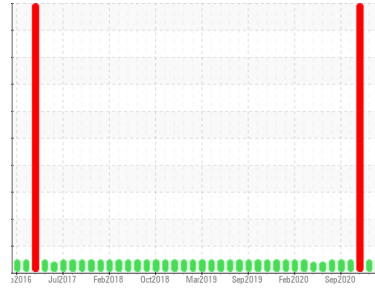


Area
Main Power Generation [450110685]
Machine Id
Generator - MPG (Port) Lube Oil System (S/N Sample Tag XX-80201-S1)
Component
Turbine
Fluid
PETRO CANADA TURBOFLO 32 (8300 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

Wear

Component wear rates appear to be normal (unconfirmed).

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 oil is suitable for further service.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | PC | PC | PC |
| Sample Date | Client Info | 26 Feb 2023 | 06 Feb 2023 | 02 Mar 2022 |
| Machine Age | hrs | 0 | 0 | 0 |
| Oil Age | hrs | 0 | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | NORMAL | NORMAL | SEVERE |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|-----------------|------------|----------|----------|
| Water | WC Method >0.03 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|-----------|-----------------------|--------------|----------|----------|
| PQ | ASTM D8184* | 0 | 0 | 0 |
| Iron | ppm ASTM D5185(m) >15 | <1 | <1 | <1 |
| Chromium | ppm ASTM D5185(m) >4 | 0 | 0 | 0 |
| Nickel | ppm ASTM D5185(m) >2 | <1 | 0 | <1 |
| Titanium | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185(m) >10 | 0 | <1 | 0 |
| Lead | ppm ASTM D5185(m) | <1 | <1 | 0 |
| Copper | ppm ASTM D5185(m) >5 | <1 | <1 | <1 |
| Tin | ppm ASTM D5185(m) >5 | <1 | <1 | <1 |
| Antimony | ppm ASTM D5185(m) | <1 | <1 | 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 |

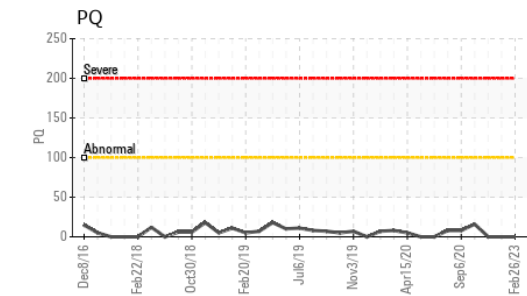
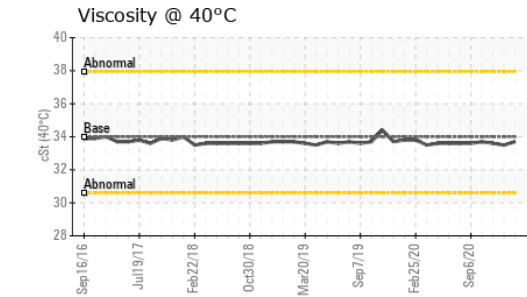
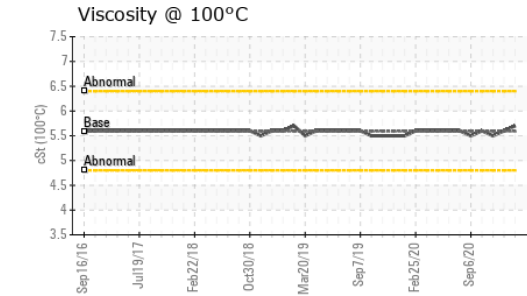
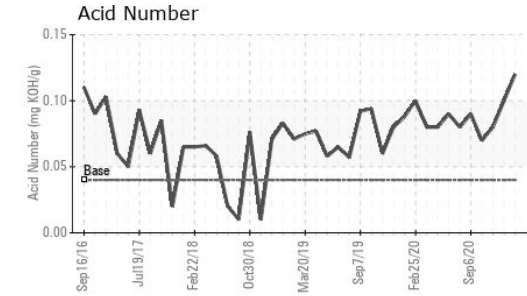
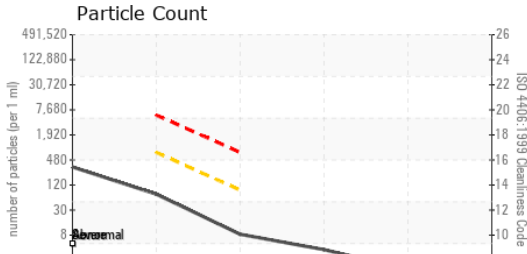
ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|-----------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185(m) 0 | <1 | <1 | <1 |
| Barium | ppm ASTM D5185(m) 0 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185(m) 0 | 0 | 0 | 0 |
| Manganese | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Magnesium | ppm ASTM D5185(m) 0 | 0 | 0 | 0 |
| Calcium | ppm ASTM D5185(m) 0 | 0 | 0 | <1 |
| Phosphorus | ppm ASTM D5185(m) 120 | 277 | 274 | 269 |
| Zinc | ppm ASTM D5185(m) 0.0 | <1 | <1 | <1 |
| Sulfur | ppm ASTM D5185(m) 0 | 517 | 502 | 482 |
| Lithium | ppm ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|-----------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185(m) >15 | <1 | <1 | <1 |
| Sodium | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Potassium | ppm ASTM D5185(m) >20 | 0 | <1 | 2 |

OIL ANALYSIS REPORT



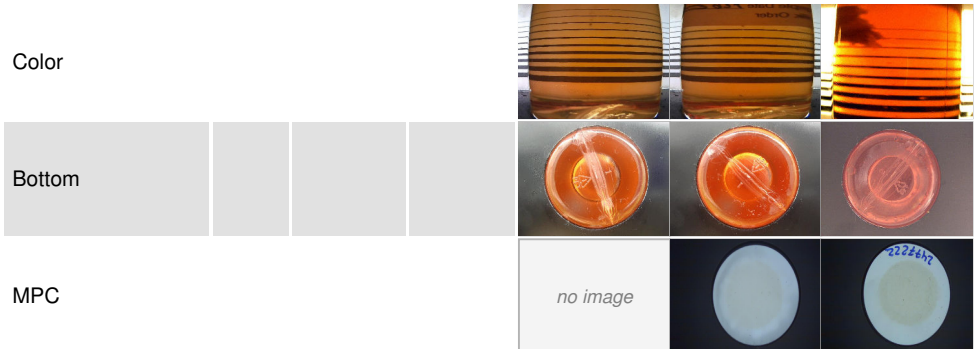
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--------------|-----------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | | | 287 | 332 | 28211 |
| Particles >6µm | ASTM D7647 | >640 | | 64 | 86 | 8212 |
| Particles >14µm | ASTM D7647 | >80 | | 7 | 10 | 657 |
| Particles >21µm | ASTM D7647 | >20 | | 3 | 3 | 133 |
| Particles >38µm | ASTM D7647 | >4 | | 1 | 0 | 5 |
| Particles >71µm | ASTM D7647 | >3 | | 1 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >--/16/13 | | 15/13/10 | 16/14/10 | 22/20/17 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.04 | 0.12 | 0.10 | 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* | >0.03 | NEG | NEG | .2% |
| Free Water | scalar | Visual* | | NEG | NEG | 1% |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|----------------------|-------|---------------|------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 34.0 | 33.7 | 33.5 | 33.6 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 5.59 | 5.7 | 5.6 | 5.5 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 110 | 108 | 104 | 98 |

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



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02545703
Unique Number : 5542708
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI)
Received : 16 Mar 2023
Diagnosed : 17 Mar 2023
Diagnostician : Kevin Marson

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Street
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 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.