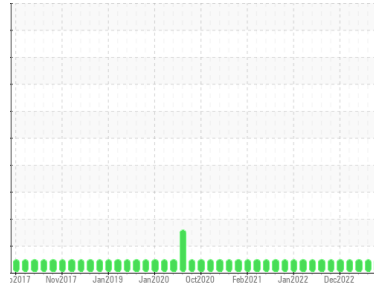


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**TEAM 15**  
Machine Id  
**156125 (S/N STEAMING VESSEL)**  
Component  
**Gearbox**  
Fluid  
**PETRO CANADA ENDURATEX EP 220 (7 GAL)**

**DIAGNOSIS**

**Recommendation**

Resample at the next service interval to monitor.

**Wear**

All component wear rates are normal.

**Contamination**

There is no indication of any contamination in the oil.

**Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>PC0077093</b>   | PC0074789   | PC0070316   |
| Sample Date        | Client Info |             |            | <b>14 Jan 2024</b> | 25 Oct 2023 | 12 Apr 2023 |
| Machine Age        | mths        | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Age            | mths        | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

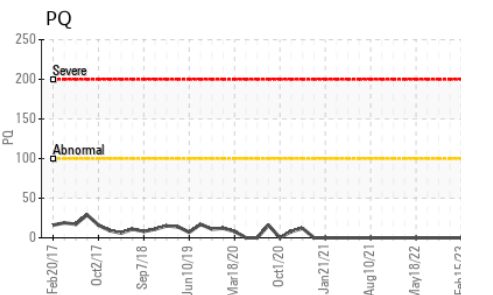
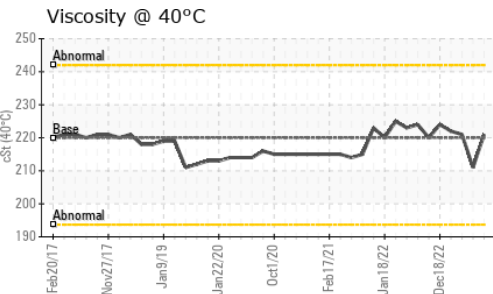
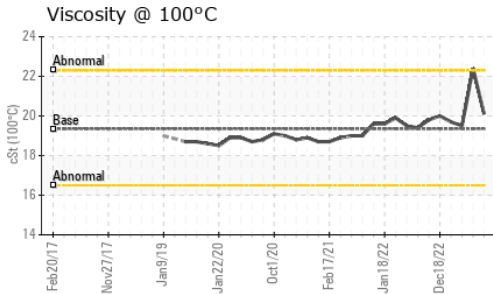
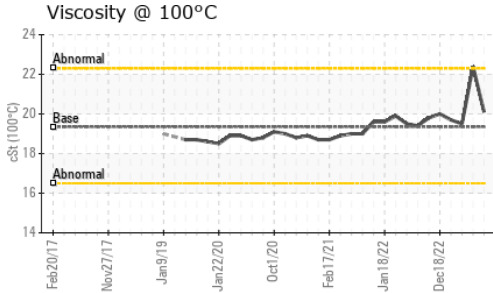
| CONTAMINATION |           | method | limit/base | current    | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water         | WC Method |        | >0.2       | <b>NEG</b> | NEG      | NEG      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| PQ          |     | ASTM D8184*   |            | <b>0</b>     | ---      | 0        |
| Iron        | ppm | ASTM D5185(m) | >200       | <b>7</b>     | <1       | 6        |
| Chromium    | ppm | ASTM D5185(m) | >15        | <b>0</b>     | 0        | 0        |
| Nickel      | ppm | ASTM D5185(m) | >15        | <b>&lt;1</b> | <1       | 0        |
| Titanium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Silver      | ppm | ASTM D5185(m) |            | <b>0</b>     | <1       | 0        |
| Aluminum    | ppm | ASTM D5185(m) | >25        | <b>&lt;1</b> | 0        | 0        |
| Lead        | ppm | ASTM D5185(m) | >100       | <b>0</b>     | <1       | 0        |
| Copper      | ppm | ASTM D5185(m) | >200       | <b>&lt;1</b> | 6        | 0        |
| Tin         | ppm | ASTM D5185(m) | >25        | <b>0</b>     | 0        | 0        |
| Antimony    | ppm | ASTM D5185(m) | >5         | <b>0</b>     | 0        | <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) | 60         | <b>57</b>    | 38       | 58       |
| Barium     | ppm | ASTM D5185(m) | 0          | <b>0</b>     | <1       | 0        |
| Molybdenum | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | 0        |
| Magnesium  | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | 0        | 0        |
| Calcium    | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | <1       | 0        |
| Phosphorus | ppm | ASTM D5185(m) | 270        | <b>264</b>   | 308      | 286      |
| Zinc       | ppm | ASTM D5185(m) | 0          | <b>2</b>     | 4        | 2        |
| Sulfur     | ppm | ASTM D5185(m) | 11200      | <b>5689</b>  | 4661     | 5810     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

| CONTAMINANTS |     | method        | limit/base | current      | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >50        | <b>3</b>     | 2        | 3        |
| Sodium       | ppm | ASTM D5185(m) |            | <b>3</b>     | 2        | 3        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>&lt;1</b> | 0        | <1       |

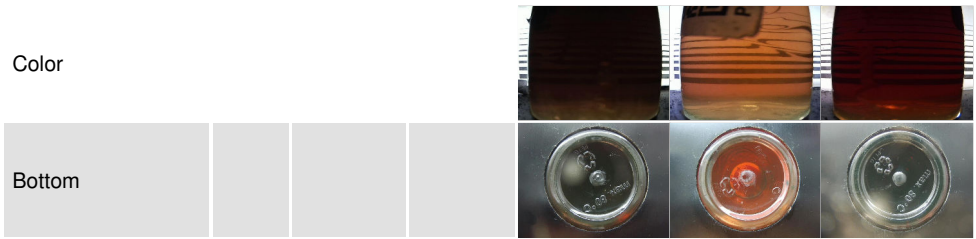
| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D974* | 0.40       | <b>0.63</b> | ---      | 0.52     |



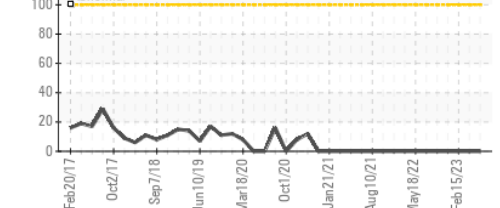
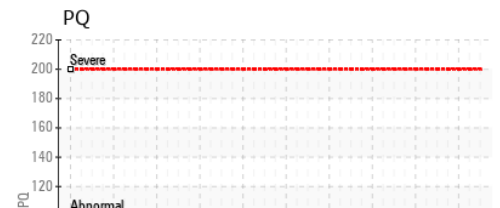
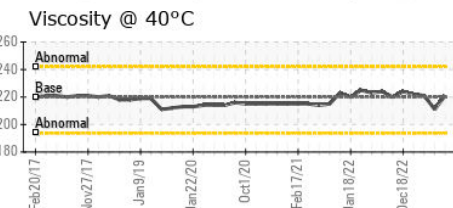
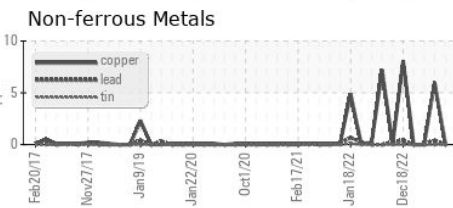
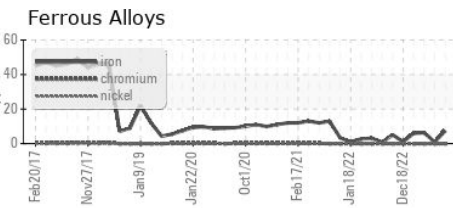
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | Visual*    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | NONE     |
|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

| FLUID PROPERTIES     | method | limit/base    | current | history1 | history2 |
|----------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D7279(m) | 220     | 221      | 211      |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 19.35   | 20.1     | 22.4     |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 99      | 104      | 129      |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0077093 **Received** : 24 Jan 2024  
**Lab Number** : 02610993 **Diagnosed** : 24 Jan 2024  
**Unique Number** : 5720088 **Diagnostician** : Wes Davis  
**Test Package** : IND 2 ( Additional Tests: KV100, TAN Man, VI )

**Dryden Fibre**  
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 Dryden, ON  
 CA P8N 2Z7  
 Contact: Adebukola Adekanye  
 aadekanye@drydenfibre.ca  
 T: (807)223-9950  
 F: (807)223-9176

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.