



# OIL ANALYSIS REPORT

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

Machine Id  
**131 BLOOR**  
 Component  
**Left Diesel Engine**  
 Fluid  
**PETRO CANADA XR 4 SAE 15W40 (--- LTR)**

## 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>WC0865461</b>   | WC0817442   | WC0727159   |
| Sample Date    |     | Client Info |           | <b>14 Feb 2024</b> | 18 May 2023 | 10 Dec 2022 |
| Machine Age    | hrs | Client Info |           | <b>0</b>           | 0           | 280         |
| 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         | Changed     |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

All component wear rates are normal.

|          |     |               |      |              |    |    |
|----------|-----|---------------|------|--------------|----|----|
| Iron     | ppm | ASTM D5185(m) | >100 | <b>1</b>     | 2  | 3  |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>0</b>     | <1 | <1 |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>&lt;1</b> | 0  | <1 |
| Titanium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | <1 |
| Silver   | ppm | ASTM D5185(m) | >3   | <b>2</b>     | 0  | 0  |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>1</b>     | 1  | 1  |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>&lt;1</b> | 0  | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>2</b>     | 5  | 1  |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>     | 0  | <1 |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>     | 0  | 0  |

## CONTAMINATION

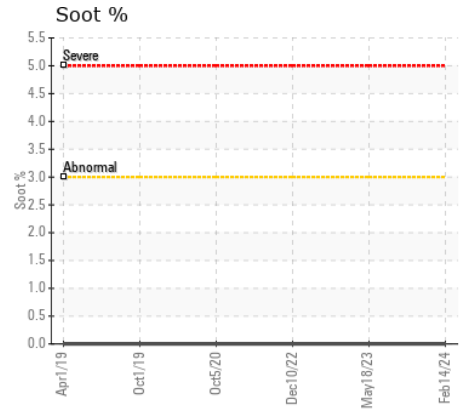
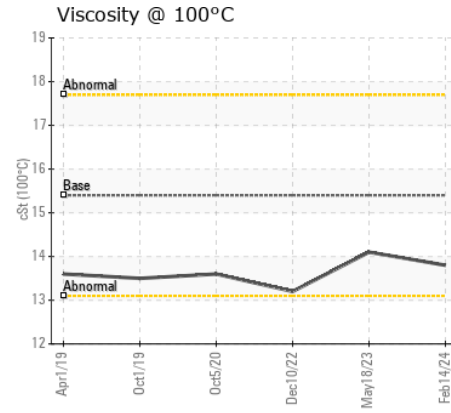
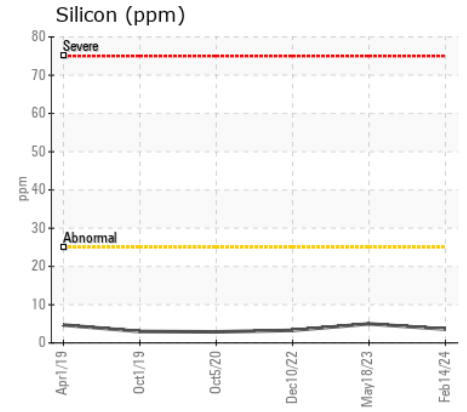
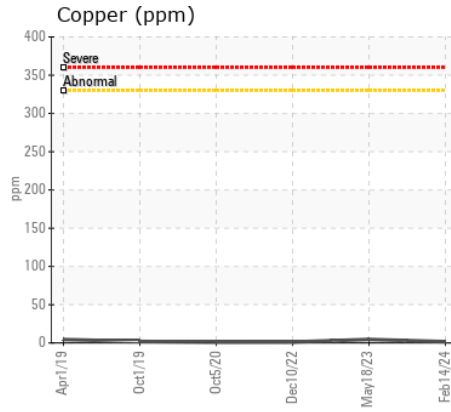
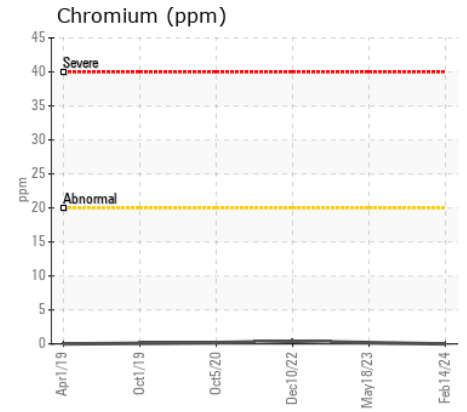
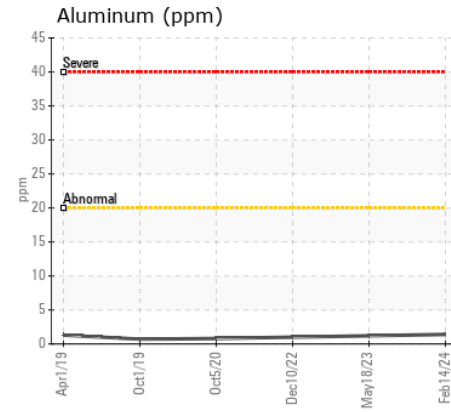
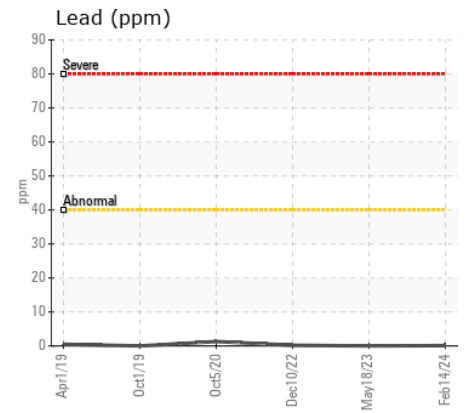
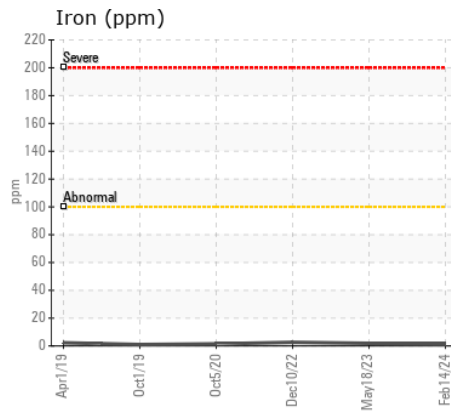
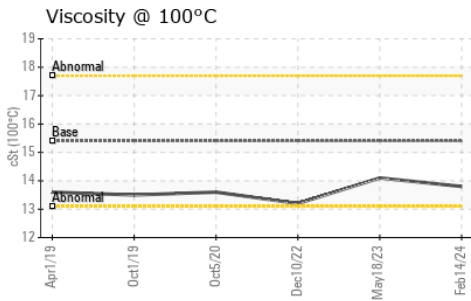
There is no indication of any contamination in the oil.

