



OIL ANALYSIS REPORT

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

Machine Id
30CANTERBURY
 Component
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 | | WC0910646 | WC0783857 | WC0647832 |
| Sample Date | | Client Info | | 08 Apr 2024 | 01 Mar 2023 | 18 Mar 2022 |
| Machine Age | hrs | Client Info | | 150 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >100 | <1 | 2 | 1 |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >4 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | 1 | <1 |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | 1 | 0 |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

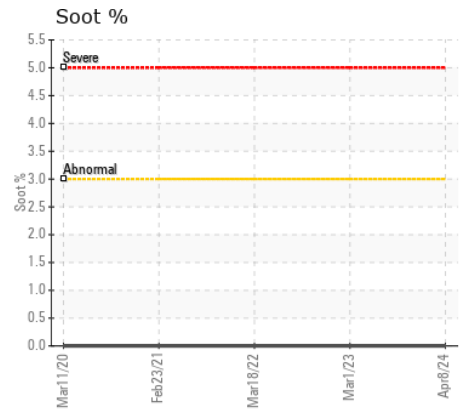
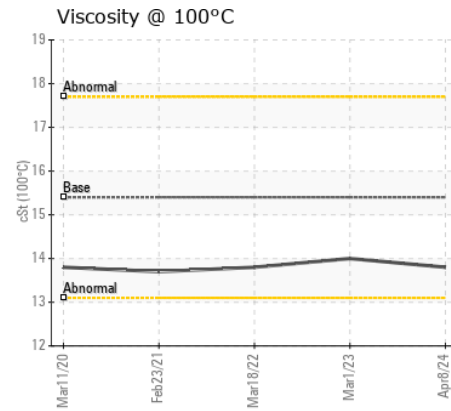
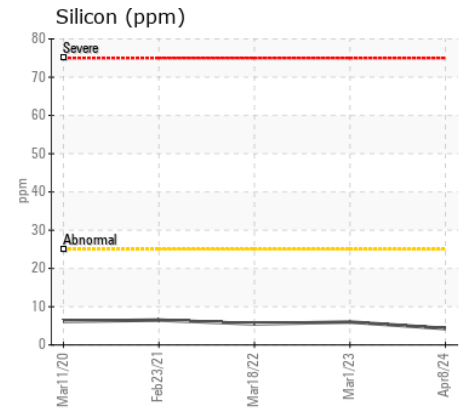
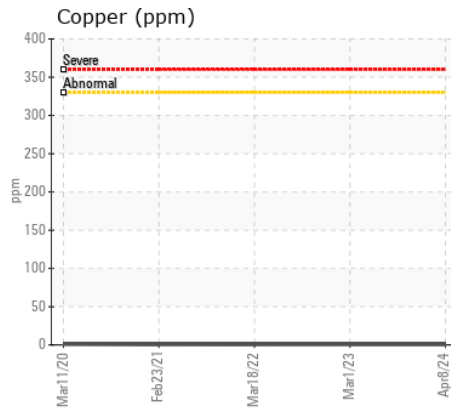
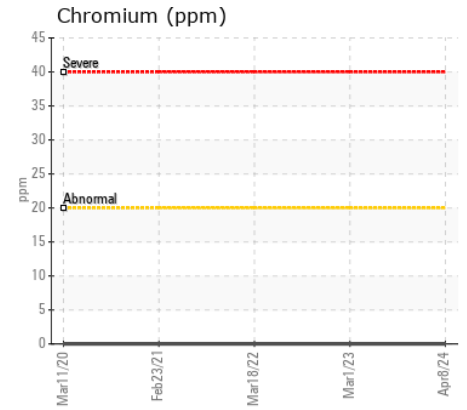
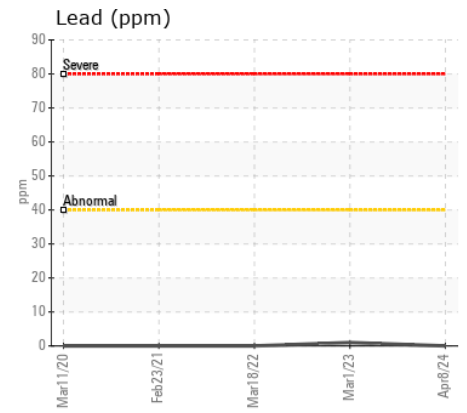
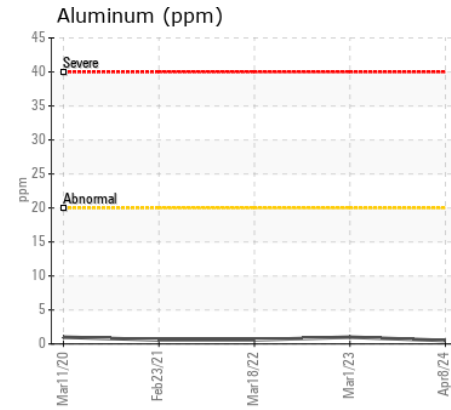
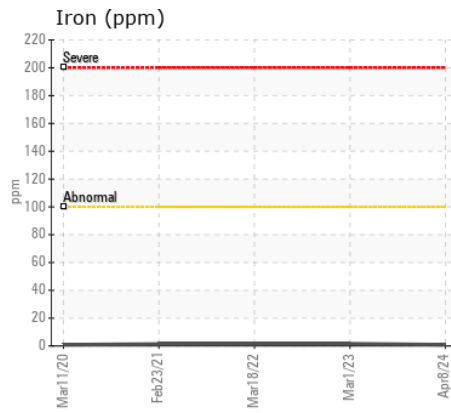
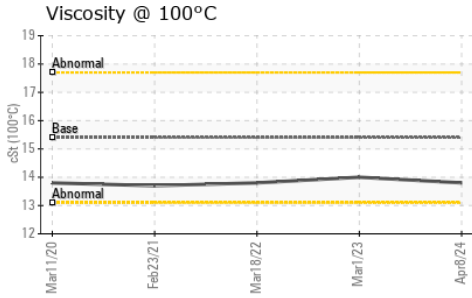
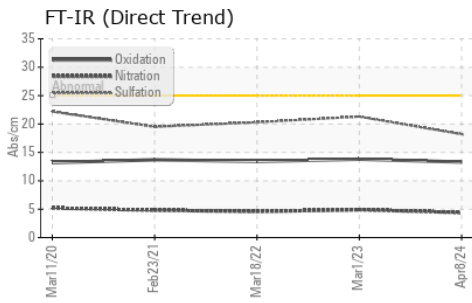
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 6 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0 | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 4.4 | 4.9 | 4.6 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 18.2 | 21.3 | 20.3 |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|--------------|----------|---------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185(m) | | <1 | 1 | 1 |
| Boron | ppm | ASTM D5185(m) | 1 | 1 | 2 | 3 |
| Barium | ppm | ASTM D5185(m) | 1 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 1 | 58 | 57 | 58 |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 10 | 975 | 930 | 997 |
| Calcium | ppm | ASTM D5185(m) | 3032 | 1015 | 1056 | 1023 |
| Phosphorus | ppm | ASTM D5185(m) | 1054 | 982 | 1043 | 1069 |
| Zinc | ppm | ASTM D5185(m) | 1332 | 1150 | 1148 | 1236 |
| Sulfur | ppm | ASTM D5185(m) | 3985 | 2666 | 2667 | 2803 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 13.3 | 13.8 | 13.4 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | 13.8 | 14.0 | 13.8 |



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0910646
Lab Number : 02633004
Unique Number : 5774157
Test Package : MOB 1 (Additional Tests: Visual)

Received : 03 May 2024
Tested : 03 May 2024
Diagnosed : 03 May 2024 - Kevin Marson

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.