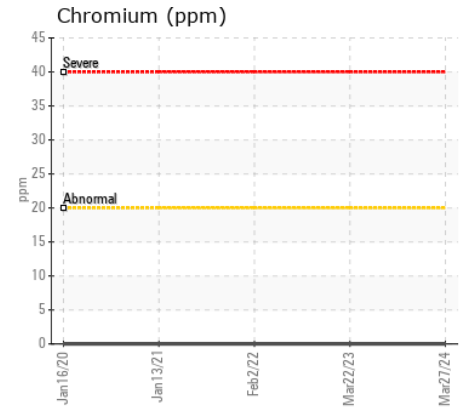
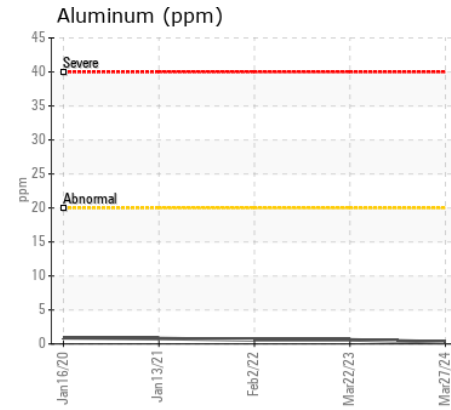
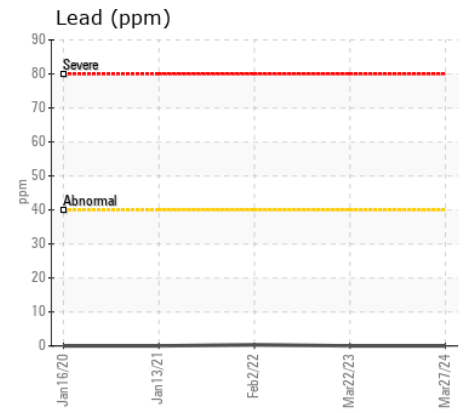
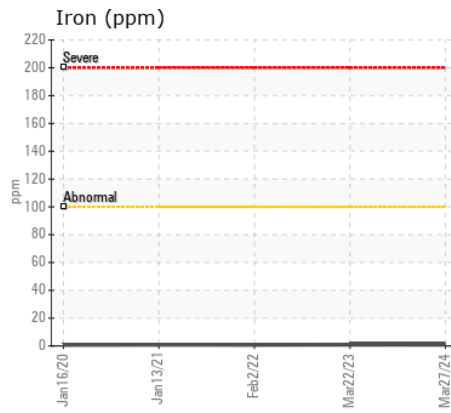
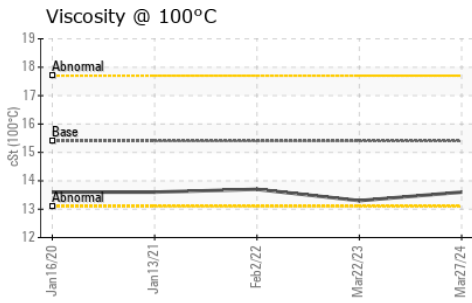
There is no indication of any contamination in the oil.

|                  |          |               |      |                |      |      |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>3</b>       | 3    | 4    |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>0</b>       | <1   | <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>4.4</b>     | 4.5  | 4.7  |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>18.2</b>    | 18.9 | 20.3 |
| 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>&lt;1</b> | 1    | 1    |
| Boron        | ppm      | ASTM D5185(m) | 1    | <b>&lt;1</b> | 2    | 1    |
| Barium       | ppm      | ASTM D5185(m) | 1    | <b>0</b>     | 0    | 0    |
| Molybdenum   | ppm      | ASTM D5185(m) | 1    | <b>56</b>    | 56   | 57   |
| Manganese    | ppm      | ASTM D5185(m) |      | <b>0</b>     | <1   | 0    |
| Magnesium    | ppm      | ASTM D5185(m) | 10   | <b>972</b>   | 931  | 977  |
| Calcium      | ppm      | ASTM D5185(m) | 3032 | <b>1014</b>  | 1027 | 1012 |
| Phosphorus   | ppm      | ASTM D5185(m) | 1054 | <b>1010</b>  | 1049 | 1054 |
| Zinc         | ppm      | ASTM D5185(m) | 1332 | <b>1164</b>  | 1118 | 1205 |
| Sulfur       | ppm      | ASTM D5185(m) | 3985 | <b>2708</b>  | 2633 | 2757 |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>13.3</b>  | 13.7 | 13.8 |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.4 | <b>13.6</b>  | 13.3 | 13.7 |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0910630  
**Lab Number** : 02625633  
**Unique Number** : 5750752  
**Test Package** : MOB 1  
**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.