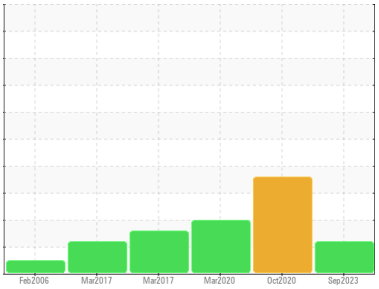
PROBLEM SUMMARY

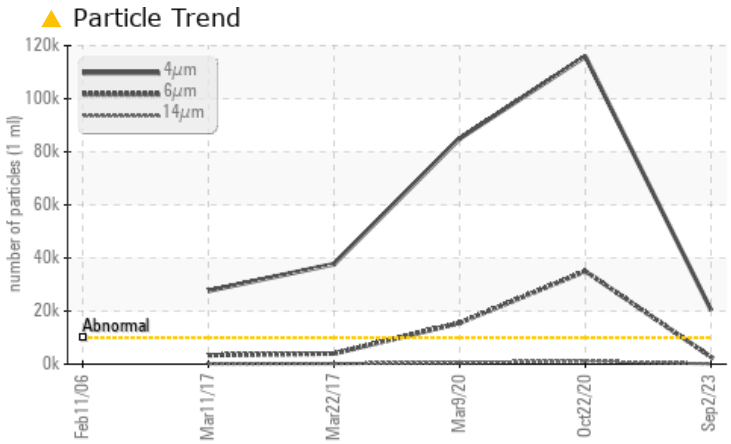
Sample Rating Trend



ISO

Area
1420
Machine Id
1420-7311-4202 - MOTOR BALL MILL 1420-5512-4002 NDE
Component
Non-Drive End Journal Bearing
Fluid
PETRO CANADA TURBOFLO R&O 100 (10 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	SEVERE
Particles >4µm		ASTM D7647	>10000	▲ **20375**	⬢ 115945	⬢ 84990
Particles >6µm		ASTM D7647	>2500	▲ **2695**	⬢ 35010	▲ 15539
Oil Cleanliness		ISO 4406 (c)	>20/18/14	▲ **22/19/14**	⬢ 24/22/17	⬢ 24/21/17

Customer Id: INCVOS
Sample No.: PC0070126
Lab Number: 02582828
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1 (289)291-4641 x4641
Bill.Quesnel@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.

HISTORICAL DIAGNOSIS

22 Oct 2020 Diag: Kevin Marson

ISO

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

09 Mar 2020 Diag: Wes Davis

ISO

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >4µm are severely high. Particles >6µm are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

22 Mar 2017 Diag: Wes Davis

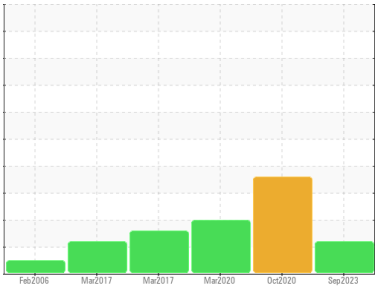
ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >4µm are abnormally high. Oil Cleanliness is abnormal. Particles >14µm are notably high. Particles >6µm are notably high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
1420
Machine Id
1420-7311-4202 - MOTOR BALL MILL 1420-5512-4002 NDE
Component
Non-Drive End Journal Bearing
Fluid
PETRO CANADA TURBOFLO R&O 100 (10 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	history1	history2
Sample Number		Client Info		**PC0070126**	PC0006093	PC384099
Sample Date		Client Info		**02 Sep 2023**	22 Oct 2020	09 Mar 2020
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	8	9
Iron	ppm	ASTM D5185(m)	>60	**<1**	2	<1
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>4	**<1**	<1	0
Lead	ppm	ASTM D5185(m)	>250	**<1**	0	<1
Copper	ppm	ASTM D5185(m)	>125	**<1**	2	<1
Tin	ppm	ASTM D5185(m)	>80	**0**	5	2
Antimony	ppm	ASTM D5185(m)		**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

