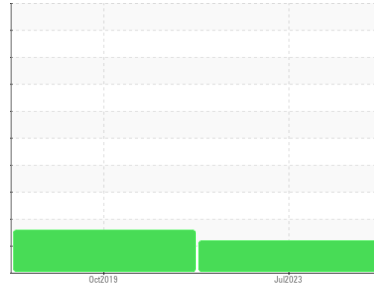


PROBLEM SUMMARY

Sample Rating Trend



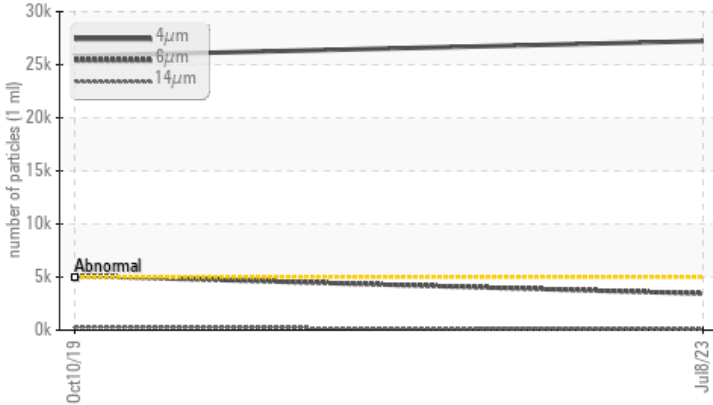
Machine Id
1851-5412-8003 - FRESH WATER SUPPLY PUMP

Component
Unkown Component

Fluid
PETRO CANADA TURBOFLO R&O 32 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	---
Particles >4µm	ASTM D7647	>5000	▲ 27227	▲ 25834	---
Particles >6µm	ASTM D7647	>1300	▲ 3437	▲ 5115	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 22/19/13	▲ 22/20/15	---

Customer Id: INCVOS
Sample No.: PC0070127
Lab Number: 02578459
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
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.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

HISTORICAL DIAGNOSIS

10 Oct 2019 Diag: Wes Davis

ISO



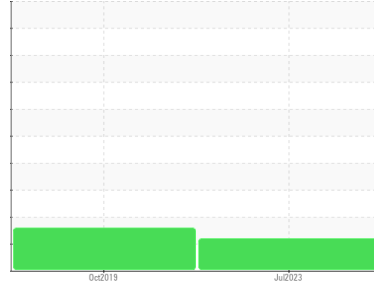
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >14µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report





Machine Id
1851-5412-8003 - FRESH WATER SUPPLY PUMP
Component
Unkown Component
Fluid
PETRO CANADA TURBOFLO R&O 32 (--- GAL)



DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
All component wear rates are normal.

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

Fluid Condition
The sample is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0070127	PC342736	---
Sample Date	Client Info		08 Jul 2023	10 Oct 2019	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ABNORMAL	ABNORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m)	11	<1	---
Chromium	ppm	ASTM D5185(m)	0	0	---
Nickel	ppm	ASTM D5185(m)	0	<1	---
Titanium	ppm	ASTM D5185(m)	0	0	---
Silver	ppm	ASTM D5185(m)	0	<1	---
Aluminum	ppm	ASTM D5185(m)	0	0	---
Lead	ppm	ASTM D5185(m)	0	0	---
Copper	ppm	ASTM D5185(m)	<1	<1	---
Tin	ppm	ASTM D5185(m)	0	0	---
Antimony	ppm	ASTM D5185(m)	0	<1	---
Vanadium	ppm	ASTM D5185(m)	0	0	---
Beryllium	ppm	ASTM D5185(m)	0	0	---
Cadmium	ppm	ASTM D5185(m)	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<1	<1	---
Barium	ppm	ASTM D5185(m)	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	---
Manganese	ppm	ASTM D5185(m)	0	0	---
Magnesium	ppm	ASTM D5185(m)	<1	0	---
Calcium	ppm	ASTM D5185(m) 0	1	<1	---
Phosphorus	ppm	ASTM D5185(m) 4	2	5	---
Zinc	ppm	ASTM D5185(m) 0	3	2	---
Sulfur	ppm	ASTM D5185(m)	59	18	---
Lithium	ppm	ASTM D5185(m)	<1	<1	---

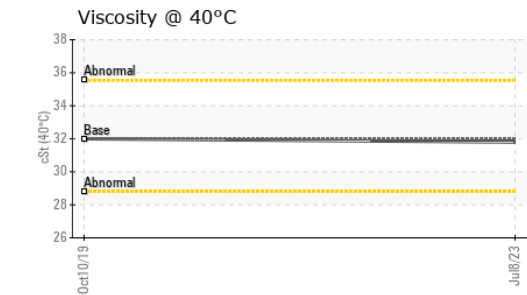
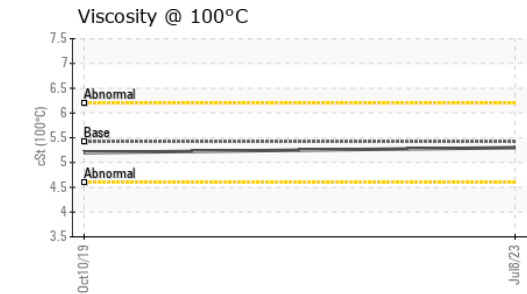
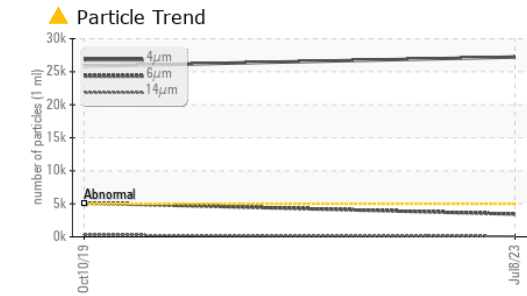
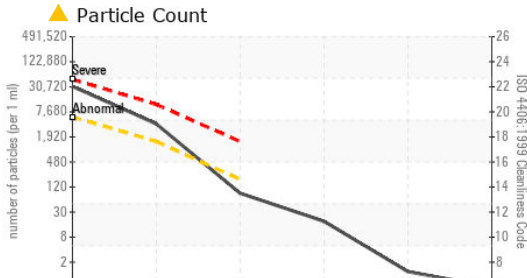
CONTAMINANTS

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

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	0	---	---
Nitration	Abs/cm	ASTM D7624*	1.7	---	---
Sulfation	Abs./1mm	ASTM D7415*	11.9	---	---

OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 27227	▲ 25834	---
Particles >6µm	ASTM D7647	>1300	▲ 3437	▲ 5115	---
Particles >14µm	ASTM D7647	>160	75	▲ 297	---
Particles >21µm	ASTM D7647	>40	16	▲ 86	---
Particles >38µm	ASTM D7647	>10	1	2	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 22/19/13	▲ 22/20/15	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	2.2	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.09	0.089	---
Base Number (BN)	mg KOH/g	ASTM D2896*	0.14	---	---

VISUAL	method	limit/base	current	history1	history2
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*	VLITE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	NEG	NEG	---
Free Water	scalar	Visual*	NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.8	32.0	---
Visc @ 100°C	cSt	ASTM D7279(m)	5.3	5.2	---
Viscosity Index (VI)	Scale	ASTM D2270*	97	88	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					no image
Bottom					no image



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0070127
Lab Number : **02578459**
Unique Number : 5631519
Test Package : IND 2 (Additional Tests: FT-IR, KV100, PQ, PrtCount, TBN, 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: x: