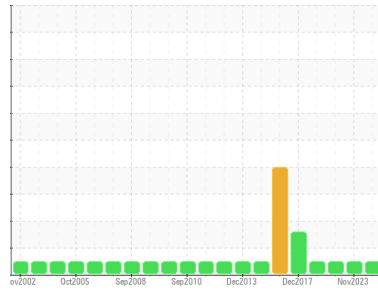


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Cargo [450335848]

Machine
Offloading Hose Reel - C (S/N Sample Tag XX-32201C-S1)

Component

Gear Drive

Fluid

PETRO CANADA ENDURATEX EP 220 (16 LTR)

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 | PC0080753 | PC | PC |
| Sample Date | Client Info | 14 May 2024 | 01 Nov 2023 | 17 Jan 2020 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

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

WEAR METALS

| method | limit/base | current | history1 | history2 | | |
|-----------|-------------|---------------|----------|--------------|----|----|
| PQ | ASTM D8184* | 5 | 0 | 12 | | |
| Iron | ppm | ASTM D5185(m) | >161 | 11 | 4 | 9 |
| Chromium | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >3 | <1 | <1 | 0 |
| Lead | ppm | ASTM D5185(m) | >9 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >5 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | >5 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 | | |
|------------|------------|---------------|----------|--------------|------|-------|
| Boron | ppm | ASTM D5185(m) | 60 | 19 | 20 | 58 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 0 | <1 | 0 | <1 |
| Calcium | ppm | ASTM D5185(m) | 0 | 9 | 6 | 1 |
| Phosphorus | ppm | ASTM D5185(m) | 270 | 252 | 248 | 242 |
| Zinc | ppm | ASTM D5185(m) | 0 | 5 | 3 | 14 |
| Sulfur | ppm | ASTM D5185(m) | 11200 | 7645 | 7674 | 10649 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

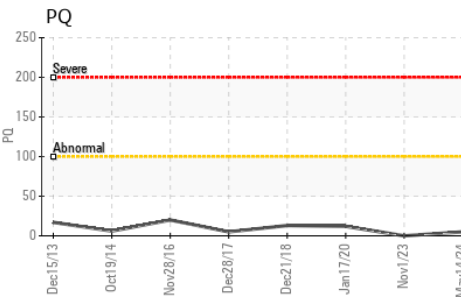
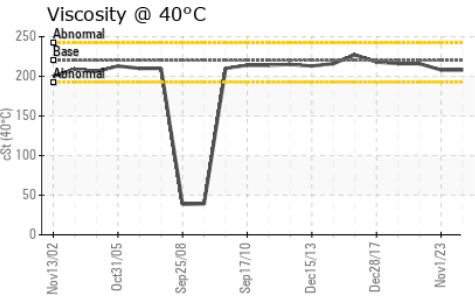
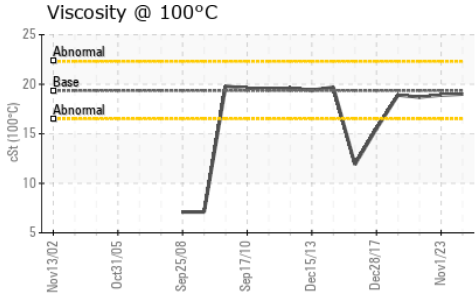
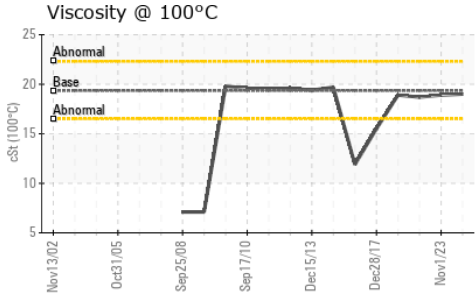
CONTAMINANTS

| method | limit/base | current | history1 | history2 | | |
|-----------|------------|---------------|----------|--------------|----|----|
| Silicon | ppm | ASTM D5185(m) | >23 | 4 | 5 | 6 |
| Sodium | ppm | ASTM D5185(m) | | 1 | <1 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | | |
|------------------|------------|------------|----------|-------------|------|-------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.40 | 0.37 | 0.39 | 0.353 |

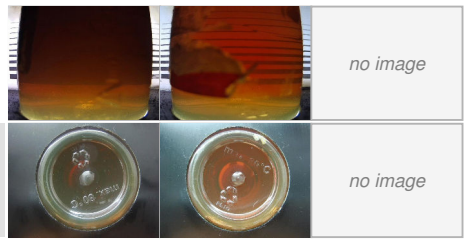
OIL ANALYSIS REPORT



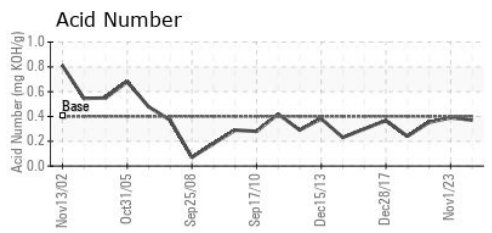
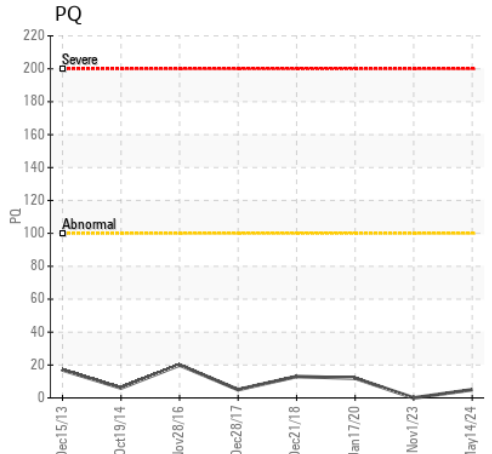
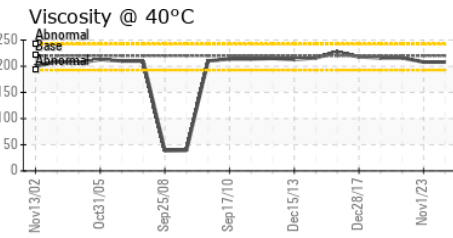
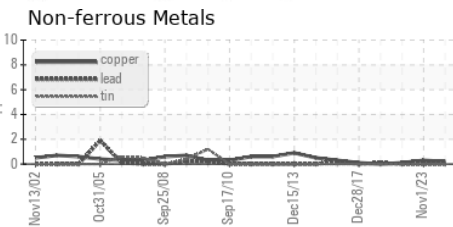
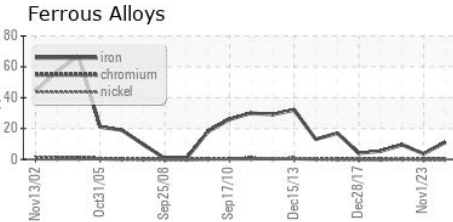
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | 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 | 208 | 216 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 19.35 | 19.0 | 18.9 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 99 | 102 | 101 |

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



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080753 **Received** : 28 May 2024
Lab Number : 02638301 **Tested** : 29 May 2024
Unique Number : 5787463 **Diagnosed** : 29 May 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, TAN Man, VI)

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 F: (709)724-2835

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.