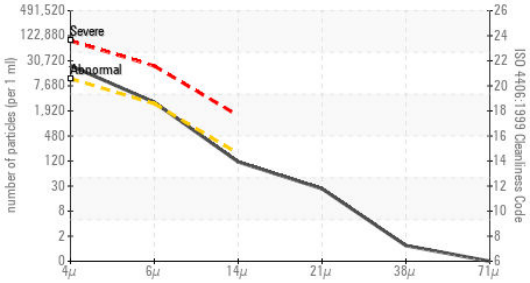
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**0**	<1	0
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**<1**	0	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	1	<1
Phosphorus	ppm	ASTM D5185(m)	4	**4**	4	3
Zinc	ppm	ASTM D5185(m)	0	**2**	2	1
Sulfur	ppm	ASTM D5185(m)		**37**	40	34
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**0**	<1	0
Sodium	ppm	ASTM D5185(m)		**0**	<1	0
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	<1

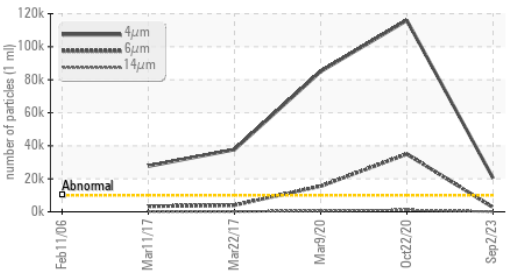
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **20375**	⬢ 115945	⬢ 84990
Particles >6µm		ASTM D7647	>2500	▲ **2695**	⬢ 35010	▲ 15539
Particles >14µm		ASTM D7647	>160	**101**	▲ 1152	▲ 646
Particles >21µm		ASTM D7647	>40	**23**	▲ 188	▲ 157
Particles >38µm		ASTM D7647	>10	**1**	7	2
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	▲ **22/19/14**	⬢ 24/22/17	⬢ 24/21/17

OIL ANALYSIS REPORT

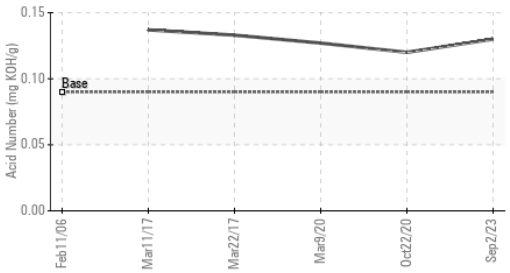
Particle Count



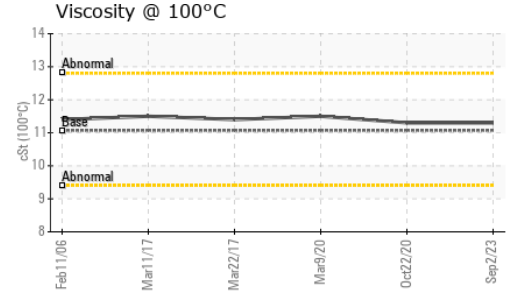
Particle Trend



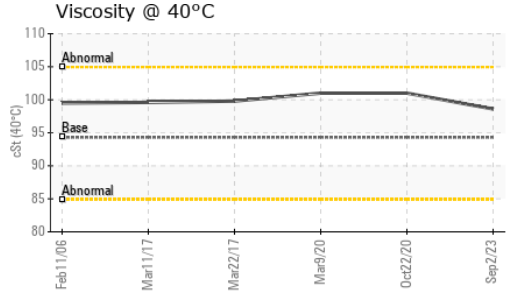
Acid Number



Viscosity @ 100°C



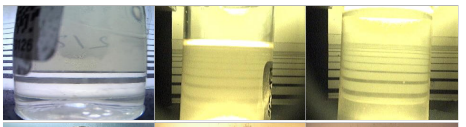
Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.09	**0.13**	0.12	0.127

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	VLITE
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	**VLITE**	VLITE	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*	>2	**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)	94.3	**98.6**	101	101
Visc @ 100°C	cSt	ASTM D7279(m)	11.07	**11.3**	11.3	11.5
Viscosity Index (VI)	Scale	ASTM D2270*	103	**100**	97	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0070126 **Received** : 15 Sep 2023
Lab Number : 02582828 **Diagnosed** : 18 Sep 2023
Unique Number : 5643893 **Diagnostician** : Bill Quesnel
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, TAN Man, VI)

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.

Vale - Voisey`s Bay
Voisey's Bay Mine Site, P.O. Box 7001, Stn. C Happy Valley
Goose Bay, NL
CA A0P 1C0
Contact: Robert Feltham
robert.feltham@vale.com
T:
F: x: