

PROBLEM SUMMARY

Sample Rating Trend



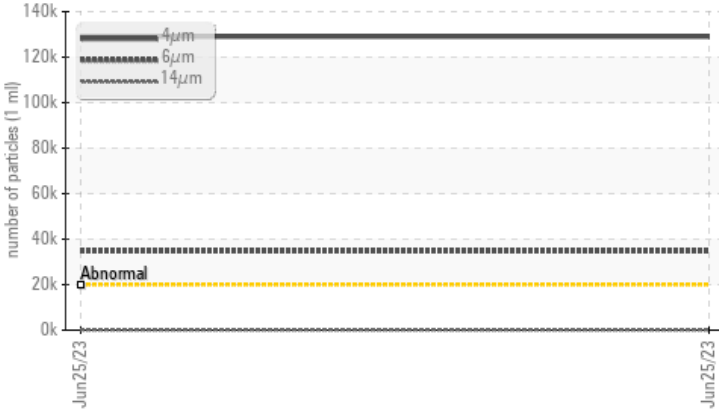
ISO



Machine Id
1460-5666-4004 - TAILINGS THICKENER MECH PLANETARY
Component
Reduction Gear
Fluid
PETRO CANADA ENDURATEX XL 68/220 (50 LTR)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

| Sample Status | ASTM D7647 | ISO 4406 (c) | ABNORMAL | --- | --- |
|-----------------|------------|-------------------|----------|-----|-----|
| Particles >4µm | >20000 | ▲ 129008 | --- | --- | --- |
| Particles >6µm | >5000 | ▲ 34710 | --- | --- | --- |
| Oil Cleanliness | >21/19/16 | ▲ 24/22/14 | --- | --- | --- |

Customer Id: INCVOS
Sample No.: PC0057972
Lab Number: 02568900
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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wesd@wearcheck.ca

To change component or sample information:
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gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---------------|--------|------|---------|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |

HISTORICAL DIAGNOSIS



Machine Id
1460-5666-4004 - TAILINGS THICKENER MECH PLANETARY
 Component
Reduction Gear
 Fluid
PETRO CANADA ENDURATEX XL 68/220 (50 LTR)



DIAGNOSIS

Recommendation
 We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
 All component wear rates are normal.

Contamination
 There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition
 The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

| method | limit/base | current | history 1 | history 2 |
|---------------|-----------------|--------------------|-----------|-----------|
| Sample Number | Client Info | PC0057972 | --- | --- |
| Sample Date | Client Info | 25 Jun 2023 | --- | --- |
| Machine Age | hrs Client Info | 0 | --- | --- |
| Oil Age | hrs Client Info | 0 | --- | --- |
| Oil Changed | Client Info | N/A | --- | --- |
| Sample Status | | ABNORMAL | --- | --- |

WEAR METALS

| method | limit/base | current | history 1 | history 2 |
|-----------|------------------------|--------------|-----------|-----------|
| PQ | ASTM D8184* | 0 | --- | --- |
| Iron | ppm ASTM D5185(m) >150 | 150 | --- | --- |
| Chromium | ppm ASTM D5185(m) >10 | 1 | --- | --- |
| Nickel | ppm ASTM D5185(m) >10 | <1 | --- | --- |
| Titanium | ppm ASTM D5185(m) | 0 | --- | --- |
| Silver | ppm ASTM D5185(m) | 0 | --- | --- |
| Aluminum | ppm ASTM D5185(m) >25 | <1 | --- | --- |
| Lead | ppm ASTM D5185(m) >100 | <1 | --- | --- |
| Copper | ppm ASTM D5185(m) >50 | 5 | --- | --- |
| Tin | ppm ASTM D5185(m) >10 | 0 | --- | --- |
| Antimony | ppm ASTM D5185(m) >5 | 0 | --- | --- |
| Vanadium | ppm ASTM D5185(m) | 0 | --- | --- |
| Beryllium | ppm ASTM D5185(m) | 0 | --- | --- |
| Cadmium | ppm ASTM D5185(m) | 0 | --- | --- |

