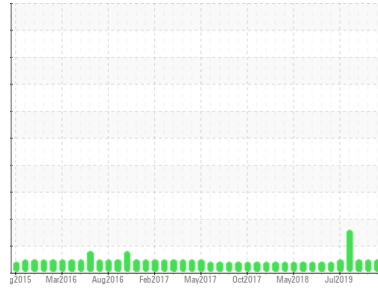


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Turret [167839]
Machine Id
Reservoir Tank Heat Transfer Fluid (WH-167839) (S/N Sample Tag: TB-16602 WH-167839)
Component
Heat Transfer Fluid
Fluid
PETRO CANADA TURBOFLO EP 46 (800 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | PC0080212 | PC0080348 | PC |
| Sample Date | Client Info | | | 27 May 2024 | 09 Apr 2024 | 07 Jan 2024 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 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 | | >0.0601 | NEG | NEG | NEG |

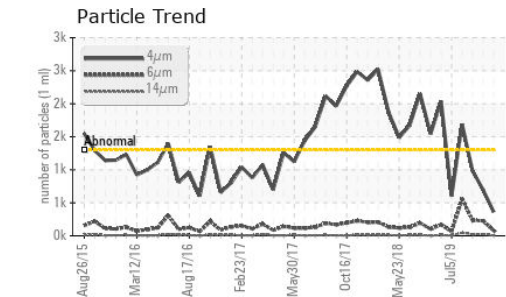
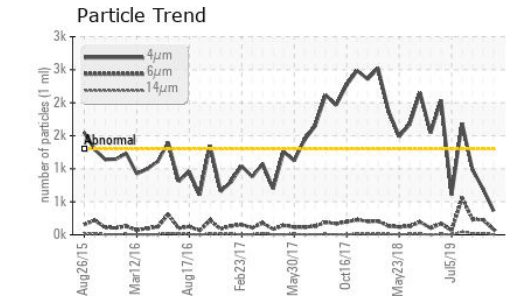
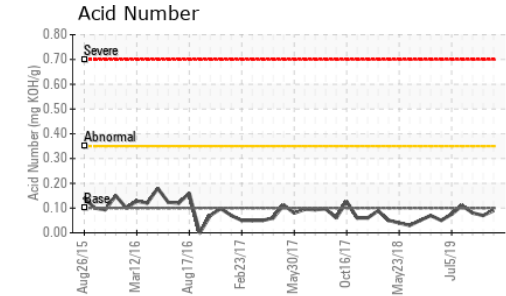
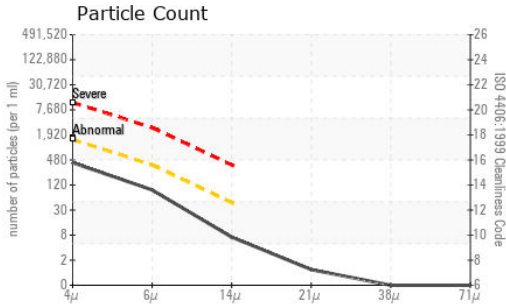
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|----------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >200 | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >21 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >21 | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | >21 | 0 | 0 | 0 |
| 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) | | 0 | <1 | 0 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185(m) | 280 | 272 | 269 | 274 |
| Zinc | ppm | ASTM D5185(m) | 0.0 | <1 | 1 | <1 |
| Sulfur | ppm | ASTM D5185(m) | | 685 | 693 | 740 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >25 | 0 | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | >21 | 1 | 1 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | 0 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >1300 | 362 | 697 | 981 |
| Particles >6µm | | ASTM D7647 | >320 | 81 | 228 | 232 |
| Particles >14µm | | ASTM D7647 | >40 | 6 | 23 | 21 |
| Particles >21µm | | ASTM D7647 | >10 | 1 | 6 | 5 |
| Particles >38µm | | ASTM D7647 | >3 | 0 | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/15/12 | 16/14/10 | 17/15/12 | 17/15/12 |

OIL ANALYSIS REPORT

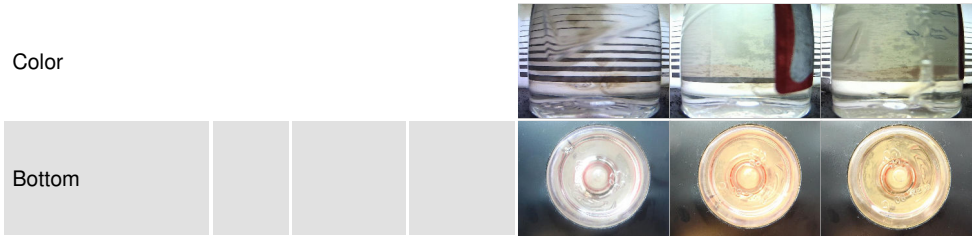


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | .10 | 0.09 | 0.07 | 0.08 |

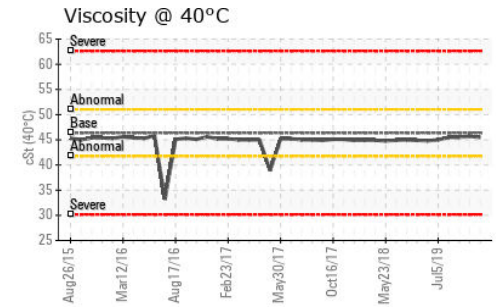
| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.0601 | NEG | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|---------------|------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 46.37 | 45.5 | 45.7 | 45.5 |

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080212 **Received** : 28 May 2024
Lab Number : **02637951** **Tested** : 29 May 2024
Unique Number : 5787113 **Diagnosed** : 29 May 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: PrtCount, TAN Man)

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 St. John's, NL
 CA A1C 1B6
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 joshynes@suncor.com
 T: (709)778-3575
 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.