|                  |          |               |      |                |      |      |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>4</b>       | 5    | 3    |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>0</b>       | <1   | 0    |
| 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>4.3</b>     | 4.5  | 5.5  |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>18.5</b>    | 20.1 | 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> | 2    | 1    |
| Boron        | ppm      | ASTM D5185(m) | 1    | <b>49</b>    | 369  | 2    |
| Barium       | ppm      | ASTM D5185(m) | 1    | <b>0</b>     | 0    | 0    |
| Molybdenum   | ppm      | ASTM D5185(m) | 1    | <b>60</b>    | 79   | 61   |
| Manganese    | ppm      | ASTM D5185(m) |      | <b>0</b>     | <1   | <1   |
| Magnesium    | ppm      | ASTM D5185(m) | 10   | <b>876</b>   | 499  | 1016 |
| Calcium      | ppm      | ASTM D5185(m) | 3032 | <b>1095</b>  | 1352 | 1119 |
| Phosphorus   | ppm      | ASTM D5185(m) | 1054 | <b>1024</b>  | 1090 | 1136 |
| Zinc         | ppm      | ASTM D5185(m) | 1332 | <b>1132</b>  | 1195 | 1241 |
| Sulfur       | ppm      | ASTM D5185(m) | 3985 | <b>2909</b>  | 2845 | 2968 |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>13.3</b>  | 13.0 | 14.7 |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.4 | <b>13.8</b>  | 14.1 | 13.2 |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0865461  
**Lab Number** : 02619240  
**Unique Number** : 5736350  
**Test Package** : MOB 1  
**Received** : 01 Mar 2024  
**Tested** : 01 Mar 2024  
**Diagnosed** : 01 Mar 2024 - Wes Davis

**NORTHERN GENERATOR CO. LTD.**  
 80 ASHBRIDGE CIRCLE,, UNIT #1 & 2  
 WOODBRIDGE, ON  
 CA L4L 3R5  
 Contact: Selome Afework  
 selome@northerngenerator.com  
 T: (905)264-9744  
 F: (905)264-9714

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.