ADDITIVES

| method | limit/base | current | history 1 | history 2 |
|------------|------------------------|--------------|-----------|-----------|
| Boron | ppm ASTM D5185(m) | 12 | --- | --- |
| Barium | ppm ASTM D5185(m) | <1 | --- | --- |
| Molybdenum | ppm ASTM D5185(m) | <1 | --- | --- |
| Manganese | ppm ASTM D5185(m) | <1 | --- | --- |
| Magnesium | ppm ASTM D5185(m) | <1 | --- | --- |
| Calcium | ppm ASTM D5185(m) | 13 | --- | --- |
| Phosphorus | ppm ASTM D5185(m) 240 | 340 | --- | --- |
| Zinc | ppm ASTM D5185(m) | 11 | --- | --- |
| Sulfur | ppm ASTM D5185(m) 4060 | 5513 | --- | --- |
| Lithium | ppm ASTM D5185(m) | <1 | --- | --- |

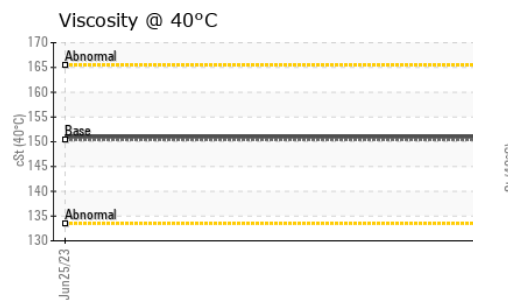
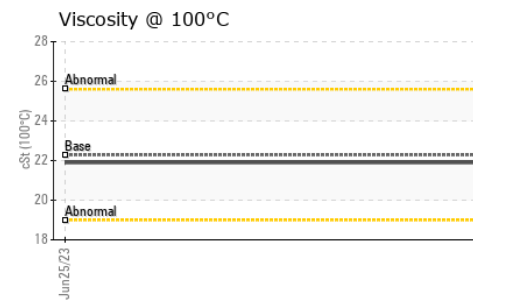
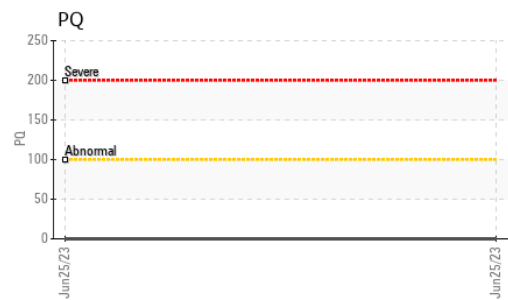
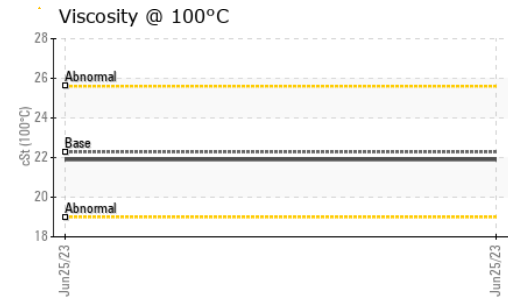
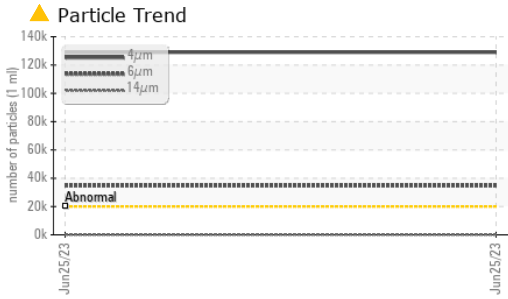
CONTAMINANTS

| method | limit/base | current | history 1 | history 2 |
|-----------|-----------------------|--------------|-----------|-----------|
| Silicon | ppm ASTM D5185(m) >50 | 2 | --- | --- |
| Sodium | ppm ASTM D5185(m) | <1 | --- | --- |
| Potassium | ppm ASTM D5185(m) >20 | <1 | --- | --- |

FLUID CLEANLINESS

| method | limit/base | current | history 1 | history 2 |
|-----------------|------------------------|-------------------|-----------|-----------|
| Particles >4µm | ASTM D7647 >20000 | ▲ 129008 | --- | --- |
| Particles >6µm | ASTM D7647 >5000 | ▲ 34710 | --- | --- |
| Particles >14µm | ASTM D7647 >640 | 138 | --- | --- |
| Particles >21µm | ASTM D7647 >160 | 17 | --- | --- |
| Particles >38µm | ASTM D7647 >40 | 1 | --- | --- |
| Particles >71µm | ASTM D7647 >10 | 1 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) >21/19/16 | ▲ 24/22/14 | --- | --- |

OIL ANALYSIS REPORT



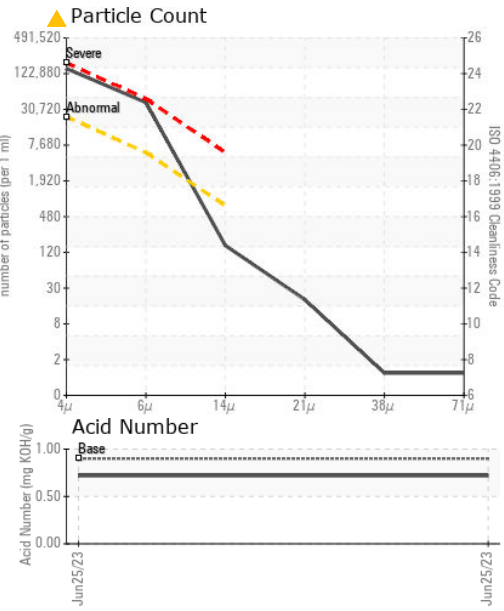
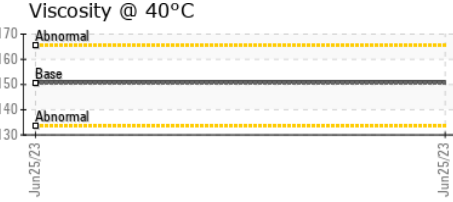
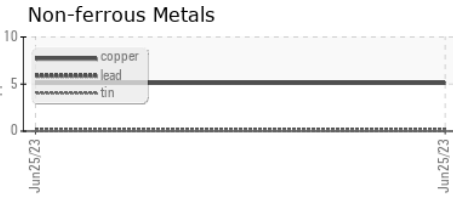
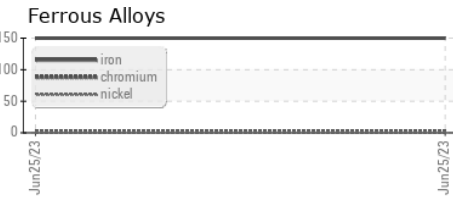
| FLUID DEGRADATION | | method | limit/base | current | history 1 | history 2 |
|-------------------|----------|------------|------------|-------------|-----------|-----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.9 | 0.72 | --- | --- |

| VISUAL | | method | limit/base | current | history 1 | history 2 |
|------------------|--------|---------|------------|--------------|-----------|-----------|
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Precipitate | scalar | Visual* | NONE | NONE | --- | --- |
| 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 | --- | --- |
| Emulsified Water | scalar | Visual* | >0.1 | NEG | --- | --- |
| Free Water | scalar | Visual* | | NEG | --- | --- |

| FLUID PROPERTIES | | method | limit/base | current | history 1 | history 2 |
|----------------------|-------|---------------|------------|-------------|-----------|-----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 150.4 | 151 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 22.28 | 21.9 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 176 | 171 | --- | --- |

| SAMPLE IMAGES | | method | limit/base | current | history 1 | history 2 |
|---------------|--|--------|------------|---------|-----------|-----------|
| Color | | | | | no image | no image |
| Bottom | | | | | no image | no image |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0057972
Lab Number : 02568900
Unique Number : 5605946
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, TAN Man, VI)

Vale - Voisey's Bay
 Voisey's Bay Mine Site, P.O. Box 7001, Str. C Happy Valley
 Goose Bay, NL
 CA A0P 1C0
 Contact: Robert Feltham
 robert.feltham@vale.com

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.

T:
F: